

# TOWN OF EAST LYME



## PLAN OF CONSERVATION AND DEVELOPMENT 2009



AMENDED THROUGH DECEMBER 7, 2010

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- Appendix B: Town of East Lyme 2007 Community Survey
- Appendix C: Yale Urban Design Report (East Lyme Charrette Report) April, 5, 1997
- Appendix D: Open Space Plan Report, East Lyme Commission for the Preservation of Natural Resource, May 29, 2009
- Appendix E: East Lyme Affordable Housing Report, Southeastern Connecticut Housing Alliance, July 2009

Appendices are provided under separate cover and available upon request and additional fee. Copies of the East Lyme Plan of Conservation and Development and the Appendices are available in the Office of the East Lyme Town Clerk, the East Lyme Public Library, and the East Lyme Department of Planning. The Plan of Conservation and Development and Appendices can be viewed on the East Lyme website at [www.eltownhall.org](http://www.eltownhall.org).

## REFERENCES

*Southeastern Connecticut Council of Governments 2007 Regional Plan of Conservation and Development*

*Town of East Lyme Shellfish Management Plan 2005, East Lyme Shellfish Commission, December 2005*

*Town of East Lyme Waterfront Development Sub-Committee Vision Statement and Report, December 2004*

*Town of East Lyme, Connecticut – Wastewater Collection System Capacity Analysis Planning Report, Fuss & O'Neill, Inc., September, 2007.*

*Town of East Lyme – Water Supply Plan Update, Maguire Group Inc., May 26, 2005.*

## FORWARD

Section 8-23 of the Connecticut General Statutes requires a municipal planning commission to prepare and adopt a plan of conservation and development every 10-years. The Plan shall consider the following:

**Plan of Conservation and Development** –  
A plan for the physical, social, economic and environmental development of the municipality.

- the community development action plan of the municipality, if any,
- the need for affordable housing,
- the need for protection of existing and potential public surface and ground drinking water supplies,
- the use of cluster development and other development patterns to the extent consistent with soil types, terrain and infrastructure capacity within the municipality,
- the state plan of conservation and development
- the regional plan of development,
- physical, social, economic and governmental conditions and trends,
- the needs of the municipality including, but not limited to, human resources, education, health, housing, recreation, social services, public utilities, public protection, transportation and circulation and cultural and interpersonal communications
- the objectives of energy-efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation; and
- protection and preservation of agriculture.

The Plan shall also:

- be a statement of policies, goals and standards for the physical and economic development of the municipality,
- provide for a system of principal thoroughfares, parkways, bridges, streets, sidewalks, multipurpose trails and other public ways as appropriate,
- be designed to promote, with the greatest efficiency and economy, the coordinated development of the municipality and the general welfare and prosperity of its people and identify areas where it is feasible and prudent (i) to have compact, transit accessible, pedestrian-oriented mixed use development patterns and land reuse, and (ii) to promote such development patterns and land reuse,
- recommend the most desirable use of land within the municipality for residential, recreational, commercial, industrial, conservation and other purposes and include a map showing such proposed land uses,
- recommend the most desirable density of population in the several parts of the municipality,
- note any inconsistencies with the following growth management principles: (i) Redevelopment and revitalization of commercial centers and areas of mixed land uses with existing or planned physical infrastructure; (ii) expansion of housing opportunities and design choices to accommodate a variety of household types and needs; (iii) concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse; (iv) conservation and restoration of the natural environment, cultural and historical resources and existing farmlands; (v)

protection of environmental assets critical to public health and safety; and (vi) integration of planning across all levels of government to address issues on a local, regional and state-wide basis,

- make provision for the development of housing opportunities, including opportunities for multifamily dwellings, consistent with soil types, terrain and infrastructure capacity, for all residents of the municipality and the planning region in which the municipality is located,
- promote housing choice and economic diversity in housing, including housing for both low and moderate income households, and encourage the development of housing which will meet the housing needs identified in the housing plan prepared pursuant to section 8-37t and in the housing component and the other components of the state plan of conservation and development prepared pursuant to chapter 297. In preparing such plan the commission shall consider focusing development and revitalization in areas with existing or planned physical infrastructure.”

### **History of Planning in East Lyme**

The first Plan for East Lyme was completed in 1967 by E.H. Lord-Wood Associates. In 1978, the Plan was rewritten by the combined efforts of resident volunteers and the Planning Commission with the assistance of the Southeastern Connecticut Regional Planning Agency. The 1987 Plan of Development was prepared by planning consultant Peter Battles and Director of Planning James Butler, in conjunction with East Lyme residents. The primary changes or refinements to the 1978 Plan included a more comprehensive look at coastal area management, recommendations for cluster development, analysis of aquifers, architectural and development guidelines and regulation of multifamily housing.

In 1996, the Planning Commission noted that factors affecting the pace, location and type of development in East Lyme and the southeastern Connecticut region were changing. In addition, it was noted that 70-percent of the recommendations outlined in the 1987 Plan of Development had been implemented. The downturn in the regional defense industry, the increase in tourism, expansion of the pharmaceutical industry and the construction of two Indian casinos, were a few of the many factors that initiated a comprehensive review and update of the existing 1987 plan.

It was further noted that natural resources within East Lyme would need to be fully examined to better understand the Town's limitations for new development and need for conservation. The Commission saw a need to bring before the various Town boards and commissions a statement of the problems and opportunities facing the Town, as well as the recommended means for acting on these in order to generate a consensus of the Town's desired direction for the future ten years.

The Commission appointed a Plan of Conservation and Development Revision Committee with volunteers from the community who presented a broad range of interests and affiliations. The Committee was divided into subcommittees that would initiate research and provide draft recommendations to update chapters within the existing plan. The planning staff provided technical, editing, clerical and drafting assistance for all chapters and formulated recommendations for the natural resources, demographics and coastal management chapters. In 1998, the Plan of Conservation and Development Revision Committee gave their initial recommendations to the Planning Commission. The Planning Commission, chapter by chapter, reviewed the document and requested the planning staff edit and format the final draft for a public hearing. One of the most important elements in the 1999 Plan of Conservation and Development ("1999 POCD") is the evaluation of resources available within the Town and a comprehensive mapping of those areas left for future development.

Computer mapping and statistical data available at the time helped the Town to make critical decisions on land use, road layout, sewer and water extensions, future open space areas and improvements to commercial and industrial infrastructure. With the assistance of the Geography Department at Central Connecticut State University, the Town was able to create rudimentary computer maps. This data laid the foundation for a comprehensive computer mapping system or Geographic Information System (“GIS”), which would enable the Town to evaluate and understand the impact of new infrastructure, new residential, commercial or industrial development on existing resources, traffic patterns and future growth patterns.

### **2009 Plan of Conservation and Development**

In the summer of 2008, the Planning Commission, with assistance from the University of Connecticut’s (“UConn”) Community Research and Design Collaborative (“CRDC”) began updating the Town’s Plan of Conservation and Development. UConn’s CRDC conducted a comprehensive town-wide land use study of East Lyme called a Lands of Unique Value (“LUV”) Study. The LUV study is designed to inventory and analyze all existing town features (natural and cultural) and provide guidance in determining the most logical and reasonable locations for future land uses within the Town in an effort to balance conservation, preservation and development. As such, the LUV Study supports the Town’s effort in updating the 2009 Plan of Conservation and Development (“2009 POCD”).

In preparing the 2009 POCD, the East Lyme Planning Commission appointed a Plan of Conservation and Development Steering Committee comprised of members from various Town Boards and Commission including the Zoning, Water and Sewer, Natural Resources and Planning Commission. As the Plan of Conservation and Development is intended to reflect the collective opinions and ideas of East Lyme's residents, public participation was sought throughout the development of the LUV Study through a series of three public workshops in which citizens were able to participate and provide input into the development of the LUV Study.

The Plan of Conservation and Development provides a framework for guiding growth to maintain and improve East Lyme in ways its citizens find desirable. Once adopted, recommendations from the Plan of Conservation and Development are forwarded to various boards and commissions for implementation. In addition, all proposed changes to the Zoning Regulations and districts, as well as municipal improvements, are reviewed for consistency with the Plan of Conservation and Development.

The Plan of Development is an advisory document. However, this vital document serves as a guidance document, which sets forth a long-range vision for the community and recommendations with respect to future land use policies. Basing decisions for the Town's future on a comprehensive plan increases the likelihood of attaining desired goals and retaining qualities that make the East Lyme unique. While the statutory responsibility to adopt the Plan rests with the Planning Commission, implementation of the recommendations outlined in this document will only occur with the diligent efforts of residents and East Lyme's various Boards and Commissions.

## EXECUTIVE SUMMARY

Connecticut State law requires a municipal planning commission to prepare and adopt a plan of development. This document updates the expiring Goals & Objectives of East Lyme's 1999 Plan of Conservation and Development. It provides a legally defensible standard for zoning changes, and brings the community further into compliance with anticipated changes to the state's enabling laws.

The Plan is a basic guideline for the physical development of East Lyme. It is an active, fluid, and evolving document, resulting in specific and relevant proposals for implementation by local Boards and Commissions, or by Town Meeting. It is intended to be relevant for at least 10-years, but ideally 20. As such, elements of this document will be periodically updated.

Its focus is on physical development, such as density, infrastructure, and undeveloped areas. The Plan contains important demographic, social, and economic information, which in turn will allow the town to better identify and forecast future community needs and services. Other topics, including zoning, preservation of community character, and the acquisition of open space are discussed in the Plan. The Plan of Conservation and Development is a comprehensive document, not only utilized by the Planning and Zoning Commissions, but also other Town Boards and Commission as well as Town-elected leaders and municipal officials.

## Chapter 1: Mission Statement, Vision, Objectives and Policies

Chapter 1 presents the Plan's overall Mission Statement:

"Safety, security, economic stability, beauty, maintenance of property values and infrastructure, are all important to the long-term physical development of East Lyme. As such, the mission of East Lyme is to create and sustain a healthy community, one whose residents have stability and security with the preservation of natural resources for future generations."

This chapter includes a vision for the physical development of East Lyme. Articulated through the Planning Commission and Staff, the vision explains the intent of the Town and the community values for the 2009 Plan of Conservation and Development, as adopted by the Planning Commission:

- achieve a balance between conservation and development;
- ensure that changes enhance East Lyme;
- carefully balance the need for economic development and land use with the preservation of recreational, scenic, historic, cultural, agricultural, and natural resources.
- protect and enhance natural resources, community character, and the overall quality-of-life in an environmentally responsible way; and
- direct future growth so that no one aspect of the town overwhelms the others.

Chapter 1 updates the Goals and Objectives of the 1999 POCD with Objectives and Policies for the Town. This chapter presents 17 specific objectives and policies pertaining to: Land Use, Economic Development, Natural and Cultural Resources, Open Space, Recreation, Community Facilities and Services (infrastructure), Circulation and Transportation, and Regional Issues.

## Chapter 2: Demographics and Development Patterns

Chapter 2 provides the demographic characteristics of East Lyme. It describes the population increase experienced by East Lyme over the past decade and provides population projections until the year 2020. It includes an overview of the economic income characteristics as well as the educational attainment of East Lyme's population.

This chapter describes the land use patterns in East Lyme since 1999 and explains the current pattern of development.

## Chapter 3: Land Use

Chapter 3 classifies the land uses throughout East Lyme into five major types:

- Residential;
- Commercial;
- Industrial;
- Mixed Use; and
- Agricultural.

This chapter describes the nature of each type, illustrates the division of zoning districts, identifies problem areas, and provides recommendations for managing each land use type. This chapter updates the Commercial and Industrial land uses identified in the 1999 POCD and recognizes the presence of Agricultural and Mixed Uses. As further evaluation of residential land use and the recommendations provided by the Lands of Unique Value Study, the 2007 Community Survey, and Affordable Housing Plan are presently underway, the Residential portion of this chapter remains unchanged. This section as well as Mixed Use is anticipated to be updated within the next year.

#### Chapter 4: Economic Development

East Lyme's economy is diverse, relying on diversified industries and commercial business districts rather than a few large industries to support its tax base. For the purposes of this section, the various commercial districts are briefly identified and key recommendations for each district are outlined. As further evaluation of economic development in East Lyme and the recommendations provided by the Lands of Unique Value Study, the 2007 Community Survey, and Affordable Housing Plan are presently underway, this chapter remains unchanged from the 1999 POCD. This section is anticipated to be updated within the next year.

#### Chapter 5: Open Space, Natural, Historical, and Cultural Resources

Chapter 5 outlines the Town's policy regarding Open Space. In 2008, the Town established the East Lyme Commission for the Preservation of Natural Resources. Subsequently, the Natural Resources Commission adopted an Open Space Plan for the Town, which inventories and recommends the acquisition of land for the preservation of open space. Additionally, the Lands of Unique Value Study provides a different methodology and recommendations for the management and preservation of open space. As the recommendations of each plan are of exceptional value and the intent similar, the integration of both Plans into the Plan of Conservation and Development to establish a comprehensive policy for the acquisition, management, and preservation of open space is currently underway. As such, this section of Chapter 5 remains unchanged from the 1999 POCD and is intended to be updated within the next year.

Chapter 5 continues to include the policy on Coastal Area Development and incorporates the Coastal Area Development Plan into the Plan of Conservation and Development. As such, this section remains unchanged from the 1999 POCD. In reading this section, please keep in mind that it was written in 1982 as a separate plan; reference made to the Plan of Development is to the 1978 Plan. Recommendations concerning the

coastal area made in earlier sections of the 1999 Plan were intended to update recommendations in the CADP.

This chapter also updates the 1999 POCD with the acknowledgement of historic and cultural resources within East Lyme and highlights the importance of such features and their preservation. In addition, this chapter provides a section on Green Energy (renewable energy) and the Town's effort to promote and encourage such uses.

#### Chapter 6: Parks and Recreation

Chapter 6 updates the 1999 POCD and describes existing recreational space (both active and passive). It provides specific recommendations to provide park and recreational facilities that meet the current and future needs of residents, which includes enhancing existing recreational fields and exploring the possibility of adding additional passive and active recreational facilities and addresses the need for locating new fields.

#### Chapter 7: Community Facilities and Services

Community Facilities and Services are publicly owned or operated facilities necessary for the provision of services to the municipality. They include buildings such as the Town Hall, Police and Fire stations, schools, senior centers, library and other town buildings, and utilities, such as the water system, town roads, sewer system and landfills. This section remains unchanged from the 1999 POCD with the exception of Municipal Water and Sewer and Emergency Services. Chapter 7 updates the Municipal Water and Sewer description in the 1999 POCD. It describes the existing infrastructure, available capacity, and provides recommendations to meet the anticipated needs of the Town. This chapter also updates the 1999 POCD with a description of East Lyme's Emergency Services and Public Safety infrastructure.

#### Chapter 8: Circulation and Transportation

Chapter 8 remains unchanged from the 1999 POCD. Further evaluation of circulation and transportation in East Lyme and the recommendations provided by the Lands of Unique Value Study, are presently underway. This section is anticipated to be updated within the next year.

#### Chapter 9: Recommendations & Implementation

Chapter 9 reiterates the recommendations identified throughout this Plan of Conservation and Development. It is intended to provide a readily and easily accessible source for the various Board and Commissions of East Lyme to review the recommendations as provided by Plan of Conservation and Development.

## INTRODUCTION

How our community plans for and manages land use and development determines our economic, social and environmental well-being. Smart Growth promotes development that is good for the economy, community and the environment. The benefits of smart growth include the following:

- The creation of diverse housing options;
- The protection of farm and forest land;
- Diverse transportation options and less dependence on the automobile;
- greater social interaction with neighbors;
- a lower cost for public services resulting in reduced taxes; and
- an overall higher quality of life.

The basic principles of Smart Growth, as provided by the United States Environmental Protection Agency (“EPA”) are:

1. Promote mixed land uses;
2. Take advantage of compact building design;
3. Create a range of housing opportunities and choices;
4. Create walkable neighborhoods;
5. Foster distinctive, attractive communities with a strong sense of place;
6. Preserve open space, farmland, natural beauty, and critical environmental areas;
7. Strengthen and direct development towards existing communities;
8. Provide a variety of transportation choices;
9. Make development decisions predictable, fair, and cost effective; and
10. Encourage community and stakeholder collaboration in development decisions.

Our future depends on carefully integrating growth, environmental protection and economic opportunities into our local planning framework. Development guided by these smart growth principles enhances neighborhoods, reinforces community vitality, protects natural resources and creates a vibrant place to live, work, and play. The result is a high quality of life that drives economic competition, creates business opportunities, and improves the local tax base.

## CHAPTER 1: MISSION STATEMENT, VISION, OBJECTIVES AND POLICIES

### 1.1 MISSION STATEMENT

Safety, security, economic stability, beauty, maintenance of property values and infrastructure, are all important to the long-term physical development of East Lyme. As such, the mission of East Lyme is to create and sustain a healthy community, one whose residents have stability and security with the preservation of natural resources for future generations.

### 1.2 VISION

Located on Long Island Sound, East Lyme is a coastal New England town, enhanced by its additional frontage along the Niantic River and the diversity of its population and land uses. East Lyme is characterized by beach communities, a traditional seaside village center along Route 156, the busy commercial corridor along Route 161, quiet residential neighborhoods, vast open spaces and substantial rural character. East Lyme's natural setting includes expansive water views and winding rural roads through a more rugged wooded upland terrain. East Lyme's people come together in a sense of community that supports activities ranging from youth sports to community parades. In order to achieve a balance between conservation and development, East Lyme's future challenge will be balancing the many facets of East Lyme, protecting and enhancing natural resources, community character, and the overall quality-of-life in an environmentally responsible way; directing future growth so that no one aspect of the town overwhelms the others. Therefore, the vision of East Lyme is to ensure that changes enhance East Lyme and seeks to carefully balance the need for economic development and land use with the preservation of recreational, scenic, historic, cultural, agricultural, and natural resources.

### 1.3 OBJECTIVES AND POLICIES

**OBJECTIVE 1.1:** To maintain the traditional New England character of the community and enhance the village identities of East Lyme.

**POLICY:**

East Lyme offers an attractive residential environment and other quality-of-life factors, including expansive water views, extensive open spaces, a seaside village center, agricultural opportunities, recreational opportunities and quality public services. As such, the Town should maintain the unique character and personality of both Niantic and Flanders villages through the development of village area plans. Single family and two-family dwellings, small scale mixed-use, and senior housing, should be encouraged in the village districts. East Lyme should continue to provide for multifamily housing to meet need for a variety of housing types at affordable cost.

**OBJECTIVE 1.2:** Establish a coordinated, cooperative system of land-use decision making to ensure that development continues to meet high performance standards, specifically with regard to open space preservation, view corridor protection, environmental protection, sustainability, and landscaping and building design treatments consistent with East Lyme's New England setting.

**POLICY:**

All boards and commissions with authority over land-use decisions must coordinate their efforts toward these objectives. East Lyme should define and develop improved standards for landscaping, building and site design that incorporates energy and resource conservation, promotes sustainability, and enhances town character and protects existing residential neighborhoods.

Such standards would benefit all the townspeople by contributing to protecting our environment, maintaining property values, minimizing the impact of new development on existing land uses and limiting the growth of municipal service and maintenance costs. Commissions must ensure that the regulations under which they operate also support these objectives.

**OBJECTIVE 2.1:** Promote Compatible and Sustainable Economic Development

**POLICY:**

Promote compatible business in appropriate locations to foster local employment and opportunities, a favorable tax base, the provision of goods and services for local residents, and a year-round and seasonal economy that improves the overall quality-of-life for East Lyme residents.

**OBJECTIVE 2.2:** To support and cultivate a wide variety of economic activities that may be easily integrated into the community with little or no adverse impact on community resources.

**POLICY:**

The Town should encourage attractive, well-designed commercial and industrial activity in appropriate locations in order to provide convenient services for residents. As such, the expansion of existing businesses and establishment of new businesses in the village centers, in a manner that promotes a cohesive, pedestrian-friendly, mixed-use retail, service, and residential area should be encouraged. The Town should reserve commercial and industrial-only zones, while guarding against commercial sprawl and consider small neighborhood centers consisting of mixed-use development. In addition, the Town should encourage and develop opportunities for low-impact, home-based businesses.

**OBJECTIVE 2.3:** To promote agricultural industries.

**POLICY:**

Support agriculture as an important economic activity as a means to help assure a more sustainable food and resource supply and as a critical component of the traditional landscape.

**OBJECTIVE 3.1:** To identify and preserve the natural, historic, cultural and environmental resources and habitats of the community.

**POLICY:**

Preserve and conserve the natural environment of the Town for the benefit of future generations and maintain a high quality-of-life for East Lyme's people and maximum protection for flora and fauna. Investigate and recommend environmentally responsible technologies in order to protect and preserve East Lyme's beaches, salt marshes, inland wetlands and watercourses, and aquifers. Preserve and enhance the water quality of East Lyme's harbors in view of the substantial environmental, aesthetic, recreational, and economic benefits that such protection would afford. Support agriculture as an important economic activity as a means to help assure a more sustainable food and resource supply and as a critical component of the traditional landscape. Encourage the responsible development of alternative green energy sources including wind, tidal, wave, solar, nuclear, and geothermal through both the public and private sector.

**OBJECTIVE 3.2:** To protect East Lyme's native ecosystems, biodiversity and maintain the quality of East Lyme' watercourses.

**POLICY:**

The Town should continue making attempts to preserve environmentally sensitive lands, such as Oswegatchie Hills and other lands as identified in the Open Space Plan of the Town of East Lyme (annexed hereto as Appendix D), and develop conservation restrictions to protect natural ecosystems. Further, the Town should preserve and enhance the water quality of East Lyme's inland wetlands, watercourses, and aquifers.

**OBJECTIVE 3.3:** To promote wise use of land in the coastal area, which recognizes the importance of the Town's coastal resources and existing water-dependent uses.

**POLICY:**

Evidence of the importance of East Lyme's coastal area is demonstrated by the fact that 13% of the total Town area is contained within the coastal boundary (define coastal boundary) and 30% of the year-round population resides in the coastal area. To achieve this objective, the Town adopted a Coastal Area Development Plan in 1982, a Harbor Management Plan in 1992, and a Vision Statement and Report for the Future of East Lyme's Waterfront in December 2004. East Lyme should continue to take the steps necessary to carry out these plans. Both plans are incorporated into this Plan of Conservation and Development (Appendices E and F respectively).

**OBJECTIVE 4.1:** To preserve existing period, historic New England style structures and sites through the use of Certified Local Government ("CLG") designation of historic properties, the Connecticut State Register and National Register of Historic of Historic Places or other implements, to include Historic Society.

**POLICY:**

The Town should continue to document East Lyme's historical resources (how / where), strengthen the protection of the Town's historical resources, and identify and protect important archaeological resources that might be threatened by development.

**OBJECTIVE 4.2:** To preserve the tradition of public access to East Lyme’s shoreline, while weighing such access against the need to protect sensitive shoreline and inland water resources, and the rights of property owners.

**POLICY:**

The Town should continue to support the preservation and establishment of public access to East Lyme’s shoreline. Further, the Town should consider the designation of scenic roads in accordance with the adoption of a Scenic Road Ordinance.

**OBJECTIVE 5.1:** To provide park and recreational facilities that meet the diverse needs of residents and visitors of all ages.

**POLICY:**

To maintain and enhance existing recreational facilities as well as develop new facilities to meet the increasing needs of the residents and visitors.

**OBJECTIVE 6.1:** To provide facilities and services for a municipal government that meet future needs and maintains the quality and range of municipal services and facilities desired by the townspeople while maintaining and diversifying the tax base.

**POLICY:**

Support the use of existing facilities, buildings and spaces within the Town of East Lyme. The Town should encourage the improved efficiency of existing Town facilities prior to the consideration of the construction of new facilities. The Town should consider that any upgrades or new facilities incorporate high standards of resource saving and energy efficient design. The Town should also maintain an ongoing review aimed at continuously improving the conservation and sustainability activities of all municipal facilities and services.

The Town should provide high-quality educational facilities adequate to meet present and future growth needs, improve school facilities to meet a variety of community needs, provide adequate police, fire, and public-safety facilities services for a rapid response to emergencies throughout East Lyme and a safe, secure environment for all residents and visitors.

**OBJECTIVE 6.2:** To develop adequate water supply to meet current and future demand for public water in the Town.

**POLICY:**

Protect the quality and quantity of East Lyme’s water resources. Provide a public water supply system that safeguards the existing water supply and develops additional supply as needed. The system must provide sufficient fire protection and safeguard public health while operating with an adequate margin of safety.

**OBJECTIVE 6.3:** To provide solid waste disposal that maximizes the recovery and recycling of materials.

**POLICY:**

To increase the effectiveness of the Town’s solid-waste recovery and recycling facilities.

**OBJECTIVE 6.4:** To provide sanitary waste disposal in a manner that protects the Town’s resources.

**POLICY:**

Provide sanitary waste disposal in a manner that protects the Town’s aquifers and other local and regional natural resources. Incorporate expansion capabilities to meet projected growth.

**OBJECTIVE 7.1:** To provide for the safe, convenient, and efficient movement of people and goods through and within the town by developing a planned transportation system, which serves local traffic, through traffic, and pedestrian movement while ensuring the preservation of community character.

**POLICY:**

A planned and coordinated roadways approach should be formulated for the improvement of roadways, giving high priority to high hazard areas. The Town should strive to provide residents and visitors with efficient, affordable, and dependable transportation between Niantic, Flanders, and recreational destinations within the Town, continue to improve and expand East Lyme's bike/pedestrian path system. Parking and traffic congestion in the village centers should be managed to increase safety for pedestrians and bicyclists. The Town should evaluate development proposals for their impact upon the Town's existing circulation system so as not to intensify existing traffic problems, including consideration of alternative modes of transportation and alternative materials, methods and dimensions for road and sidewalk construction, where durability and long-term maintenance are not compromised.

**OBJECTIVE 8.1:** Encourage and Participate in Cooperative Efforts to Promote the Health and Welfare of all of the Southeastern Connecticut Region.

**POLICY:**

The health and well-being of East Lyme and its ability to achieve its objectives are interrelated with those of the region and the State. The growth and economic vitality of these two entities are integral in the health and well-being of East Lyme. As such, the Town of East Lyme should encourage a "shared regional approach to resource management"<sup>1</sup>

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<sup>1</sup> Regional Plan of Conservation and Development 2007, Southeastern Council of Governments.

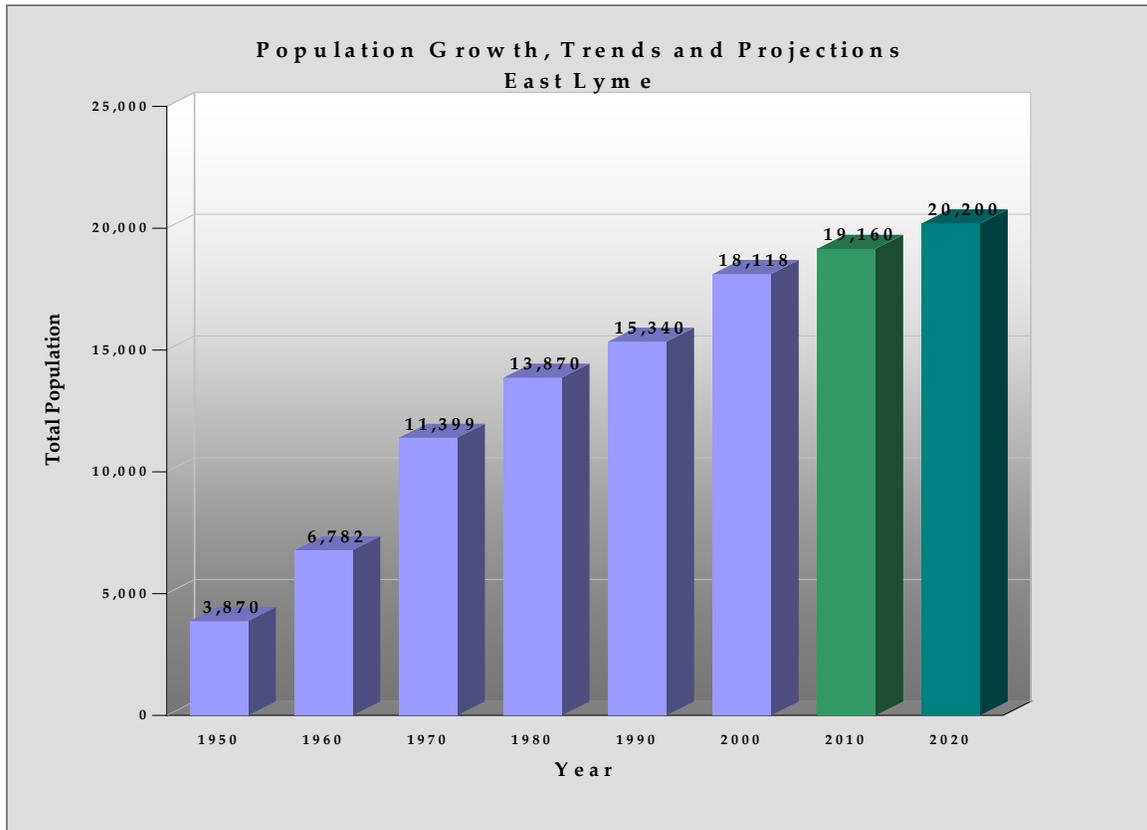
through the responsible siting of developments, encouraging collaboration with regional agencies such as the Southeastern Connecticut Housing Alliance (“SECHA”) and the Southeastern Connecticut Enterprise Region (“seCTer”), and continue coordination with State and regional planning agencies (Southeastern Connecticut Council of Governments and Connecticut River Estuary Regional Planning Agency).

## CHAPTER 2: DEMOGRAPHICS AND DEVELOPMENT PATTERNS

### 2.1 POPULATION CHARACTERISTICS AND PROJECTIONS

According to the 2007 Regional Plan of Conservation and Development (“2007 RPOCD”) prepared by the Southeastern Council of Governments, East Lyme's estimated population for 2010 is approximately 19,160, up from the 18,118 recorded in the 2000 Census. The United States Census Bureau estimated the 2007 population at 18,690. Based on the 2007 Regional Plan of Conservation and Development, East Lyme experienced a 5.75-percent increase in population over the last decade and approximately an 18-percent increase since 1990 (see FIGURE 1).

FIGURE 1 – POPULATION GROWTH, TRENDS, AND PROJECTIONS

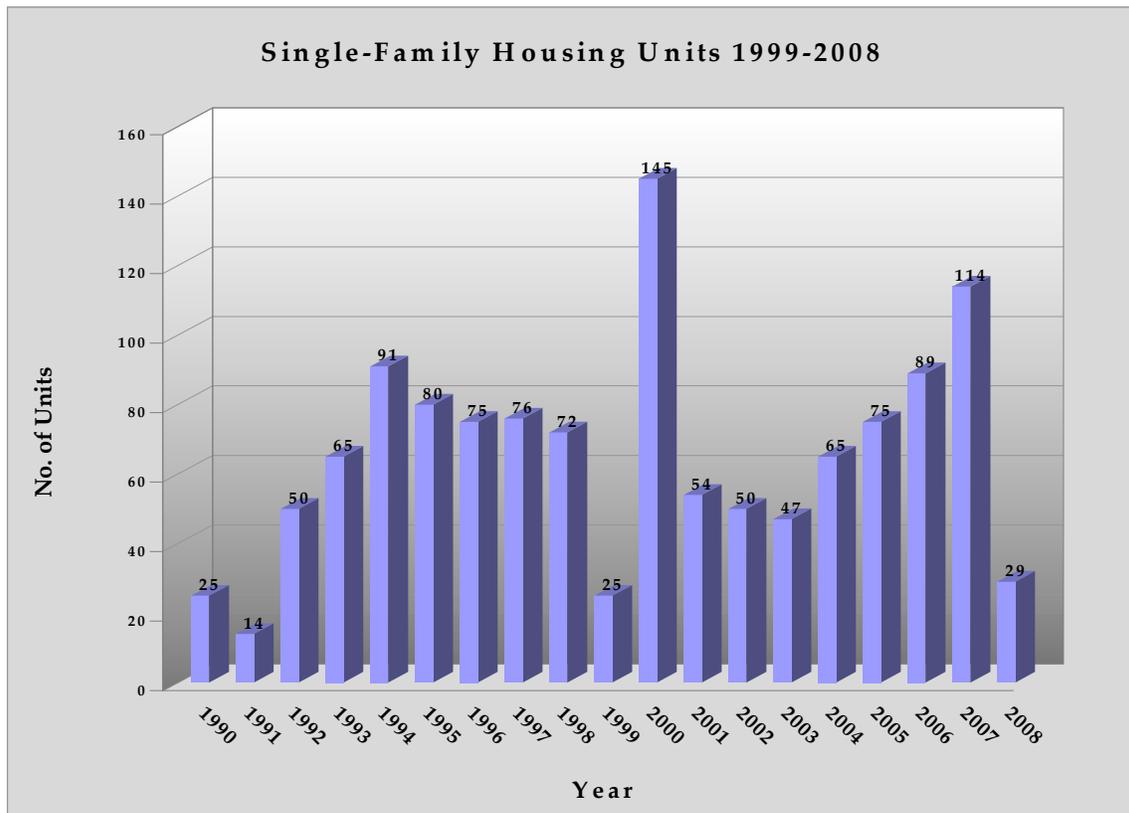


Source: U.S. Census, SCCOG 2007 RPOCD

As previously indicated in East Lyme’s 1999 POCD, during the 1980 - 1990 decade, the Town’s population increased by 10-percent, which appeared to be attributable to the expansion of the inmate population at the correctional facilities in East Lyme. According to the Connecticut Department of Corrections, the total inmate population in East Lyme as of July 1, 2008 was 2,493, approximately 60 - percent greater than the previous decade and accounts for 2,493 of the estimated 19,160 persons residing in East Lyme.

As population projections from State and Federal agencies show an increase in residential population, approximately 999 new dwelling units have been constructed since 1999 respectively (see FIGURE 2). It is worth noting 66 of the 145 units built in 2000 are attributed to assisted living facilities and 50 of the 114 units built in 2007 are attributed to age restricted affordable senior housing.

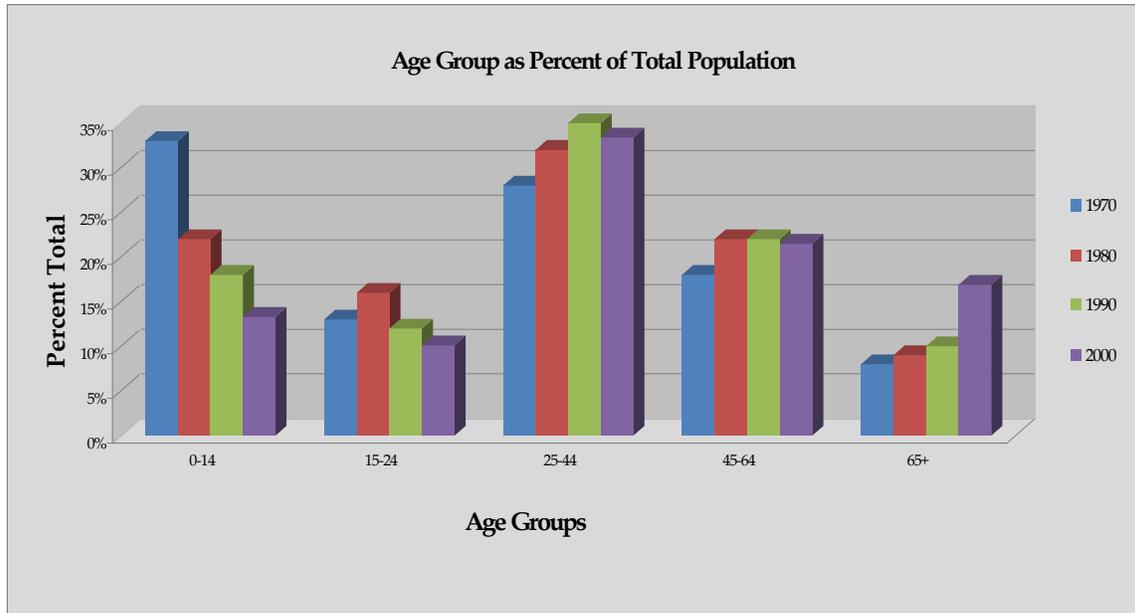
**FIGURE 2 – SINGLE-FAMILY HOUSING UNITS 1999 – 2008**



Source: Town of East Lyme, Department of Building

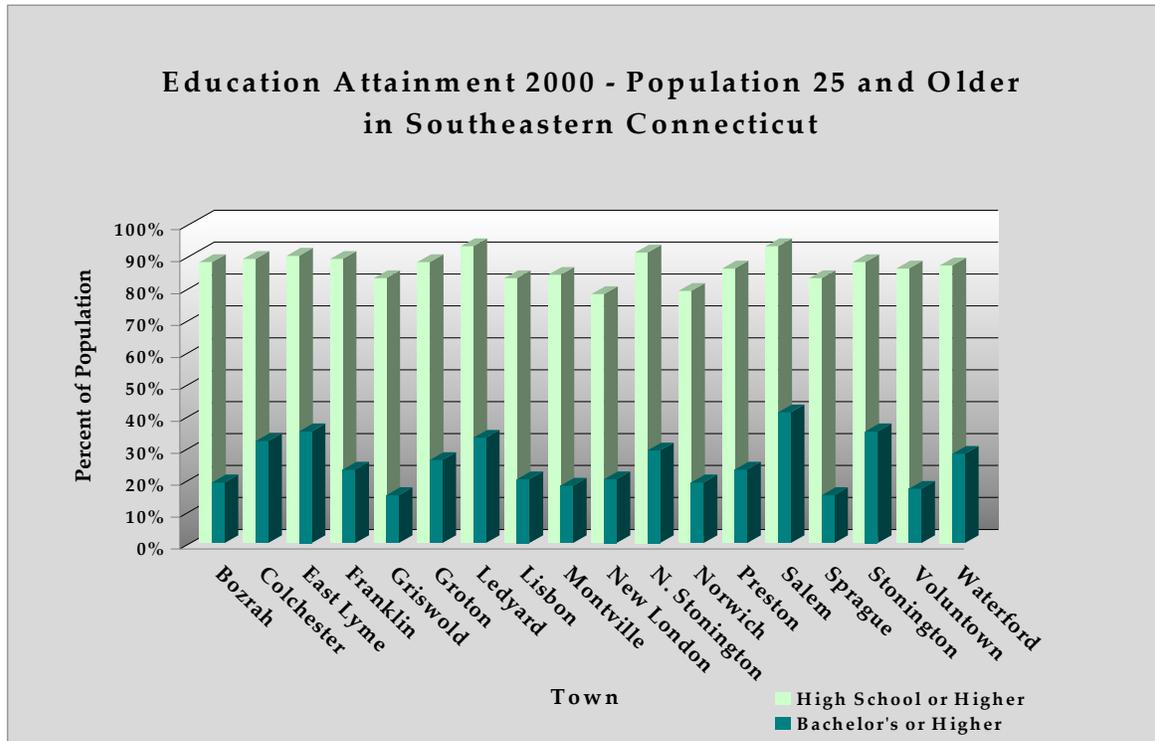
According to the 2000 Census, the median age of East Lyme residents was 39 years, with 78.1-percent of the population being 18 years and older. Persons 65 years and older comprised 12.6-percent of the total population (see FIGURE 3). In 2000, there were 8,716 males and 9,402 females living in East Lyme.

**FIGURE 3 - AGE GROUP AS PERCENT OF TOTAL POPULATION**



In terms of age distribution, racial composition and work-force participation, East Lyme does not differ significantly from regional averages. However, the educational achievement and economic status of the Town's population are unusually high. The 2000 Census indicates approximately 80-percent of East Lyme residents have completed high school and over 24-percent have completed college. FIGURE 4 below compares the educational attainment of East Lyme with the educational attainment of all the 18 towns in the Southeastern Connecticut Region.

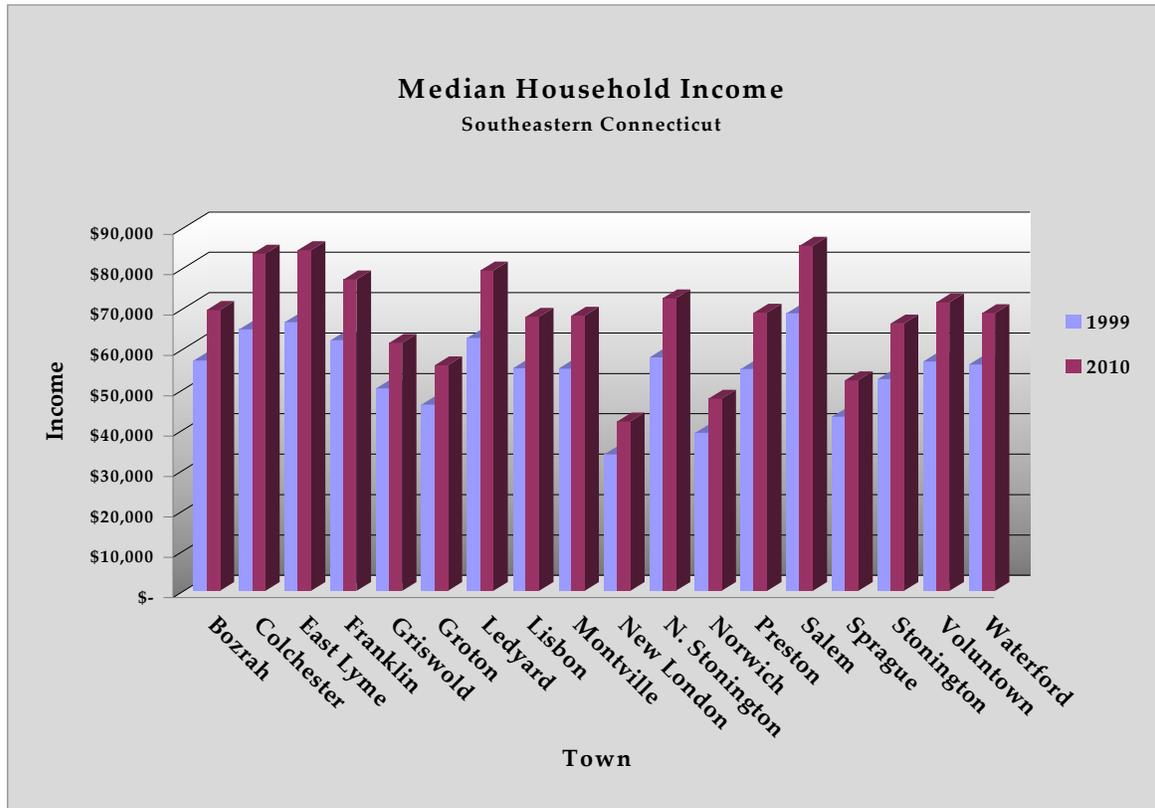
FIGURE 4 - EDUCATION ATTAINMENT - POPULATION 25 AND OLDER



Source: U.S Census Bureau

The 2000 Census indicates East Lyme’s median family income was \$74,430, approximately 42-percent greater than the median family income of \$52,434, in 1989, which was the second highest of towns within the Region. East Lyme’s median household income in 1999 was \$66,539. According to the 2007 RPOCD East Lyme’s median household income in 2010 is estimated at \$84,413 (see FIGURE 5).

FIGURE 5 - MEDIAN HOUSEHOLD INCOME - SOUTHEASTERN CONNECTICUT



Source: U.S Census Bureau, SCCOG 2007 RPOCD

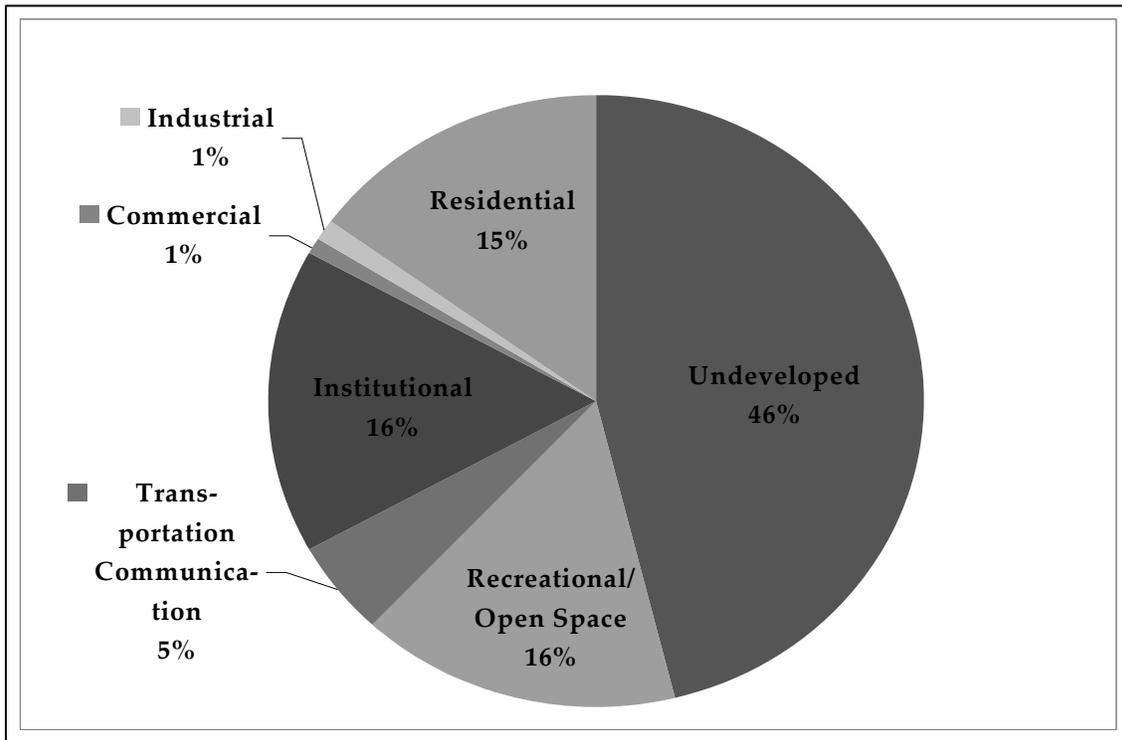
## 2.2 EXISTING LAND USE PATTERNS

With an estimated 2010 population of 19,160 persons residing within its land area of 36.6 - square miles and preponderant developed land use of single-family housing, East Lyme could be classified as a partly urban, moderately-sized suburban, and ex-urban (low-density housing outside urban service boundaries) community. East Lyme's 1999 POCD ("1999 POCD") indicated the pattern of development throughout East Lyme as being divide into three distinct areas:

- The northern portion is distinctly rural. Residential development is scattered among mostly large tracts of open space such as the Nehantic State Forest and the Yale University property.
- The central portion is suburban. This area, with Interstate-95 as a centerline, is characterized by numerous post-1960 subdivisions, the village of Flanders, strip commercial development along Route 161 and substantial areas of undeveloped land.
- The southern portion extends from Society Road southerly to Long Island Sound. It is the most densely developed part of East Lyme, containing the village of Niantic and the beach communities.

As indicated in the 1999 POCD, approximately one-half of East Lyme's total land area was classified as undeveloped. A second predominant land use category in town was institutional (municipal, state and federal land, and Yale property). The largest percentage of land area devoted to a developed non-institutional use was residential (see FIGURE 6).

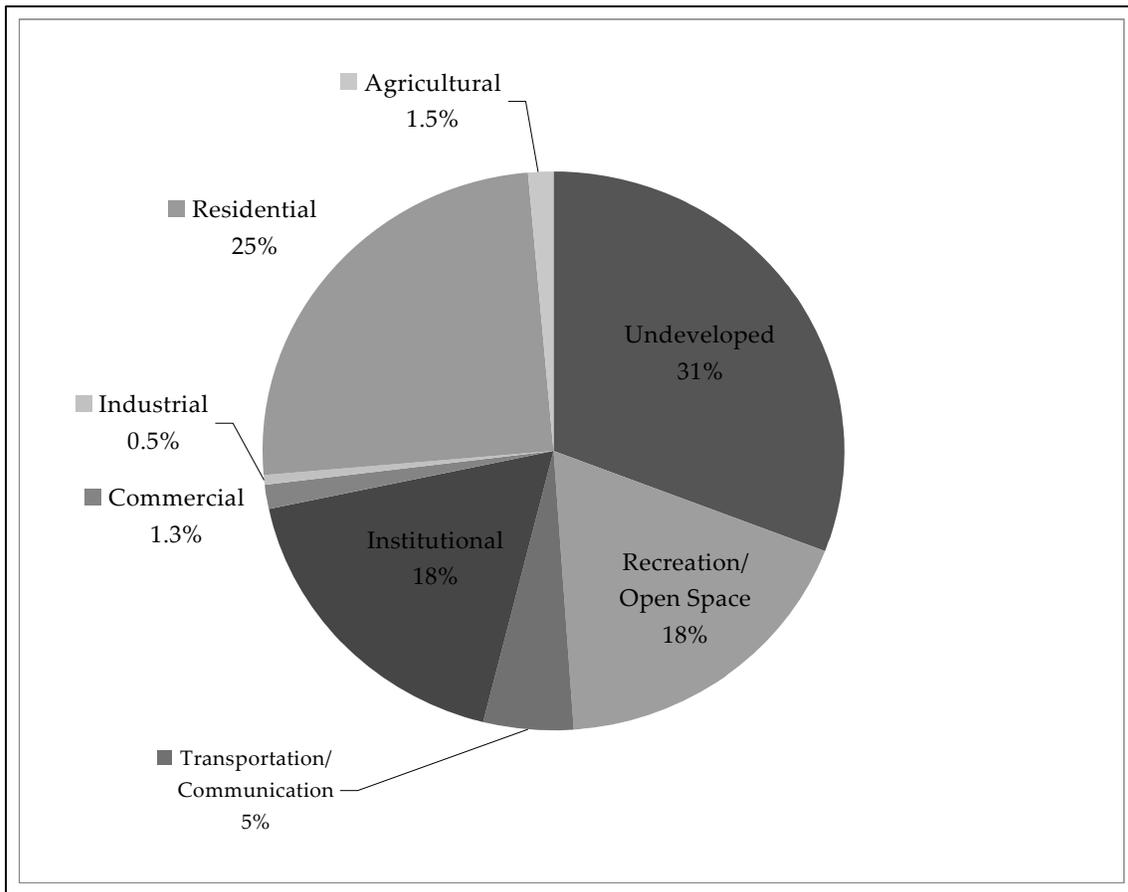
FIGURE 6 – 1999 LAND USE AS PERCENT OF TOTAL ACREAGE



Source: 1999 POCD

According to 2007 RPOCD nearly half of East Lyme's total land area is currently classified as undeveloped. Again, the second predominant land use category in town is institutional. The largest percentage of land area devoted to a developed non-institutional use was residential (see FIGURE 7 – 2005 LAND USE AS PERCENT OF TOTAL ACREAGE).

FIGURE 7 – 2005 LAND USE AS PERCENT OF TOTAL ACREAGE



Source: SCCOG 2007 RPOCD

As indicated in the 1999 POCD single-family dwellings accounted for 86-percent of the approximately 7,379 year-round dwelling units. The most distinctive feature of East Lyme's housing stock was the high number of second-home weekend and vacation dwelling units; the 1990 Census recorded 1,049 homes held for occasional or seasonal use, most of which are located in the Town's beach communities. The 2000 Census indicates of the 7,459 year-round dwelling units, 889 homes are held for seasonal, recreational, or occasional use. Of the approximately 999 new homes built between 1999 and 2008, 411 were single-family homes, 237 were single-family age restricted, 163 were single-family condominiums, 72 were apartments, 50 were age restricted apartments, and 66 were assisted living units. These numbers do not include conversion of beach cottages to year-round homes.

Between 1989 and 1999 commercial development in East Lyme displayed a pattern in its scale, type and distribution that is fairly representative of suburban towns with small-scale traditional centers and rapid post-WWII population growth. Development in the Town's two historical commercial centers -- Niantic and Flanders -- intensified slightly from 1987. Commercial development expanded in a linear fashion from these centers westward along Main Street (Route 156), south and west on Flanders Road (Route 161), and the Boston Post Road (Route 1).

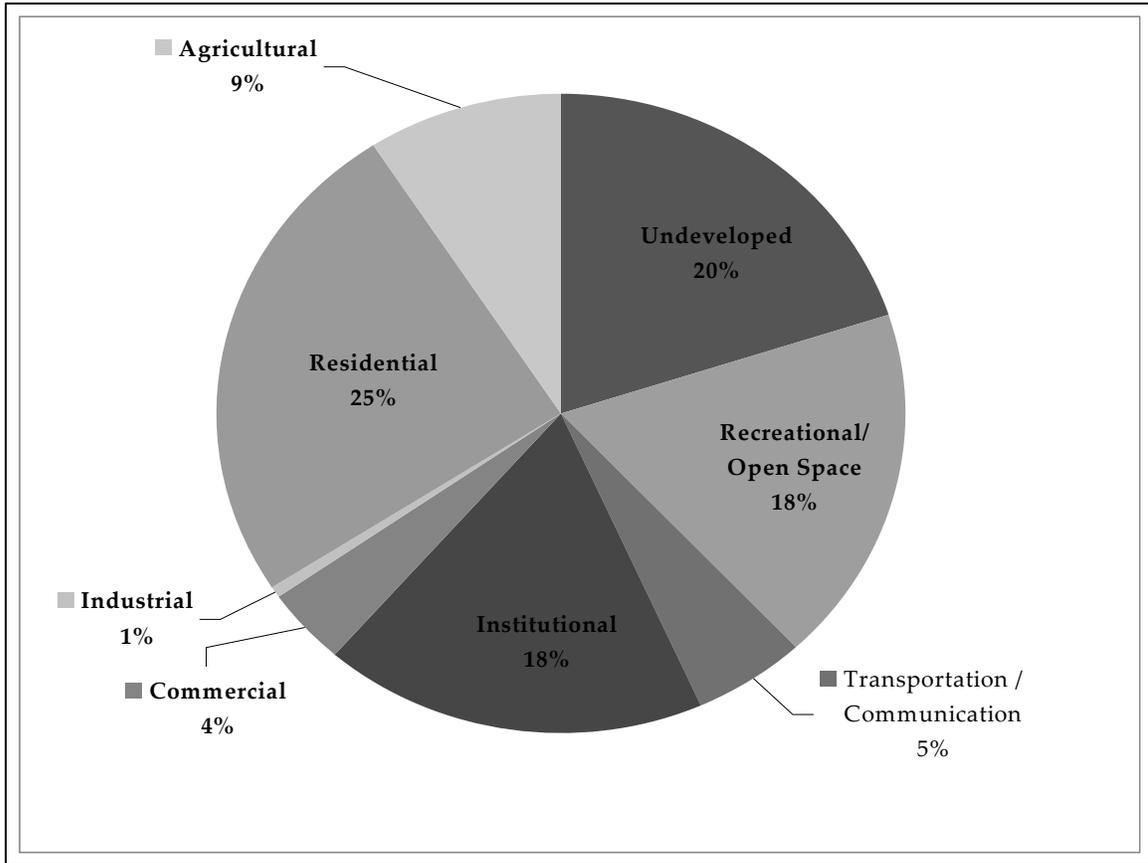
As previously indicated in the 1999 POCD, an unusual aspect of East Lyme's land use is the extent of open space and low intensity institutional land holdings. Public open space, consists primarily of the Nehantic State Forest and Rocky Neck State Park, which totals approximately 2,463-acres or almost 11-percent of the land area within the Town. Major institutional uses account for another 4,001-acres, 16-percent of the total land area, and include the State Farm and correctional facility, the National Guard reservation and the Yale property. It's worth noting during the 1990's the Correctional Facility expanded to include two detention buildings for both men and women.

Beginning in the Summer of 2008, the Town of East Lyme with assistance from the University of Connecticut's ("UConn") Community Research and Design Collaborative ("CRDC"), conducted a comprehensive town-wide land use study of East Lyme called a Lands of Unique Value ("LUV") Study (see Appendix A). Designed to inventory and analyze all existing town features (natural and cultural), the LUV Study provides guidance in determining the most logical and reasonable locations for future land uses within the Town in an effort to balance conservation, preservation and development. As shown in the Introduction, page 2 of Appendix A, the LUV Study, categorizes the existing pattern of development in East Lyme into eight distinct areas:

- Protected Lands
- Agricultural Lands
- Rural Residential
- Low Density Suburban
- Medium Density Suburban
- High Density Residential
- Flanders Commercial
- Niantic Mixed Use.

According to the LUV Study, FIGURE 8 – CURRENT LAND USE, indicates the predominant land uses within East Lyme are the low intensity institutional lands or Protected Lands. The largest percentage of land area devoted to a developed non-institutional use continues to be residential. Similarly, the LUV Study indicates the existing land use patterns with East Lyme have not deviated significantly from those identified in the 1999 POCD. However, the LUV Study further distinguishes between the different types of residential and commercial development, and identifies the existence of agricultural lands previously not identified in the 1999 POCD. It is worth noting East Lyme has experienced almost a three-percent (3%) increase in commercial land use and a seven-and-one-half-percent (7½%) increase in agricultural land use between 2005 and 2009.

**FIGURE 8 – CURRENT LAND USE AS PERCENT OF TOTAL ACREAGE**



*Source: Lands of Unique Value Study*

## CHAPTER 3: LAND USE

### 3.1 RESIDENTIAL

#### 3.1.1 Single-Family Housing

In 1990, single-family residences constituted the secondary land use in East Lyme using 3,375 acres out of 22,336 acres available within the town (see FIGURE 9). The primary land use in East Lyme is major institutional, Yale University and State of Connecticut properties, which total approximately 3,596 acres. The trend over the past twenty years shows the amount of acreage dedicated to single-family residences is increasing. Since 1990, an average of ninety new single-family homes have been constructed each year within new subdivisions or pre-existing vacant lots. It is expected the single-family residence use will continue as the primary land use within East Lyme over the next ten years.

**Subdivision:**-The process of dividing a parcel of raw land into smaller buildable sites, which can also include blocks, streets, open space, public areas and other improvements.

As the more easily developed central areas are allocated to new housing, the primary planning concern for single-family residential development is that future development is carried out on land suitable for subdivision. One critical issue is adequate water and soil resources for septic systems in new housing developments. The Town's water supply may have limitations based on a current evaluation of the water supply plan and extensive areas of steep slopes and wetland soils in the rural-zoned lots may limit the availability of areas for septic system installation (see FIGURE 10).

FIGURE 9 - EXISTING RESIDENTIAL ZONES

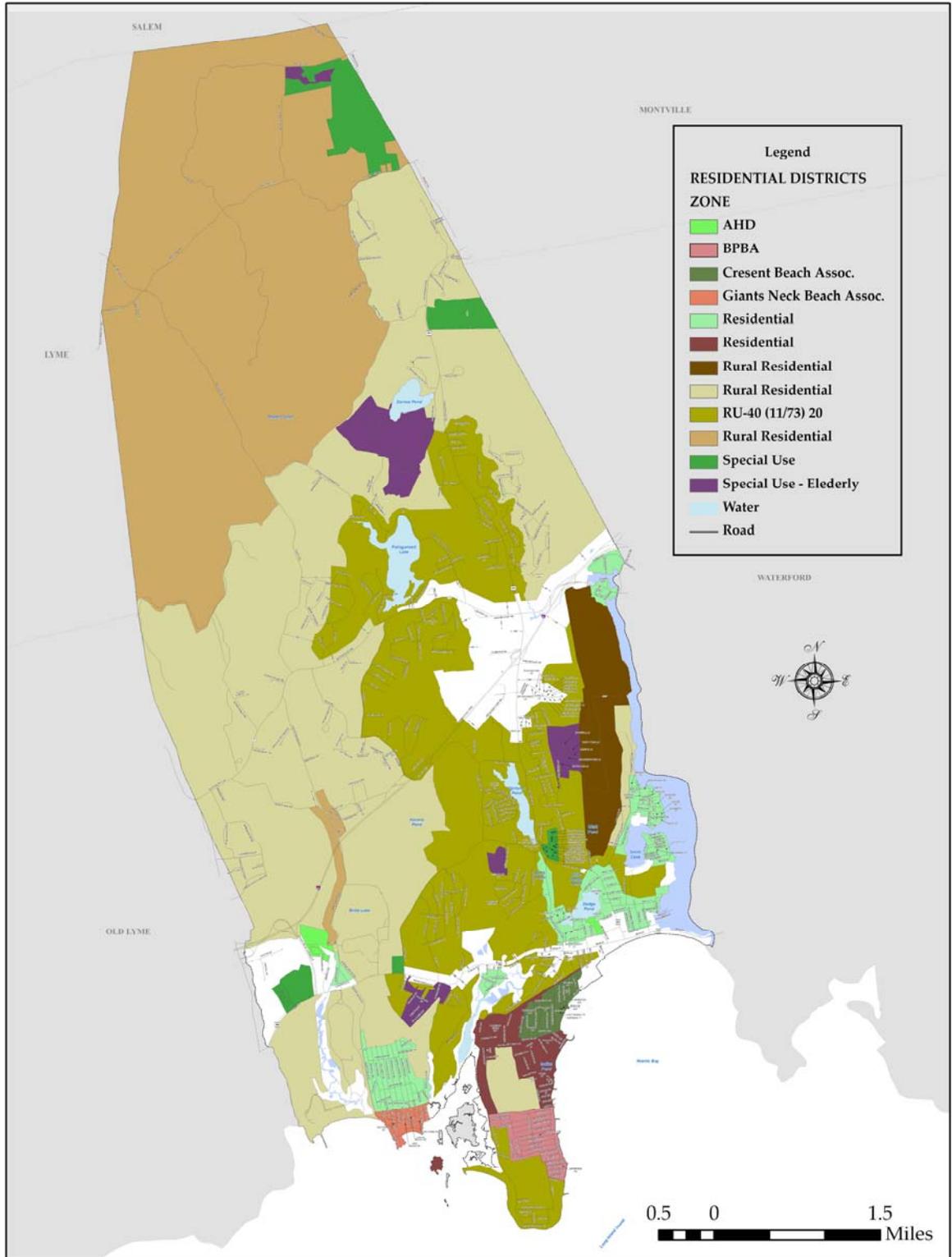
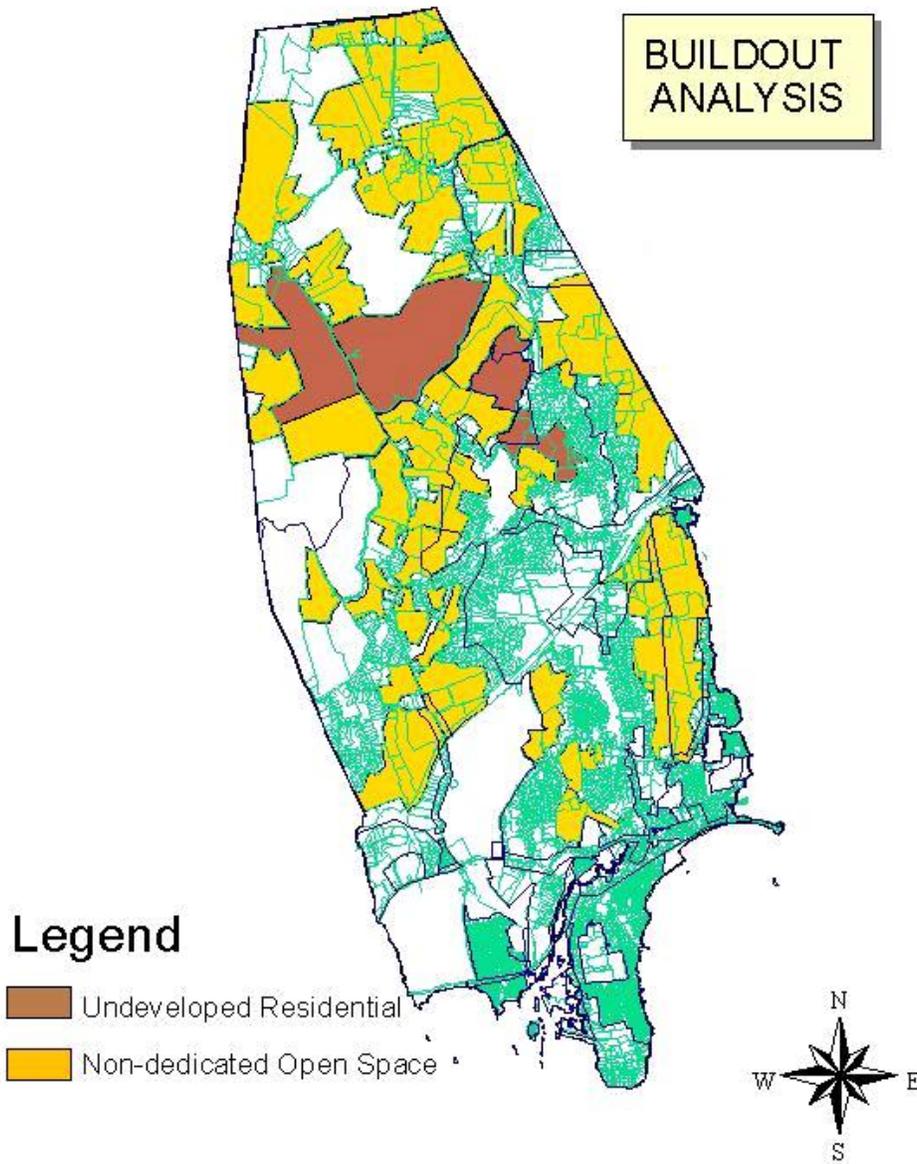


FIGURE 10 – BILDOUT ANALYSIS



One method of controlling development on marginal lands is large-lot zoning. East Lyme's comprehensive plan reflects this type of approach. Virtually all the Town's undeveloped residentially zoned areas are subject to one or two acre minimum lot size requirements. Another technique is to look at the minimum buildable area of a lot for adequate soil

**Comprehensive Plan:** The Zoning Map and Zoning Regulations based on research compiled for the Plan of Conservation and Development, provides a comprehensive map for land use within the town (see FIGURE 11).

conditions to support a single-family home. In the event that it is found that the Town's water supply has limitations, the Planning Commission and Zoning Commission should fully evaluate the appropriateness of either rezoning the northern portion of town as three-four acre zoning and/or amending the regulations to encourage minimum area of buildable land.

In 1992 and 1995, the Zoning and Planning Commissions cooperatively adopted regulations coordinated to improve the existing cluster development regulations. These new regulations illustrated that the preferred technique for the development of residential building lots is cluster development. Cluster development possesses a number of potential advantages over conventional subdivision:

- Environmentally sensitive areas such as wetlands, watercourses, flood hazard zones and steep slopes can be preserved as open space or protected by buffers. The design flexibility of cluster development can be used to accommodate site improvements; i.e., roads can be constructed with the topography of the parcel, thus minimizing grading and excavation (with its associated erosion and sedimentation) and maintaining natural drainage patterns.
- The use of smaller lots allows construction to be concentrated on those portions of the parcel best suited for development, potentially reducing the developer's costs for site preparation, foundations and septic systems.

- Cluster development typically requires a lower total length of street and utilities, reducing initial development costs, as well as future maintenance costs to the Town.

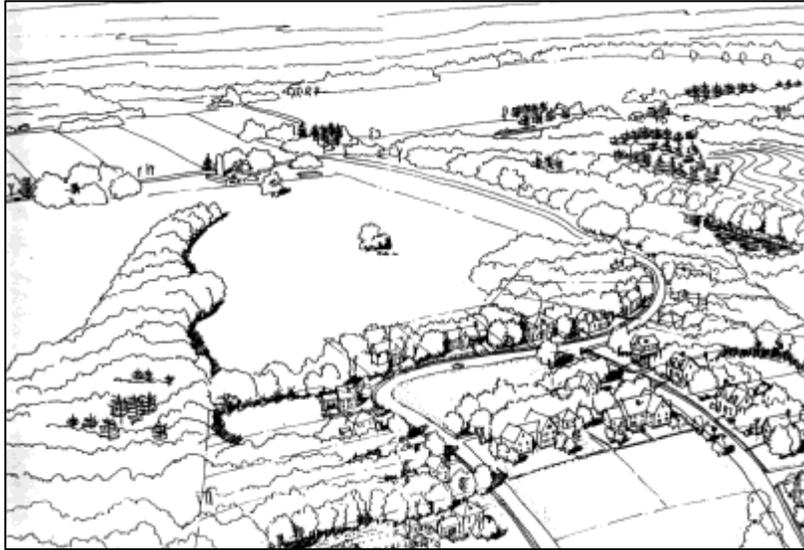
A recommended change to further improve the existing cluster regulations is to re-examine the density available without sewer and water versus housing density available with sewer and water. The Planning and Zoning Commissions should amend the current cluster regulations to ensure that density allowed without water and sewer does not increase with the availability of water and sewer.

A final recommended change in the Zoning Regulations controlling single-family residential zones concerns the potential for inappropriate commercial uses within residential areas. The Zoning Regulations for rural residential zones (RU-40 and RU-80)) contain some commercial uses that are permitted either outright or by special permit. Most of these permitted uses are appropriate for rural and semi-rural areas (e.g., veterinarian's offices, green houses, agriculture, and nurseries). While the Zoning Commission has eliminated the permitting of hotels and motels, it is critical to delete and discourage other incompatible land uses in these zones.

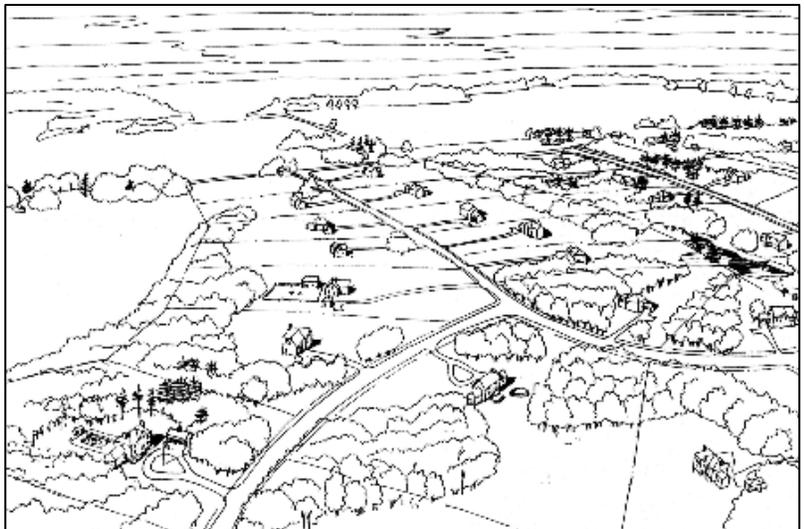
<p><b>Cluster Subdivision</b>  The main objective of a cluster subdivision is to reduce the size of individual lots below the area normally required.</p> <p>The total number of lots created does not exceed the number that would be allowed under conventional subdivision of the parcel.</p> <p>Most importantly, remaining land would be dedicated as perpetual open space (see FIGURE 12).</p>
--



FIGURE 12 – EXAMPLE OF CLUSTER DEVELOPMENT



**Conventional Subdivision** - Zoning for 200,000 sq. ft. lot size produces about 30 homes. Development of these lots and new roads destroys agricultural land, wetlands or other critical areas. Houses in open fields do not reflect the rural character of area and encourage infill development over time.



**Cluster Development** - Creative approaches to development of the same land preserves critical areas, promotes a village/rural environment and conservation of land. The area of the same thirty lots is reduced from 5 acres to 1 or ½ acre building lots. Remaining land that includes critical areas or farmland is dedicated as permanent open space. Infill development is discouraged and rural character is preserved.

## Recommendations for Single Family Zones

1. Continue to promote cluster residential development as a means of creating permanent open space, preserving environmentally sensitive areas and encouraging creative subdivision design. Amend regulations as appropriate to ensure that increased density does not occur when water and sewer is available to the site.
2. Revise the Zoning Regulations to prohibit inappropriate commercial uses in rural residential zones.
3. Evaluate the options reducing future impact on water and soil resources by either rezoning the northern rural area of town and/or amending the zoning regulations to encourage minimum buildable land area.

### 3.1.2 Multi-Family Housing

During the 1980s, the pace and location of multifamily housing development was a major land-use issue in East Lyme. Concern was expressed in the 1987 Plan of Development that multifamily housing would:

<b>Multifamily Development</b> - Any use of land containing three or more dwelling units on the same lot.
---

1. Threaten East Lyme's predominantly single-family residential character.
2. Create a burden on the taxpayers requiring expenditures for municipal services (particularly education) which are not balanced by property tax receipts.
3. Use up land that should be reserved for commercial development.

At the time of the 1987 Plan's adoption, the rate of growth in multifamily housing developments represented a growing percentage of East Lyme's housing stock: from 5.9 % of total year-round housing units in 1975 to 8.6 % in 1984 (see Table 1). It seemed clear that the pace of multifamily housing development was accelerating based on permits issued for 114 multifamily housing units from 1983 to 1986. Another trend that can be discerned from the data in Figure 3-4 is the dramatic shift in multifamily development from apartments in the pre-1975 period to the present preference for condominiums or single-family detached on common land.

**Table 1 - Multi-Family Housing Developments in East Lyme**

<u>Name / Location</u>	<u>No. Units</u>	<u>No. Bedrooms</u>	<u>Apartment or Condominiums</u>
<b>Prior To 1975</b>			
Cedar Ridge, Flanders Road	96	1-2 BR	A
Dodgetown, East Pattagansett Road	60	2 BR	A
Hillside Acres, Rathbun Road	10	1 BR	C
Indian Woods, West Main Street	16	2 BR	A
JoVal, Route 1	36	2 BR	A
Nehantic Apts, Corey Lane	16	2 BR	A
Pattagansett Apts, East Pattagansett Road	12	2 BR	A
Peggy Lane, Attawan Road	22	1 BR	A
Williamsburg Manor, Mill Road	32	(8) 1 BR	C
	-----		-----
	300		(258 A, 42 C)
<b><u>1975 -1984</u></b>			
Black Point Farms, Black Point Road	40	(11) 1 BR (29) 2 BR	C
Briarwood, Flanders Road	16	2 BR	C
Brookfield, West Main Street	16	2 BR	C
Churchwood, Riverview Road	36	2 BR	C
Nazarko, East Pattagansett Road	4	2 B	C
Nicholas Manor, Route 1	15	(12) 1 BR (3) 2 BR	A
Patrissi, West Main Street	11	2 BR	C
Rowe, Main Street	4	2 BR	A
Twin Haven Elderly, Upper Pattagansett Road	40	(20) 1 BR (20) Studio	A
	-----		-----
	192		(69 A, 123 C)
<b><u>1985 – 1996</u></b>			
Flanders Run, Upper Pattagansett Road	36	2 BR	C
Deerfield, King Arthur Drive	100	2 BR	C
Pondcliff, West Main Street	96	2 BR	C
AMPAT, Flanders Road	6	1 BR	A
Church Lane Assoc., Church Lane	14	2 BR	C
Flanders Partnership, Flanders Road	7	2 BR	A
Beefe Building, Main Street	4	(2) 1 BR	A
	(2) 2 BR		
	-----		-----
	263		(17 A, 246 C)
<b><u>Approved or Under Construction (Since 1997)</u></b>			
Chapman Farms	63	2-3 BR	SF
Windward Village	60	(42) 1 BR (18) 2 BR	A
Athena	70		A
Crescent Point	63		A
Chapman Woods	108		SF
Nathan Hale	33		SF
	-----		-----
	397		(204 SF, 193A)

Whether the development of multifamily housing has yet impeded commercial development by using up prime commercial sites is under question. There seems to have been an adequate supply of sites with the preferred direct road frontage and relatively easy topography to accommodate commercial development. Multifamily developments, on the other hand, have tended to locate on sites that are either on the fringe of commercial development or are of more difficult topography or are set back from the roadway, allowing commercial uses to occupy the road frontage. Recognizing this, the Zoning Commission amended the Zoning Regulations in June 1987 to only allow multifamily housing in commercial zones where it is part of a mixed use. Later the Zoning Commission allowed multifamily as a primary use in the commercial business district to support village business.

Since the adoption of the 1987 Plan of Development, multifamily construction slowed marginally. Within the last three years, multifamily housing has been increasing at a rapid pace. As Table 1 indicates, 397 units have been approved or built since 1997, compared with 263 units built between 1985 and 1996. While 83% of these units are categorized as elderly housing, 67% of those units are designed as two or three bedroom detached condominium homes. These homes have the potential to be converted to standard family homes, but would still be classified as multifamily. The other units were approved as assisted housing for the elderly within one building complex. The 1998 approval of Windward Village, a 60-unit rental complex in Niantic, is one of the only major standard multifamily developments since the 1980s.

Changing demographics as a result of the employment profile produced by the Mohegan Sun and Foxwoods Casinos, and many other proposed expansions of the Southeastern Connecticut tourism-based economy, are expected to produce an increased demand for more affordable housing, including multifamily. Rental rates were rising during development of this Plan due to the decline in supply of residential rental property. The demand and rental rates in East Lyme are likely to increase in the near future with the profitability of constructing new multifamily units.

While multifamily housing can provide affordability for the elderly population, current trends in housing development for the elderly show homes selling for \$180,000 to \$200,000. When planning for the location of future multifamily housing areas, the specific needs of the elderly community should be kept in mind. Areas planned for this type of housing should have easy accessibility to shopping and business centers and be located near bus routes. Developments should include sidewalks and/or access to lighted and improved crosswalks. In developing new multifamily regulations, consideration should be given to allow alternative types of multifamily housing, such as PUDs (Planned Unit Developments) and congregate housing, which could offer another type of affordable housing to senior citizens. Special permit controls should be re-evaluated for adequate site and road design to accommodate proposed density. These controls should also incorporate guidelines for design, which preclude elderly housing from being easily converted to multifamily housing. This would include house design and number of bedrooms, as well as stipulations for homeowners associations.

Incorporating the recommendations of the 1987 Plan of Development, design site plan standards for multifamily housing properties will need to be upgraded to ensure that neighboring residential properties are protected. An additional benefit of specific development standards is that they tend to relieve the Commission from making Special Permit decisions primarily on the basis of judgmental general standards and decisions are therefore more equitable and less prone to challenge.

### **Recommendations for Multi-family Housing**

For purposes of this document, multifamily development is defined as any use of land containing three or more dwelling units on the same lot; this definition is consistent with East Lyme's Zoning Regulations. Ownership of the dwelling units is of no importance from a land-use perspective; both apartments and condominiums are considered multifamily housing.

1. Permit multifamily housing development in designated growth areas when such development is used to combat housing sprawl to rural areas of town. Methods such as transfer of development rights and special permit for multifamily housing in village districts are examples that could be used.
  
2. Consideration should be given to the following as characteristics of development sites in deciding the placement of multifamily housing:
  - generally free of major site development constraints, such as wetlands, bedrock soils, steep slopes and primary aquifers
  - within the boundaries of, or readily connected to, the municipal water and sewer service area
  - accessible to arterial roadways
  - accessible to municipal services, particularly fire protection and schools

- removed by distance, topography or vegetation from existing large-lot single-family residential development.

3. Adopt upgraded standards for multifamily housing development:

- DISTRICTS – commercial business districts, Residential/Multifamily or PUD Overlay
- APPROVALS - Special Permit by Zoning Commission.
- UTILITIES - Where public water and sewer are available, connection should be required.
- LOT AREA - 20,000 square feet per unit except in commercial business districts where there is a mixed use.
- EXCEPTIONS - As it is in the public interest to encourage higher standards of development and provision of amenities for multifamily residents, the Zoning Commission, as part of a special permit plan review, may reduce the minimum lot area per dwelling unit up to a maximum 4,000 square foot reduction (from 20,000 square feet to 16,000 square feet per unit) if the applicant chooses to provide the following options:

**Table 2 - Maximum Reduction in Lot Area Per D.U.**

Provide for an enclosed, covered or underground parking space for at least 50% of the units	500 sq. ft.
Provide a landscaped earthen berm to screen parking spaces from eye-level view from public roads	500 sq. ft.
Provide an in-ground swimming pool having a minimum water surface of 600 square feet or 20 square feet per dwelling unit, whichever is greater.	1,000 sq. ft.
Provide a regulation tennis court for every 20 dwelling units, enclosed by a fence at least eight feet high.	1,000 sq. ft.
Provide an enclosed private balcony having a minimum area of 50 square feet for each dwelling unit.	250 sq. ft.
Provide an enclosed private patio having a minimum area of 400 square feet, suitably landscaped, for each dwelling unit.	500 sq. ft.
Provide a building architecturally compatible with neighboring properties approved by the Commission or a design review committee (when established)	1,000 sq. ft.

- SETBACKS - The present requirements should be increased and a provision should be adopted to permit them to be further increased at the Commission's discretion, when desirable as a buffer. Increase setbacks to a 50-foot frontage, 20-foot side setback and 30-foot rear yards on newly created roads for internal traffic circulation; all residential buildings shall be set back at least 20 feet from the edge of pavement; all accessory structures, attached or detached, shall be set back at least ten feet from

the edge of pavement. The use of a PUD development following specific design standards would override these requirements.

- TYPES OF UNITS PERMITTED –

Townhouse: A townhouse is defined as an attached unit which has its own front door opening to outside. Typically each unit is two stories with a private front or rear yard (or both) in addition to the common open space.

Single-Family Detached: Designs specified under PUD regulations that would encourage specific single-family housing with common ownership of land.

- MAXIMUM NUMBER OF UNITS PER BUILDING - The present regulations in the commercial business zone have no requirement; eight is recommended.

- REQUIRED OPEN SPACE - Recommend 25-40 percent depending on design guidelines.

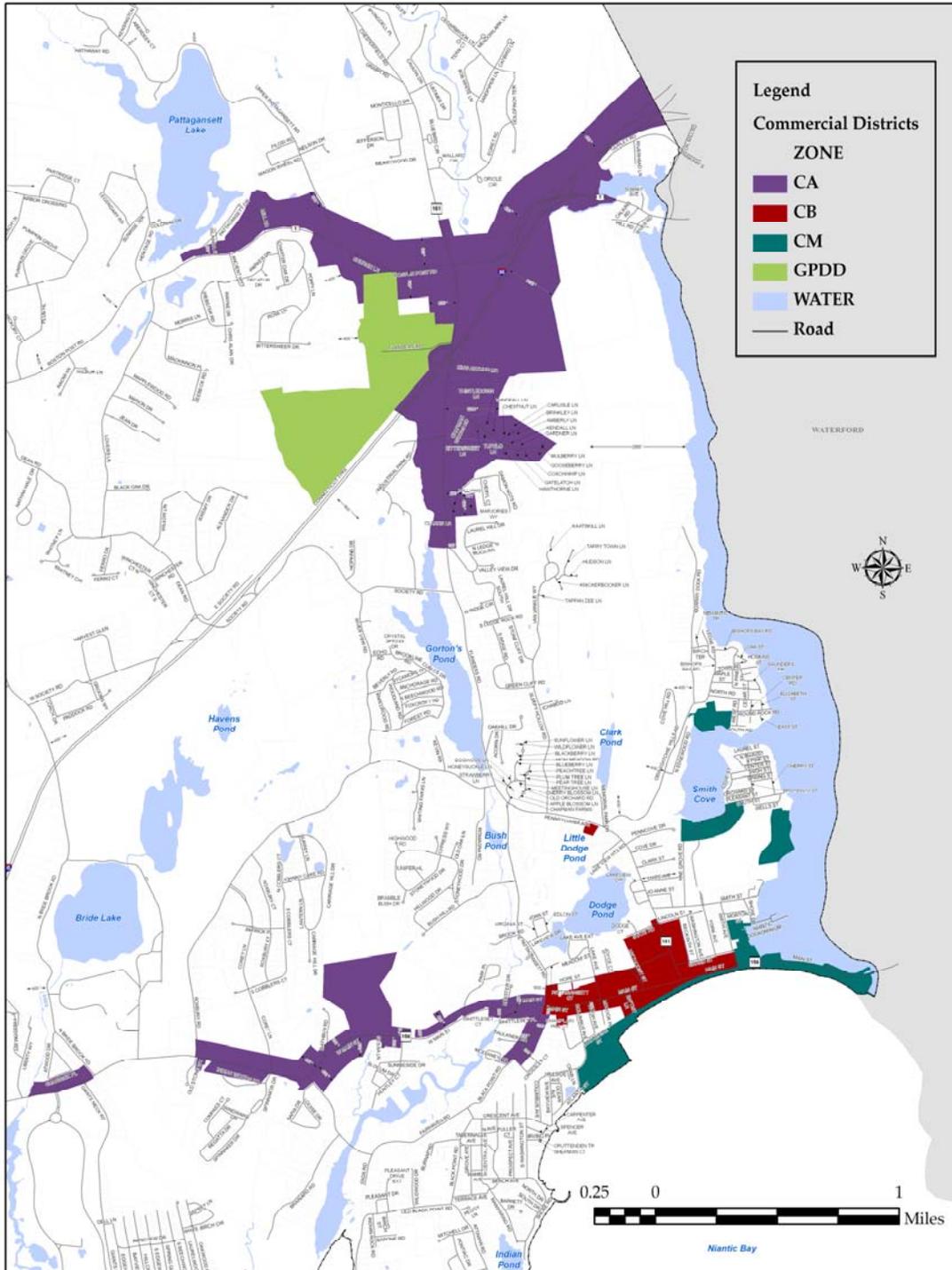
### 3.2 COMMERCIAL

Commerce in East Lyme, with two notable exceptions, is oriented toward the provision of everyday goods and services to the local populace. The Town's businesses tend to be located on individual parcels or in small clusters of shops in either Flanders Village Center or

<p><b>Commercial Districts:</b> Land zoned for uses that provide goods and services to the community and visitors, which historically have served as areas for community interaction and camaraderie (see FIGURE 13).</p>
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Niantic Village Center. The two exceptions to the predominantly local nature of East Lyme's commercial development are tourist accommodations and marine-related businesses. Tourist accommodations include eight motels, predominantly concentrated around the I-95/Route 161 interchange; four hotels in downtown Niantic and Crescent Beach; and three campgrounds. The Town's marine-related commerce caters to a mix of local and regional customers. The primary marine commercial district consists of a five to six-acre pocket on the Niantic River.

FIGURE 13 - COMMERCIAL ZONING DISTRICTS



A total of approximately 575-acres are zoned commercial and distributed as follows:

**Table 3 - Distribution of Commercial Area**

<b>Downtown Niantic</b>	<b>70 Acres</b>
<b>West Main Street</b>	<b>93 Acres</b>
<b>Flanders Road (South of I-95)</b>	<b>220 Acres</b>
<b>Flanders Road (North of I-95)</b>	<b>61 Acres</b>
<b>Boston Post Road</b>	<b>117 Acres</b>
<b>Other</b>	<b>14 Acres</b>

There are three Special Use Districts with commercial uses, and two campgrounds, which add to the total commercial acreage (approximately 400 acres). Out of approximately 1,000 acres zoned for commercial or special use, approximately one-half has been developed for commercial use.

The recommendations for commercial land use outlined in this section are also reflected in the recommendations within Chapter 4: Economic Development. Overall policies to increase the quality of East Lyme's commercial districts will strengthen the Town's economy and tax base. As described in the following subsections, the Town has three distinct commercial districts, which compliment each other and provide the area with a diversity of options for commercial development.

## FLANDERS VILLAGE

Flanders Village is located at the geographic center of the Town, at the intersection of two major arterials (Route 1 and Route 161) and two major interstate

**Flanders** – In colonial days, Flanders served as the midway stop between Saybrook and New London. Calkins Tavern, located at the intersection of U.S. Route 1 and S.R. 161, was a stopover for travelers on the Post Road, including George Washington and Lafayette.

highways (I-95 and I-395). It is a central place in southeastern Connecticut and therefore has potential for filling a convenience niche oriented to people preferring to shop by car. The proximity of two schools and condominiums in the shopping plazas indicate a pedestrian customer base, which with appropriate pedestrian amenities, could enhance the commercial district's economy.

While the majority of commercial properties within Flanders Village are commercial shopping plazas appropriate to car shopping, there is another small area off Boston Post Road and Church Lane which would be appropriate for park and pedestrian traffic. Across from the school and administrative building on Boston Post Road, approximately quarter-mile in length, there are several historic structures worthy of preservation and adaptive re-use as commercial buildings (see FIGURE 14).

**FIGURE 14- RENDERING OF HISTORIC STRUCTURES**



Designating an Historic District will help preserve the remaining houses and churches that give Flanders its character. Adding or widening sidewalks will strengthen the village character and unify the district for area residents.

Extending out from the Flanders Village core along the north side of Route 1 is a commercial strip zone beginning at Upper Pattagansett Road and extending westerly for approximately 3,000-feet. This zone is generally 600-feet deep with the westerly portion of Boston Post Road reduced to 200-feet. Business uses in this zone are limited in number and scattered, with residential development and open road frontage predominating.

#### **ROUTE 161 DISTRICT AND EXIT 74**

Exit 74 off Interstate-95 serves as the access point for the Route 161 commercial strip, which travels north and south, connecting Flanders Village with Niantic Village. North of Interstate-95, along Route 161 to Flanders Four Corners, the commercial strip includes small shops within converted houses and a large lumber/home center commercial building.

South of Interstate 95 along Route 161 to Society Road is a tourism service center and gateway to East Lyme and the Southeastern Connecticut region. The businesses along this corridor are primarily gas stations, motels, fast food establishments and convenience marts.

#### **NIANTIC VILLAGE AND MARINA DISTRICT**

Niantic is the traditional center of East Lyme with a supermarket, Town Hall, a typical “Main Street” and the town beaches all in close proximity. It is also a tourist center with

**Niantic** – A prominent business district in the southern half of the town evolved from a fishing community on Long Island Sound during the colonial period to a seaside resort district during the 1800s and early 1900s.

Niantic Bay and Long Island Sound to the south and the Niantic River to the east, a children’s museum, movie theater and the marina district.

The marina district is located on the Niantic River accessed over Smith Street. Here, six businesses provide dockage for approximately 550-boats along with boat sales, repair and

storage services. Also, a single major marina with 150-slips is located in Smith Cove. The marina district provides Niantic with a significant potential customer base.

Two strip zones, variously 200 to 600-feet in depth, centered on West Main Street and extending from East Pattagansett Road to Roxbury Road for a distance of approximately 1.6-miles characterize commercial development to the west of the Niantic Village Core. In the first 0.6-miles (East Pattagansett Road to Huntley Court), existing development is a mix of commercial and residential uses in roughly equal measure with a substantial amount of undeveloped frontage. West of Huntley Court, however, commercial development is limited.

### **PROBABLE FUTURE TRENDS**

Assuming continuation of existing zoning and land-use controls, and the trends evident in recent years, the most likely scenario for future commercial development in East Lyme would consist of the following:

- A further intensification of commercial development would take place in existing centers, particularly in the Flanders area. As easily developed open land, especially road frontage in the prime commercial areas, becomes increasingly scarce, more intensive commercial development would result from a combination of:
  - (1) Infill: commercial building on open parcels which had previously been passed by because of site drawbacks such as difficult topography or limited frontage;
  - (2) Conversion: a change in use to commercial of parcels which are presently residential, either through conversion of existing structures or through demolition and new construction; and

(3) Upgrading: replacement of marginal businesses with more intensive commercial development on the same parcel. For example, from Laurel Hill Drive to Flanders Four Corners, there are 19 open or under-utilized parcels susceptible to commercial development totaling approximately 50 acres with 3,750-feet of road frontage. This compares with 43 parcels already fully developed for commercial use on approximately 65-acres with 6,000-feet of road frontage. The opportunity for further intensification in downtown Niantic is much more limited, although there are scattered residential uses with frontage on Main Street which could be converted to commercial use.

- The type of commercial development taking place in the central areas is likely to be a combination of local/market-oriented, small businesses and businesses which cater to tourists and customers from Interstate-95. However, a trend toward more clustered shops or mini-centers (e.g., Midway Mall) is probable to make the most efficient use of increasingly scarce and costly prime sites.
- When the State of Connecticut rebuilds the Exit 74 southbound interchange, full access would be gained to the undeveloped and inaccessible commercially zoned land along Interstate-95.
- Outside the most intensely developed areas, strip commercial development would continue to expand along Route 161, West Main Street and Route 1.
- Further motel development and construction of fast food restaurants are probable in the Exit 74 interchange area.

### **Recommendations:**

- Limit future commercial development to the existing commercial centers of Niantic and Flanders.
- Accommodate future growth by consolidation and deepening of existing zones and encouraging the use of a common service road along Route 161.
- Control commercial strip development by eliminating strip zoning where possible.
- Consider a historic preservation area in Flanders Village to be located at the intersection of Church Lane and Route 1.
- Preserve the Niantic River marine commercial areas by reserving these areas exclusively for marine-dependent uses.
- Provide incentive for the preservation of agricultural land to provide local crop supplies for associated businesses and tourism support.

#### **1. Channel future commercial growth toward the Route 161/I-95 Interchange Area.**

The preponderance of commercial development in the future should take place around the Exit 74 interchange adjacent to Interstate-95 in conjunction with new development or redevelopment in the Flanders Commercial District. As documented, a substantial amount of land is available in the Route 161 corridor for commercial growth. Removal of multifamily housing development as a permitted use would remove pressure for development of commercially zoned land for non-commercial uses.

Additionally, the area is attractive for further commercial development because of its location with respect to major transportation corridors and accessibility to the central and northern areas of Town where most future residential development would take place.

- There are several potential impacts involved in the intensification of commercial use in the Route 161 interchange area. One definite impact would be an increase in traffic congestion on Route 161. However, it is considered preferable to accept high traffic volumes here and to make the necessary roadway improvements within a limited area than to aggravate problems and trigger more extensive and costly improvements by permitting further strip development elsewhere. Strip development with multiple access points to separate properties should be discouraged and zoning regulations should encourage larger minimum lot size to maximize use of interior lots and shared driveways. Non-retail uses that are not dependent on road front visibility, should be encouraged to locate in the rear portion of developments. Retail uses should be encouraged to locate near the front of the parcel with parking located to the rear and side of buildings. The front of buildings should be landscaped and a landscaped berm provided next to the sidewalks to buffer buildings from traffic headlights and glare.
- A second concern is that a large portion of the Flanders Road commercial district overlies the Pattagansett aquifer. Careful application of the Town's aquifer protection regulations, as they currently exist and as they may be strengthened in the future, would be necessary in this area.

2. **Establish a Planned Village District - North of Interstate-95.**

A potential zone change involves the area bounded by I-95 on the south, Flanders Road to the east, Boston Post Road on the north and the Pattagansett River on the west. This area is zoned commercial arterial (“CA”) to depths varying from 400 to 700-feet along Flanders Road and Boston Post Road. The interior of the site is zoned light industrial (“LI”) and is generally open, flat land with good soils. The primary development constraint is that the site lies within the Pattagansett primary aquifer protection zone.

The location, topography, available municipal services and access to Interstate-95 make this site one of the most marketable on the Interstate-95 corridor. Consideration should be given to the establishment of a special district which would allow varied uses and encourage the development of clean, high-tech industrial uses, such as medical research, publishing, certain manufacturing types and other industries. The district could be designed such that the industrial buildings are constructed in a way that would be compatible to other uses in the district. Zoned as a planned village district, the Town could lay out a project design, site and architectural guidelines in advance to not only ensure efficient use of the land area, but promote continuity with the Flanders Village district and the historical area on Church Lane.

In tandem with specialized zoning for the above described area, the current Flanders commercial district should be rezoned as commercial business (“CB”) or given a new designation such as Flanders Village District (“FVD”) with regulations that encourage redevelopment to improve upon the village concept.

New buildings, specifically at the intersection of Boston Post Road and Chesterfield Road, should be located near the front of the parcel to emphasize both visibility for new businesses and enhancements for pedestrians and vehicles trying to access the property (see FIGURE 15). Incentive-based zoning should encourage property owners to locate parking to the side or rear, build in an architectural vernacular which compliments historic structures nearby and use various landscaping alternatives to compliment both the site and the structure.

**FIGURE 15 - VIEW OF POTENTIAL REDEVELOPMENT IN FLANDERS VILLAGE**



View of potential redevelopment in Flanders Village at the site of the supermarket entrance which encourages interaction with the community through location of buildings near sidewalks and street.

**3. Adopt changes in commercial zoning to restrain strip development.**

The strip commercial zoning of West Main Street between Huntley Court and Roxbury Road should be eliminated. Commercial development in this strip is limited and could continue to operate as nonconforming uses. This strip and the interior land areas behind it are recommended for mixed, medium-density, single-family residential and multifamily housing by special permit when sewers are available.

Second, the strip commercial zoning currently in effect along Boston Post Road should be eliminated west of Upper Pattagansett Road or, as a minimum change, west of Mill Road.

4. **Establish a new zoning district to serve as a transition between residential and commercial/industrial zones.**

This new zone could take the form of an office/multifamily residential zone that would include appropriate uses. The intent would be that lighting, disruption to residential architectural character and traffic generation be minimized. Such a zone would act to protect single-family residential areas from retail and other commercial infringement. The commercial strips proposed for rezoning as stated above should be studied for rezoning to this new district. Other areas to be considered that are currently zoned commercial arterial (“CA”) are Black Point Road, State Road, Boston Post Road, west of Mill Road and Pennsylvania Avenue.

5. **Adopt controls over the number and location of curb cuts for access to commercial development.**

The abundance of vehicular access points to commercial properties in the downtown Niantic and Flanders Road/Boston Post Road areas has been documented to be a major contributor to traffic congestion. Additionally, the uncontrolled turning movements associated with these access points are a safety concern. Although little short of roadway improvements can be done to eliminate these conditions for existing development, controls over the number and location of curb cuts in new commercial development would limit further traffic problems in the future.

The Zoning Commission should consider the adoption of the following requirements as part of site plan review for all new commercial development, additions or enlargements of existing commercial uses, changes in use from residential to commercial use and changes from one commercial use to one which requires more off-street parking under the Zoning Regulations:

- limit curb cuts to one combined entry/exit drive per parcel, or one entry-only and one exit-only drive per parcel, except where the applicant can show, based on traffic studies, that such a limit would result in unacceptably long queues;
- expressly permit joint access drives for adjoining parcels; and
- for corner lots, limit curb cuts to one entry-only access from the main thoroughfare; require exit to be located on the side street.

Finally, rationalization and consolidation of access points to Route 161 may be possible in conjunction with future improvements to this roadway (see Chapter 8: Circulation and Transportation).

**6. Refine Commercial Business District controls to preserve and enhance Niantic Village.**

Certain refinements to the zoning provisions for downtown Niantic (“CB”) are recommended in addition to a commercial site plan review. The zoning board should consider the adoption of architectural guidelines, which would be consistent with the original “New England Village” architectural styles (i.e., pitched roof, etc.). Where requirements are not appropriate, financial and/or site plan incentives are recommended to encourage architecturally compatible design.

Changes in the uses permitted in CB zones are advisable to prevent construction of commercial uses that are not in character with the generally small-scale retail nature of the village. Uses presently permitted, which should be considered for prohibition, include: gas station/convenience stores, wholesale commercial establishments and auto sales agencies. Regarding overnight accommodations, it is recommended that the Zoning Commission encourage the development of inns in the CB district, which would allow for smaller scale overnight accommodations to be permitted in the downtown area while prohibiting large motel development.

Consideration should be given to revising commercial zoning in Niantic so that boundaries between commercial and residential zones do not fall along the centerline of streets. Grand and Beckwith streets are examples of such zoning. Where commercial zoning and residential zoning occupy the opposite sides of a street, the residential uses are impacted by increased traffic, the visual aspects of commercial development and the potential for increased noise and lighting glare. As the street becomes increasingly commercialized, pressure would build for conversion of residentially zoned parcels to those commercial uses that are permitted (outright or by special permit) in the residential zone, such as professional office, undertaking establishments and commercial recreation. It is, therefore, preferable to establish the boundaries between commercial and residential districts parallel to the street, but in the middle of the block. Another mechanism for correcting this situation is the creation of a "neighborhood business zone" or "transitional office zone" that could be adopted to correct these situations.

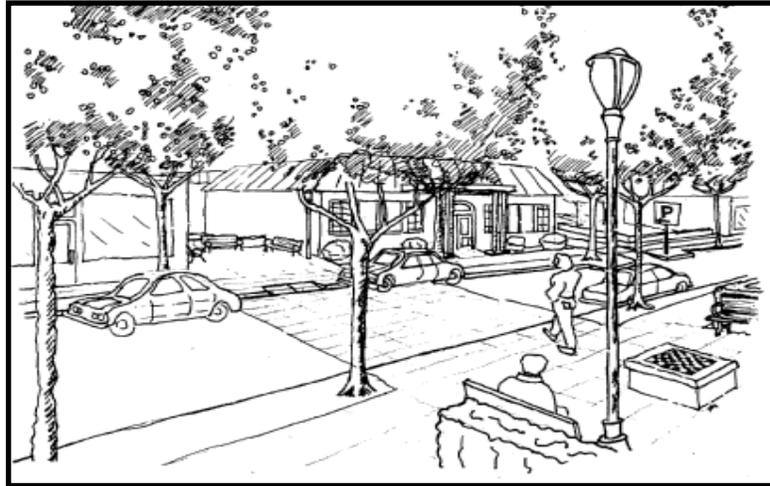
7. **Promote and support actions that would continue to attract tourists to East Lyme and result in the focusing of attention on downtown Niantic.**

Within the town there are several small historic sites, but the major attraction in East Lyme is the waterfront and associated marine-oriented uses centered in Niantic. Tourism is one of the major generators of economic activity in southeastern Connecticut. Because of its easy access to I-95, East Lyme is a natural stopover for visitors traveling to the region to view such attractions as the Mystic Seaport, Mystic Marine Life Aquarium and USS Nautilus.

Niantic has historically been the commercial center of Town and recommendations have been made in the past concerning its revitalization. While this Plan does not go so far as to suggest the large-scale urban renewal of Niantic as was proposed in the 1967 Plan of Development, it does recognize the need for actions which would allow downtown Niantic to retain its quaint village atmosphere, enhance its economic vitality and serve as a focal point for visitors to East Lyme.

Any future uses or changes to uses in this area should respect the scale and character of historic Niantic and its location on the water. Recommendations made above, which would assist toward this end, include the commercial site plan review requirements and refinement of the CB District. Following up on the planned recommendations forwarded in the Yale Urban Design Workshop, a downtown design plan should be prepared, an architectural facade improvement program should be initiated and the architectural guidelines for new and existing buildings in this area should be established in the Zoning Regulations (see FIGURE 16).

FIGURE 16 - RENDERING OF AN ENHANCED STREETScape IN DOWNTOWN NIANTIC



### 3.3 MIXED USE AND AFFORDABLE HOUSING

East Lyme's proximity to employment centers, Long Island Sound, its New England character and its highly rated schools have resulted in high demand for housing. However, a household earning the median income in East Lyme cannot afford the median priced home in town. A portion of seniors, young adults and fully employed professionals are priced out of the East Lyme housing market and many who have elected to live in East Lyme are overburdened with housing costs.

#### 3.3.1 Discussion

The population of East Lyme has increased faster than that of the State or New London County since 1990. While the average age of the U.S. population is rising, it is higher and rising faster in East Lyme. Despite the rise in population, school enrollments have declined and, based on middle and elementary school enrollments, are projected to continue to decline. However, rising school costs have not been driven by increasing enrollments but by costs such as health insurance, special education mandates, fuel and transportation.

The U.S. Census found that, in 2000, 887 or 14.2-percent of the Town's households had incomes below 80-percent of the area median income ("AMI") and spent more than 30-percent of that income on housing expenses. Since then, median home prices have risen 123-percent and incomes have risen only 22-percent. According to the East Lyme Affordable Housing Report (see Appendix E), it is currently estimated between 15 and 20-percent of East Lyme residents are in this income category and are overburdened with housing costs.

The U.S. Department of Housing and Urban Development defines median income levels for geographic areas. In 2009, the threshold for "affordable housing" or 80-percent of AMI maximum income for a single person East Lyme household was \$44,800; for a 4-person household, it was \$64,000. These salaries are not considered low income. This demographic typically includes seniors on fixed incomes and young adults at the beginning of their careers. These incomes include fully employed workers in hospitality, healthcare, agriculture, construction, education and government industries. Young adults getting established in their careers statistically are the largest consumers of retail goods. In addition, they make up part of our employers' workforce, the Town's volunteer base, and have a large stake in shaping the direction of future policy. As this cohort declines in East Lyme, employers must recruit from areas further away and Emergency Medical Service ("EMS") and Fire responders are stretched thin.

The public recognizes the need and the value of more housing choices in East Lyme. The 2007 Community Survey (see Appendix B) found support for more rental, senior housing, accessory units, and two-family homes. Residents voiced their preference for affordable housing where it would strengthen village centers and bring awareness that such residential development in Niantic and Flanders villages would provide pedestrian access to shopping, employment and Town facilities. Residents articulated their strong desire to accommodate affordable housing to reach the goal of 10-percent and their preference for well planned affordable housing development that is compatible with the community's New England character.

### 3.3.2 Strategies

In addition to providing affordable housing options for residents, recommended strategies must also contribute to revitalizing villages and aging commercial strips. The smaller and more compact housing needed would be appropriate for areas of village and mixed-use development where access to utilities and public transportation already exists. They must improve the walkability of village areas in order that residents may rely less on cars to connect them to work, shopping, recreation and other services. Strategies for developing the affordable housing needed in East Lyme span a spectrum of policies and regulatory changes from voluntary to mandatory.

#### A. Voluntary Strategies

##### 1. Education:

Greater efforts should be made to inform East Lyme residents and prospective homebuyers of the programs offered by the Connecticut Housing Finance Authority (“CHFA”). CHFA offers programs that include low interest loans, down-payment assistance, and rental assistance. Home purchases financed with a CHFA mortgage or rental assistance count toward the State’s affordable housing requirement. In addition, periodic forums can make residents aware of these programs and improve access to.

##### 2. Incentives

These programs offer incentives such as a revolving loan fund for property owners to deed restrict housing that is priced naturally to be affordable. These properties are likely to be small, possibly non-conforming lots, which might be ideal for the redevelopment of one or more units of housing.

- A revolving loan fund could fund maintenance or construction of a home or accessory unit at below market interest rates in exchange for a deed restriction on the home or apartment.

- A program could target acquisition and resale of tax delinquent or foreclosed properties as deed restricted affordable units. The town could partner with a non-profit agency or a for-profit developer to identify, acquire, rehab and manage the sale of these properties.

### **3. Incentive Housing Zones**

Rather than having to respond to developers' proposals for affordable housing, the town could proactively determine where affordable housing would enhance an area and designate an overlay zone that encourages this development. In 2007, the Connecticut General Assembly passed the *Housing for Economic Growth Program* (Public Act 07-4) to incentivize towns to plan proactively for affordable housing. It is a voluntary program in which a town can determine the location, size, composition and design of the housing.

The legislation authorizes the creation of Incentive Housing Zones ("IHZ"). As overlay zones for affordable housing, they only provide an additional option for the property and do not replace the underlying zoning. They can be mixed use as well as residential. This program was intended to encourage smart growth rather than environmentally irresponsible sprawl. It stipulates that the zone must have access to public transportation and existing or planned utilities and be located in a village or commercial center or a designated growth area. IHZ's must meet minimum density requirements: 6 single family units per acre of developable land, 10 townhouse units/acre or 20 multifamily units /acre.

Importantly, a developer using the IHZ zoning regulation is not entitled to rights under CGS 8-30g, The Affordable Housing Appeals Act, and the affordability requirements are more flexible than CGS 8-30g: at least 20-percent of the units must be affordable vs. 30-percent under CGS 8-30g, and all of the units can be priced for the highest level of affordability or 80-percent of AMI. CGS 8-30g requires that half the affordable units go to households earning only 60-percent of AMI.

Under this program, the State would pay towns to create and use these zones. The State would pay East Lyme \$2,000 per allowable housing unit when the zone is approved and another \$2,000 per unit (\$4,000 if the unit is a single family home) when a development within the zone is permitted. The per-unit calculations are based on total housing units, not just the affordable 20-percent.

## **B. Regulatory Strategies**

Increasingly, towns are requiring a deed restriction as a condition of receiving a permit for an accessory unit. As accessory units provide naturally affordable housing, these regulations could be reviewed and made more flexible to assure they accomplish the town's goals. They could be allowed in more zones, the parameters relaxed where appropriate and the permitting could be streamlined.

### **1. Deed Restricted Accessory Units**

East Lyme should encourage that accessory units be deed restricted for affordable housing as a condition of receiving a permit. Most occupants of these units would meet the affordability requirements. The advantage of this strategy is that the housing is achieved without increases in density but, rather, is incorporated into already existing structures.

### **2. Inclusionary Zoning**

Interest is growing in Connecticut in a type of zoning regulations that *requires* that developers of market-rate housing participate in satisfying the need for affordable housing. "Inclusionary Zoning" requires that developers include an affordable component in any residential development.

There are two motivations driving this interest: First, to create more of the housing we need at the expense of those providing the housing that is purely market driven.

Secondly, to get credit for affordability so that towns reach *and maintain* the 10% state threshold and exemption from the CGS 8-30g development. Even if a town reaches the 10% target, the next new subdivision immediately raises the total number of housing units so the 10% threshold becomes a moving target, impossible to satisfy unless 10% of the new construction is affordable.

### 3.3.3 Recommendations

#### A. Recommended Locations for Incentive Housing Zone

In East Lyme there is unused town-owned land and under-used privately owned property, in Flanders and Niantic villages, along RT 161 and I-95 that meet the program eligibilities. These are areas where incorporation of a residential component would meet multiple town goals. An Incentive Housing Zone would encourage the redevelopment of aging, auto-dependent commercial strips into more attractive mixed-use walkable village environments with ample pedestrian access to community facilities, shopping, recreation, public transportation and employment. This could be accomplished in both the Flanders 4 Corners area and Niantic Village.

Specifically, we recommend that Incentive Housing Zones be considered and pursued in the following areas:

1. The undeveloped portion of the town-owned parcel which is bounded by Society Road, Industrial Park Road and I-95, on which the Community Center is located, should be studied further for rezoning as an Incentive Housing Zone. This IHZ should include trail construction and contain design standards that insure compatibility with East Lyme's New England character. It could specify an occupancy preference for East Lyme Town employees and people who currently live or work in East Lyme. Further study would include soil testing, surveys and concept design and can be funded from a current grant.

2. In Flanders, the mixed use Gateway Development is proposed to include retail, offices and residential spaces. Establishment of an Incentive Housing Zone would encourage the developer to include an affordable component in the residential portion. Further, specific commercial parcels could be identified in the Flanders 4 Corners and in Niantic Village where an affordable housing component could contribute to a village environment. Approval of an Incentive Housing Zone in these areas would encourage the desired development.
3. East Lyme currently has no “Inclusionary Zoning” in its Zoning Regulations. This concept should be revisited from time to time to determine if it is in the best interests of the Town of East Lyme and its people. Discussions on the subject should be open to the public and transparent.
4. Greater efforts should be made to inform East Lyme residents and prospective homebuyers of the programs offered by the CHFA.
5. If funding is available, offer incentives such as a revolving loan fund for property owners to deed restrict housing that is priced naturally to be affordable.
6. Designate incentive housing zones in areas outlined as locations where the Town wants to encourage affordable housing.

### 3.4 INDUSTRIAL

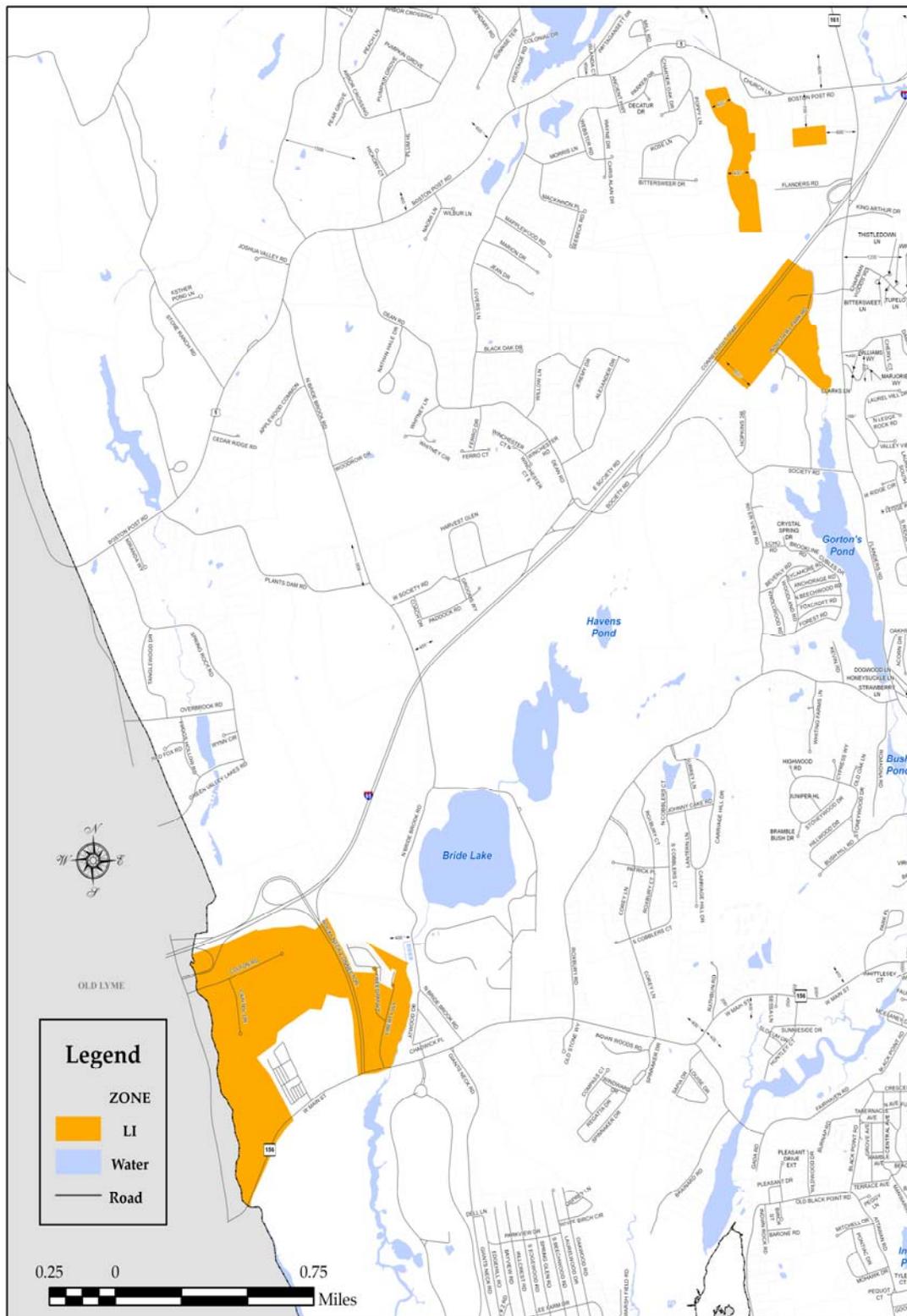
Industrial land use is defined as land which is designed to sustain industrial operations, such as construction, manufacturing, transportation, communications, utilities and wholesale trade. It is a limited land use in East Lyme, both in terms of land area and the number of lots provided. Approximately 1,110-acres are zoned for industrial use, of which 178±-acres are presently occupied by industrial uses. Industrial acreage is located primarily in two small industrial parks, located in the I-95/Exit 72 interchange area near the Old Lyme border. See FIGURE 17 for a map of these industrial areas.

While there is no dispute that industrial development would be considered a financial benefit to the Town, it is also widely agreed upon that any sizeable industrial development in East Lyme is largely a thing of the past. At the present time, the Town's efforts to attract further industrial development are primarily hindered by the changing economy of southeastern Connecticut, lack of parcels which are suitable for construction of facilities over 10,000-square feet and topography characterized by ledge and wetlands.

Some new business growth and retention, however, has been seen in the Exit 72 industrial district at Colton Road and on the Liberty Mall parcel. There are limitations on future growth within the industrial park near Rocky Neck due to extensive ledge and its proximity to Bride Brook, however the Liberty Mall parcel does offer development opportunities for some higher end industrial development, such as green energy and biotech.

Potential industrial sites should have the capability of being served by municipal water and, preferably, sewers, good road access, (particularly to Interstate 95) and a location that will not impact on residential areas. An additional plus is visibility from I-95.

FIGURE 17 – INDUSTRIAL ZONING DISTRICTS



### **3.4.1 Recommendations**

Consider the cultivation of future industrial development at the Colton Road location and existing Liberty Mall parcels.

## **3.5 AGRICULTURE**

East Lyme's farming roots reach far into the past. For centuries, the Nehantic Indians raised corn and squash on the fertile land and harvested shellfish from the Niantic River and Bay. Eventually, white settlers took those areas for their crops and animals, before the town of East Lyme came into existence. A map dating back to the 1880's shows interior portions of East Lyme extensively farmed for family sustenance. Eventually, as farming methods improved, larger dairy, poultry and orchards appeared. These farms have now declined in both size and number, as children and grandchildren of the family farm have found other ways to make a living. The remnants of the farms from the 1900's are our heritage today.

### **3.5.1 Current Agricultural Uses in East Lyme**

The face of Agriculture is constantly evolving. In fact, the State definition of Agriculture, CGS, Sec. 1-1 (q) reflects those changes and includes aquaculture or shell fishing as a form of agriculture. The once 800-acre John York chicken farm has been broken up, but is now farmed by four families and includes a beef cattle farm, Christmas tree farm, a forestry and firewood operation and a horse training facility. The former Hatt dairy farm, while still in existence is now raising replacement heifers and hay. Some land from that farm also makes up a horse-breeding farm, now a separate enterprise. The Hudyma farm, once a major producer of milk now raises hay that is sold to local beef and horse operations.

Aquaculture in East Lyme waters now has 700-acres of bottom leases for shell fishing. There are substantial tracts of fallow, but useable, farmland left in East Lyme, and every effort

should be made to preserve these lands. These lands help to keep East Lyme a desirable place to visit and live. Farmland also contributes to protecting East Lyme's water quality for both fresh and salt water, and this in turn helps nurture the viability of shell fishing beds.

Currently, East Lyme offers a property tax reduction for farmland through the Connecticut State Public Act 490 ("P.A. 490") taxation option. In fact, P.A. 490 states that "it is in the public interest to encourage the preservation ... of farm, forest and open space land." In addition, the State of Connecticut currently waives sales taxes on farm equipment purchases.

### **3.5.2 Recommendations**

1. East Lyme should seek out all reasonable opportunities to help commercial farms remain profitable and in business. Much more can be done to support these businesses, and therefore the town at the same time. List specific examples
2. Farm stands, nurseries, wineries and similar outlets for farm grown products should be encouraged for their contributions to the local economy and community character.
3. Educational and fun farm based events should be promoted by the town. Cornmazes, patches, pick-your-own pumpkin and berry patches are very popular and should be promoted. A cider press, apple picking and homemade apple pies draw visitors from other towns to East Lyme to spend money.

4. There are numerous farms along the scenic and historic Upper Pattagansett Road Whistletown Road/Grassy Hill Road corridor that could be linked in a "Farm trail" much like the State Department of Agriculture promotes a "Wine Trail" in other parts of the State.
5. Occasional Farm Festivals should be encouraged by the town as an opportunity for farmers to display animals, crops, sell products, and offer educational demonstrations, and offer locally produced foods. There is a growing awareness of the many benefits of "eating local" –for reasons of flavor, nutrition and environmental sustainability. Farm foods and other products such as flowers, hay and Christmas trees should be highlighted by the town, utilizing the Town's website or through directional signs along roads to help raise awareness of this appealing and important local industry.
6. As a natural resource based business, farms depend on adequate land, good soil, and favorable climate conditions. Aquaculture depends on clean water entering the river and ocean free from siltation and pollution. In turn, farmers and the land that they steward provide many environmental benefits that are often overlooked. These benefits include:
  - Providing wildlife habitats;
  - Improving surface and groundwater quality by filtering precipitation (rainfall/snowmelt);
  - Reduction of flooding by absorbing and slowing runoff; improving air quality with plants filtering air and producing oxygen;
  - Reducing carbon emissions by decreasing reliance on food and feed and fiber that is produced faraway; and
  - Retaining soil for plant growth and absorbing and sequestering carbon.

It should be noted here that the East Lyme 2007 Community Survey (see Appendix B under separate cover), commissioned by the Planning Commission and produced by the Center for Research and Public Policy in December 2007 shows that, 94-percent of respondents believe that preservation of East Lyme farmland is very important.

Additionally, 83-percent of respondents believe that growth in the north end of Town where most of the farms are located, should be limited. Approximately 94-percent want to preserve large, unfragmented forestland (which is defined as an agricultural use in State Statutes) and 97-percent feel that protection of streams, rivers, lakes and rivers entering Long Island sound is very important. Well over 50-percent of respondents would be willing to pay \$100.00 dollars or more on their taxes to preserve open spaces.

7. East Lyme should clearly establish itself as a town that welcomes and encourages agriculture. Agriculture can be commercial or noncommercial and the Town must consider food production and other agricultural products as the highest and best use for prime and locally important soils.
8. East Lyme should consider a formal policy of protecting and promoting agriculture through the adoption of town ordinance. Additionally, East Lyme should consider revising East Lyme's Planning and Zoning codes to support agriculture. Specifically, East Lyme should:
  - Support a Right to Farm Ordinance to preserve a significant agricultural presence in East Lyme. While this ordinance mimics State Statute, it elaborates on its intent by offering methods to mediate disputes, and offers suggestions to prevent such occurrences. It would not prevent development.

- Create transition parcels/buffers on land that is developed adjacent to land designated as prime or locally important soils. These buffers, as their name implies, buffer agricultural activity from adjacent land use.
  - Work with the Natural Resource Conservation Service (“NRCS”) to fully identify all locally important farm soils and soils of statewide importance.
  - Review and research zoning and subdivision regulations and other ordinances or regulations to reduce impacts to farmers and farming operations from new residential development. Consider the creation of an "Agricultural Overlay Zone" in which an agricultural use is considered the highest use.
  - Maintain an inventory of each farm in East Lyme. The inventory would include a profile of the farm type, size and duration of the operation.
9. Recognize the East Lyme Commission for the Conservation of Natural Resources as the lead Agency to currently promote and coordinate the preservation of farmland
10. Create an Agricultural Commission or Board to lead in promoting and protecting farming operations. This would be accomplished through education, information, providing economic opportunities, such as "Farmlink" as well as conflict mediation. These two appear to be redundant
11. Implement tax incentive programs for farms. Farms, which preserve farmland and open space should be thought of as an "anchor" that can stabilize the towns tax base. It is in the interest of all townspeople to preserve farms and stabilize the tax base.

In summary, agriculture and aquaculture are the oldest uses of land and water in East Lyme. Farms and farmland have been lost to development, with much of that loss occurring in just the last 15-years. Adoption and implementation of these recommendations would help to preserve agriculture in East Lyme.

## CHAPTER 4: ECONOMIC DEVELOPMENT

### 4.1 1997 URBAN DESIGN WORKSHOP REPORT

To provide for balanced growth toward a financially healthy future in East Lyme, economic development activities must be planned and managed effectively in cooperation with long-range planning for the community. Currently, spending is either mirroring or growing faster than current tax revenue. This occasionally requires an annual increase of at least 1/2 mil. The residential taxpayer bears an increasing burden to meet these obligations, providing about nine times the revenue contributed by all commercial and industrial sources. While construction of residential subdivisions in the 1990s was not as active as in the 1980s, a surge in residential building is expected over the next ten years to accommodate new tourism developments and the expanding bio-medical industry. If new residential development brings new students into the school system at a rate that exceeds the natural attrition rate, the Town may see the need to invest in new capital facilities for education. This would have an impact on debt spending, resulting in a potential increase in the mil rate.

There is a critical need to fully evaluate the fluctuating cycle of residential patterns and changing demographics within residential subdivisions. Areas of Town that in 1970 contained 2-3 children per household will be occupied by mostly retired or semi-retired persons in 1990. These areas provide a net revenue to the Town, subsidizing those new areas that now contain school children.

Although industrial/commercial development and residential development are interrelated, for the purpose of economic development in East Lyme, it is important to recognize that commercial and industrial development will not fully defray tax increases due to residential growth. Industrial and commercial development increase jobs, which increase new residential growth; residential growth creates the critical customer base to encourage new commercial development.

The positive perspective on this new residential growth in East Lyme is that changing demographics will encourage an increase in commercial services for residents. Development of commercial and industrial properties will offset the extreme increases in the mil rate and provide the Town with the time needed to adjust to potential fiscal constraints.

To fully expand the Town's economic development capacity, it is important to attract those industries and businesses that yield increased revenue and high property value. Commercial development which generates increased tax revenue is a result of market and demographics. Commercial properties, which have road frontage and good infrastructure, have a high resale value and should be encouraged. There is clearly a need for additional commercial services. A net outflow of 1990 spending dollars within East Lyme indicates a customer base that is not being served. In the past, East Lyme's residential population has not provided the demographics to convince commercial developers to invest in new commercial infrastructure within the Town. This may be changing in the near future as the tourism economy grows, land along Interstate 95 becomes scarce and East Lyme's high-income residential population expands.

In 1997, the Economic Development Commission hired the Yale School of Architecture to conduct an Urban Design Workshop and develop a report outlining the East Lyme resident's perception of their Town commercial, recreational and industrial economy. Within the final report, there are a series of recommendations for improving the economic viability of the Town's commercial and industrial districts.

The report fully describes the commercial and industrial sections which form the Town's economic base. It was noted that this combination adds strength to East Lyme's potential for economic growth. The Town relies on diversified industries and commercial business districts rather than a few large industries to support its tax base. The critical question for the next ten years of development is; How will East Lyme best utilize it's existing economic (commercial and industrial properties) base to increase the tax base? The Yale Urban Design Report (East Lyme Charrette Report) gives a detailed series of recommendations for economic improvements. A copy of this report is included as Appendix C (under separate cover) to the 1999 East Lyme Plan of Conservation and Development.

For the purposes of this section, the various commercial districts are briefly identified and key recommendations for each district are outlined. One of the most important recommendations for the future of economic development in East Lyme is to fully evaluate the perception of existing and new customers and the needs of the businesses. A current perception within the Town is that regulatory leniency will encourage businesses to locate in East Lyme. Modifying regulations to entice new economic growth must be carefully evaluated. There are two important factors to consider:

Regulations which lessen the requirements for landscaping, aesthetic improvements and architectural standards may actually detract high quality development from locating within East Lyme. Businesses locate where there is a strong customer base. Customers are drawn to areas which provide an attractive environment, efficient points of access and parking. It was noted from a recent survey of residents that a majority of the residents do not find existing East Lyme commercial areas and properties accessible or attractive for shopping. This was especially true of Route 161.

In most cases, reputable businesses and developers are only interested in the bottom line, which is the time period to get a permit for construction. Incidentals such as buffers, landscaping and architectural guidelines are, at best, secondary concerns. If the process for obtaining a permit is streamlined and standards are in place to assure stability of commercial property values, East Lyme will easily attract business.

It is important the Town and the Economic Development Commission focus on each of East Lyme's industrial and commercial areas, evaluate their strengths and weaknesses and develop a specific marketing plan for each area. An initial evaluation of each area and recommendations for that area is provided as follows:

#### **4.2 INDUSTRIAL LAND**

The industrial areas of East Lyme are a rather small portion of the Town's total land area, but they play an important part in our overall economic development. Our industrial areas are all placed to have limited impact on our residential areas, as they are located near the interstate highway, keeping most of the related car and truck traffic out of the downtown and residential areas. Most of the industry in Town is of the light "clean" variety that has little or no environmental impact. Some of our industrial parks still have room for further development, but lack some of the services that are needed to make development practical; water and sewer services are needed in some areas and none of our industries have natural gas available.

## **Recommendations**

The Town has plenty of industrial park areas and most are well developed. Some are underutilized partly due to a lack of proper utilities. A marketing plan must be developed for each park and coordination with property owners and their real estate agents is an important element of that plan. While the real estate agent for the property owner will market the property, there are some tactics that the Economic Development Commission can use to increase awareness of these industrial properties.

Develop a portable marketing campaign using the existing color brochure and a new kiosk. Emphasize the strengths of the Town for new business and industry within the industrial parks. Appeal to a global audience with advertisements on the Internet

With the assistance of the Planning and Zoning Commissions, establish a subcommittee to fully evaluate uses and regulations within the industrial parks.

Begin a coordinated program with the Board of Selectmen to install utilities, specifically water and sewers, to those areas not being serviced at this time. Two of the four industrial areas are served by sewers; the third area at Colton Road is currently being connected for economic and environmental reasons and the fourth area, north of Interstate 95, off Exit 74 should be served by sewer and water pending private or public funding.

Continue on recent efforts to request funding assistance from the State of Connecticut (Department of Economic and Community Development) to create an industrial business park with roads and utilities at Exit 74, north of Interstate 95 and west of the Patagansett River.

Work closely with CONNSTEP, SCORE and SEATECH to bring new companies and businesses to our area. Incubator space provided by these agencies is a critical factor when encouraging new business to locate in East Lyme.

Add educational options within the high school to address the needs of many of our high tech industries. A skilled workforce is an important element in attracting new industry. Three Rivers Community College or UCONN could provide courses at one of the local schools.

Examine ways to ensure that East Lyme remains competitive with new technological services to ensure that high tech business will continue to locate in East Lyme.

### 4.3 COMMERCIAL DISTRICTS

#### 4.3.1 Flanders Village And Four Corners

To quote from the Yale Urban Workshop Report:

“The Flanders intersection is the ‘100 percent corner’ of the Flanders business district. It is the busiest intersection and the place where the image of the entire business district is set. At present, it suffers from lack of a retail anchor. Thus, a gas station and the McDonald’s typically requiring enormous traffic volumes, occupy two corners; while services and an auto dealer typically settling for sub-optimal locations occupy the other corners. It suffers from a lack of visual interest and identity. Its location is that of a central place, but does not appear as a town center for an upscale residential community.”

#### Recommendations

Recruit an anchor tenant or upgrade an existing tenant such as the IGA supermarket plaza and associated stores. Another option would be to encourage the car dealership to incorporate a new building design set close to the road with multiple storefronts in addition to a showroom for the car dealership.

Upgrade the visual quality of the area through the installation of sidewalks, street trees and planters, grass median strips and identifiable crosswalks. Encourage properties owners through an incentive program to upgrade their signs, buildings and parking areas to create a positive image for the passing automobile driver.

See Appendix C (under separate cover) for more detailed recommendations.

#### **4.3.2 Niantic Village and Central Business District**

The downtown Niantic area is a seaside market location for coastal tourism. Its growth has stagnated due to a resistance to reinvestment funding on the part of existing property owners and businesses. This is in part due to difficulty in marketing storefront retail and no recent improvement in capital infrastructure (i.e., sidewalks, crosswalks, lighting and streetscaping). The downtown area is a prime location for experience shopping, in the form of specialty stores, galleries, restaurants and businesses that provide access to the water, not only with spectacular views, but also for equipment rentals and other marine-related businesses.

While much of the needed reinvestment is a product of discovery by new property owners or businesses looking for new areas for gentrification, the existing businesses have done an outstanding job of keeping the spirit of downtown alive through numerous community special events and promotions. In order to accelerate the pace of change, the Town and property owners will have to work to improve the visual appeal of the downtown area so that residents are encouraged to visit downtown for recreational and community gathering.

Niantic serves as a cultural center for the Town with a movie theater, museums, art galleries, the annual Art Show, as well as various music and art programs throughout the year. These cultural aspects enhance East Lyme's image as a place to visit. One of the major issues in the downtown area is the vacancy rate of the commercial properties. While there are many factors that contribute to the success or failure of a business, improvement to the appearance of downtown will contribute to the cumulative health of all businesses. With the appropriate encouragement or incentive, the owners of buildings may invest in their properties to improve the image of the downtown. It is important to implement the following recommendations and develop strategies to capitalize on Niantic's assets.

## **Recommendations**

Apply for participation in the “National Main Street Program” sponsored by CL&P. The program promotes cooperative efforts of the businesses, the Town and the residents to promote the Main Street area within Niantic.

Coordinate, as recommended in the transportation section, the installation of streetscape amenities, crosswalks and parking identification.

Encourage landscaping and use of planter and flower boxes within the Niantic Central Business District to encourage a friendly pedestrian image for recreational shopping within the downtown.

Encourage more marine type business and development.

Capitalize on potential areas for parking with paving and improvements to vacant lots or Town-owned properties.

Create a greenway from Main Street to Dodge Pond (see Appendix C), which would provide a parking area and Town green centrally located within the downtown area. Acquisition of the property to the west of the Railroad Spur on Methodist Street is recommended.

Actively assist the Children’s Museum to relocate to larger quarters downtown when they have decided on future expansion. The Children’s Museum is one of our major attractions and the Town should be proactive in its relocation within downtown.

Aggressively lobby for a rail stop in the Niantic Central Business District through State Representatives and the Connecticut Department of Transportation, which provides the commuter rail service.

#### **4.3.3 Flanders/Exit 74/Planned Development District**

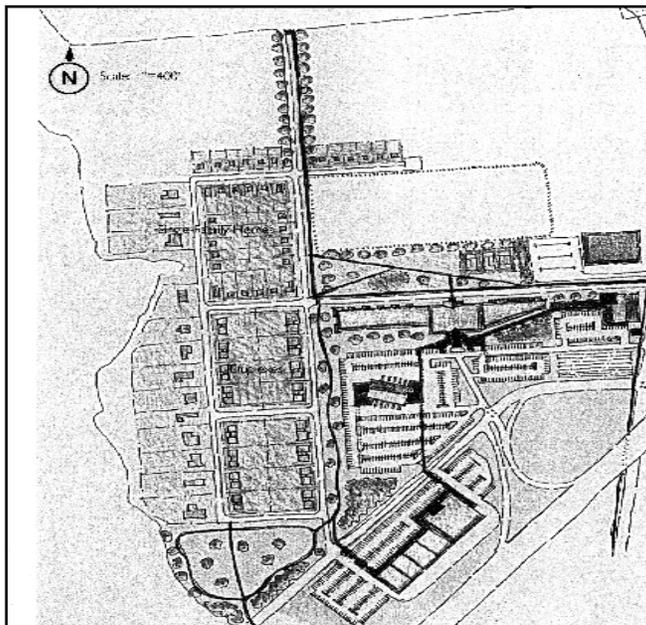
The Flanders Exit 74/75 business district is still in the growth stage and will see some major new growth in the near future. Located at the approximate center of the Town, it is an attractive location for businesses that require easy access to routes I-95 and I-395. One major problem for this area is vehicular access, traffic and related problems of pedestrian safety.

Rebuilding Exit 74 and rezoning the area to a planned commercial development area north of I-95 (see Figure 6-1) would help address the traffic problem. The new traffic flow design would take advantage of prime commercial property and improve traffic conditions in the Flanders area. The extension of East Society Road to the Exit 74 development area would also make a convenient connection to the Dean Road area and to Flanders. This area is well suited for hotel/conference center development to support adjacent high tech industry and the proximity to the growing casino and tourism business and bio-medical expansion in New London provides a distinct advantage for development. This area would also be a great location for other commercial or industrial development such a “Technology Incubator” for new tech companies.

#### **Recommendations**

Evaluate what land-use strategy is best for the 100 acres of vacant land north of Interstate-95 at Exit 74 from recommendations in Appendix C. Then work cooperatively with the Zoning, Planning, Water and Sewer and Economic Development Commissions to develop guidelines and regulations for development of the properties (see FIGURE 18 - RENDERING OF A PLANNED DEVELOPMENT DISTRICT).

FIGURE 18 - RENDERING OF A PLANNED DEVELOPMENT DISTRICT



Exit 74 Planned Development District (PPD) - Maximum development of the area in harmony with available resources is critical to advantageous use of the properties. Arrangement of complimentary uses is important to long-term sustainability and the economy of the existing Flanders Village. Interconnection between both villages with sidewalks and bikepaths along Pattagansett River area will produce interconnectivity between the villages, new businesses and the residential core.

Improve access by negotiating with the state for improvements to the Exit 74 southbound exit and entrance ramp. Construction of a frontage road from Route 161 to East Society Road should be a priority whether funded by the state, the town or a developer. This will improve traffic congestion in the Flanders area and take advantage of the re-direction to a new Flanders business district.

#### **4.3.4 Exit 74/Route 161 Tourism District**

East Lyme has a unique location as the gateway to southeastern Connecticut. The area just south of Interstate 95 is prominently located near a critical junction for two major interstates. This stretch of Route 161 from I-95 south to Industrial Park Road is the tourist service center and gateway of East Lyme. Whether the area develops as a motel/service center or continues to attract marginal business is dependent on image, access and promotion.

This gateway area has the foremost ability to promote the Town and other points within the region and with the Shoreline Chamber of Commerce and Tourism Center located at the Connecticut Yankee site in a converted work-trailer, hundreds of people visit the area each week. Since the function of the Tourist Center is so critical to East Lyme, a new, permanent site and building should be visible and easily accessible to tourists stopping at Exit 74/75.

#### **Recommendations**

1. Due to its prominent location, the area's image is integral to the perception of all East Lyme's commercial districts. Therefore, an aggressive landscaping plan supported by the Town commissions and area businesses would give a more marketable presentation to the Town.
2. Convenience for pedestrians to adjacent services and restaurants is critical. Carefully positioned crosswalks in stampcrete for high visibility and installation of sidewalks on both sides of the street area are important.

3. Successful tourism activities within the region and Town are important to the success of the businesses in this commercial area. Therefore, the Town and businesses should provide financial support to the East Lyme Tourism Center to more effectively promote the area.
4. New small businesses, such as restaurants, should be located close to the road with parking to side or the rear of the lot.
5. Consolidate and coordinate the open space and landscaping around each motel, not only to provide enticing qualities and attractiveness to each motel, but also to contribute to a larger sense of community design.

#### **4.4 TOWN-WIDE ECONOMIC DEVELOPMENT**

The 1987 Plan of Development recommended that a “written statement of Economic Development Policy be developed to assure that the town was balancing its resources for economic growth”. The Policy Statement would establish a scenario for economic development, which would make the concept a reality. As stated, the Economic Development Commission initiated this process with the Yale Urban Design Workshop. The final report provides a guideline for future economic development and improvement for quality of life in East Lyme. The primary recommendation is that the Town use this document as a guide and a tool to form policies and objectives for long-range economic development. Like the Plan of Development, the Yale Report is the culmination of public input and reflects a general consensus of public sentiment on future growth within the community. Implementation of the recommendations within the report would fulfill many of the concerns of the community citizens for improvements in the Town.

## **Recommendations**

1. Establish a Niantic/East Lyme Tourism Home Page on the Internet. This link would provide potential visitors or shoppers with information about the Town and what is available. As it is important to assure that the quality of the home page is excellent, a company specializing in home page design should be hired.
2. Based on the recommendations of the Yale Report, visual markers along Route 161 in both Flanders and Niantic should be designed and incorporated into new development or community projects to act as beacons to the general public and reflect the interconnectivity of Flanders, Route 161 and Niantic.
3. Zoning regulations should be reviewed and revised as needed to make them more user friendly and easy to follow. The various Boards and Commissions that review development proposals must also work to speed up the review and approval process. Also, include incentives to promote architectural designs for commercial developments and remodeling of existing buildings.
4. Apply for ISTEAs and other types of funding for economic development and infrastructure projects, as well as investigate various other state and federal grant programs which might be available for special projects. Ensure that developers fund their share of improvements whenever possible.

## CHAPTER 5: OPEN SPACE, NATURAL, HISTORICAL, AND CULTURAL RESOURCES

### 5.1 OPEN SPACE

#### 5.1.1 Open Space Preservation

Open space and institutional land areas provide a mechanism to preserve critical land and natural resources. Areas in their natural state protect valuable ecological functions and unique natural features. Disturbance of land through development creates erosion, increased stormwater run-off and exponentially increases pollution in lakes, rivers, streams, Long Island Sound and the Town's aquifers.

Another important aspect of the open space preservation is the effect of private open space acquisition on the Town's future financial stability. As evaluated in Section 9, certain land uses incur municipal services that can lead to an overall net loss to the Town. Conservation Open space requires minimal municipal oversight. When owned by a homeowners association, conservation opens space typically yields a net gain for the Town. Another aspect of savings from acquisition of open space is the control of residential development. Residential development typically yields a net loss to the Town through increased expenditures per unit built based on the number of school children within a household. Table 4 below shows the different land uses types as a percent of the total acreage of East Lyme.

**Table 4- Current Land Use by Type-2009**

<b>LAND USE CATEGORIES</b>	<b>Acres</b>	<b>% of Total Town Area</b>
Residential	5,653	25
Commercial	904	4
Industrial	226.12	1
Agriculture & PA 490	2,035	9
Institutional	4,070.16	18
Utilities & Transit	1130.6	5
<b>OPEN SPACE</b>		
Conservation	3,030	13.4
Recreation	1,024	4.6
Undeveloped	4,522.4	20
<b>TOTAL LAND AREA</b>	<b>22,612</b>	<b>100.0</b>

*Source: "Lands of Unique Value Study-Fall 2009" University of Connecticut, Community Research & Design Collaborative*

Conservation open space also provides passive recreation opportunities for activities such as hiking, cross-country skiing, nature study, and camping. Primary examples in East Lyme include the Bobrow Property on Plants Dam Road, Nehantic State Forest, Oswegatchie Hills, and Rocky Neck State Park.

### **5.1.2 Recreational Open Space**

Another category of open space is active recreational land. Active recreational lands tend to experience more intense use than conservation type open space. This land does require expenditure for maintenance and use. Among recreational land uses, parks such as McCook Point provide open space and recreational facilities, but also retain their prominent natural amenities verses playing fields, which are developed for organized sports and the typically the majority of the natural amenities or naturally occurring site features are removed. In East Lyme, these consist of Veterans Memorial Park, Samuel M. Peretz Park at Bridebrook and the fields at the Town's three school sites.

### **5.1.3 Institutional and Private Open Space**

Supplementing these public lands are a number of large open space areas either closed to the public or limited to special events. Institutional uses such as Stones Ranch Military Reservation, the Girl Scout Camp and the Yale Property are examples of these areas. The Niantic Correctional Facility and the National Guard Camp at the Niantic River have intensified the use of the properties to the extent that an open space classification is questionable.

### **5.1.4 Existing Open Space**

Since the 1999 POCD, the Town has made great progress in the acquisition and preservation of open space. Of the recommendations listed in the 1999 Plan, the Town has acquired Oswegatchie Hills, as one of the Town's first open space acquisitions. In addition, the Board of Selectmen established the East Lyme Commission for the Preservation of Natural Resources (hereinafter "NRC"). It is worth noting that according to the NRC Open Space Report in Appendix D, 60-percent of East Lyme is perceived as being open space (see FIGURE 19 - PERCEIVED OPEN SPACE), where as 17-percent of the Town is actually preserved open space as shown in FIGURE 20 which, identifies the existing open space and the institutional lands within East Lyme.

FIGURE 19 - PERCEIVED OPEN SPACE

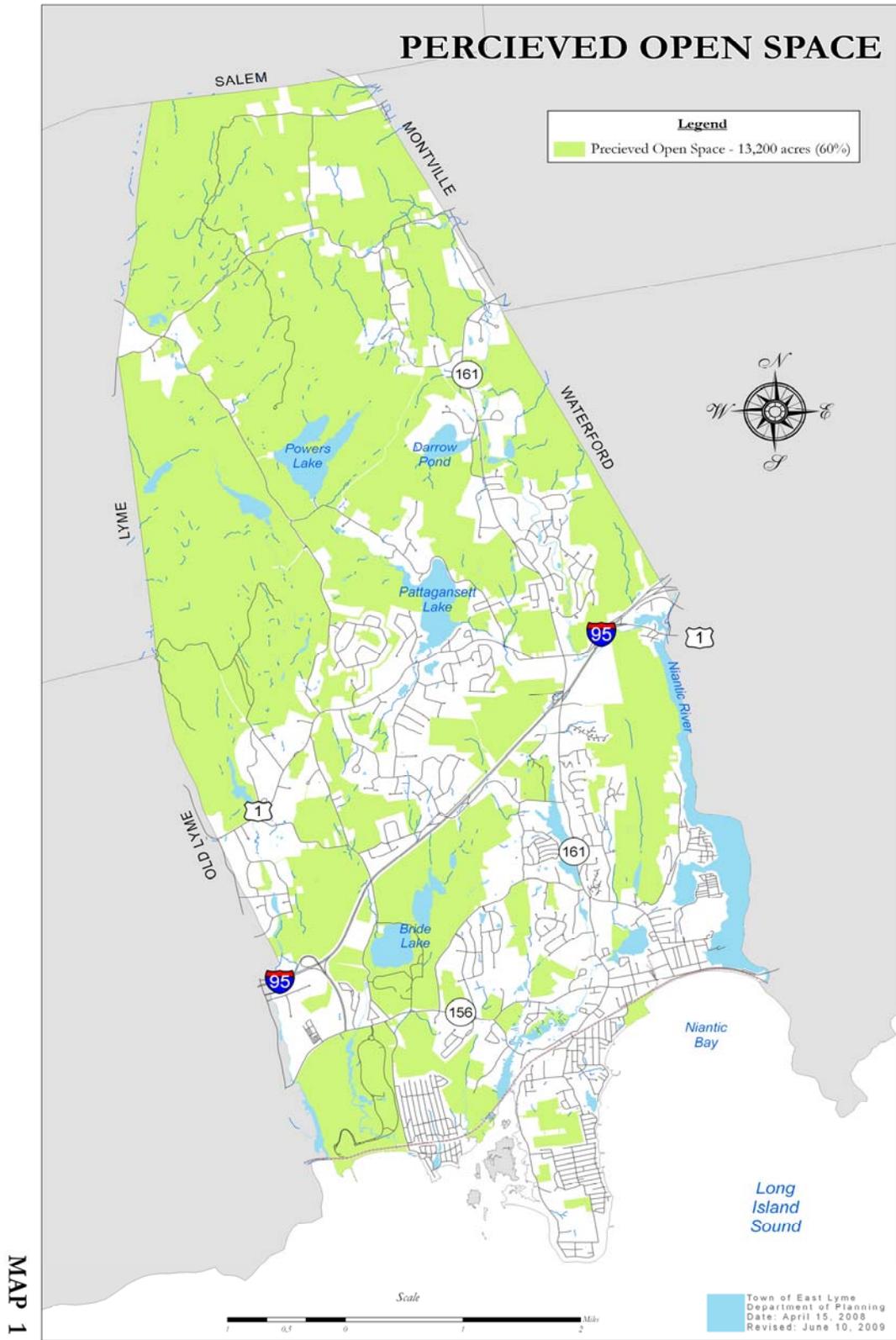
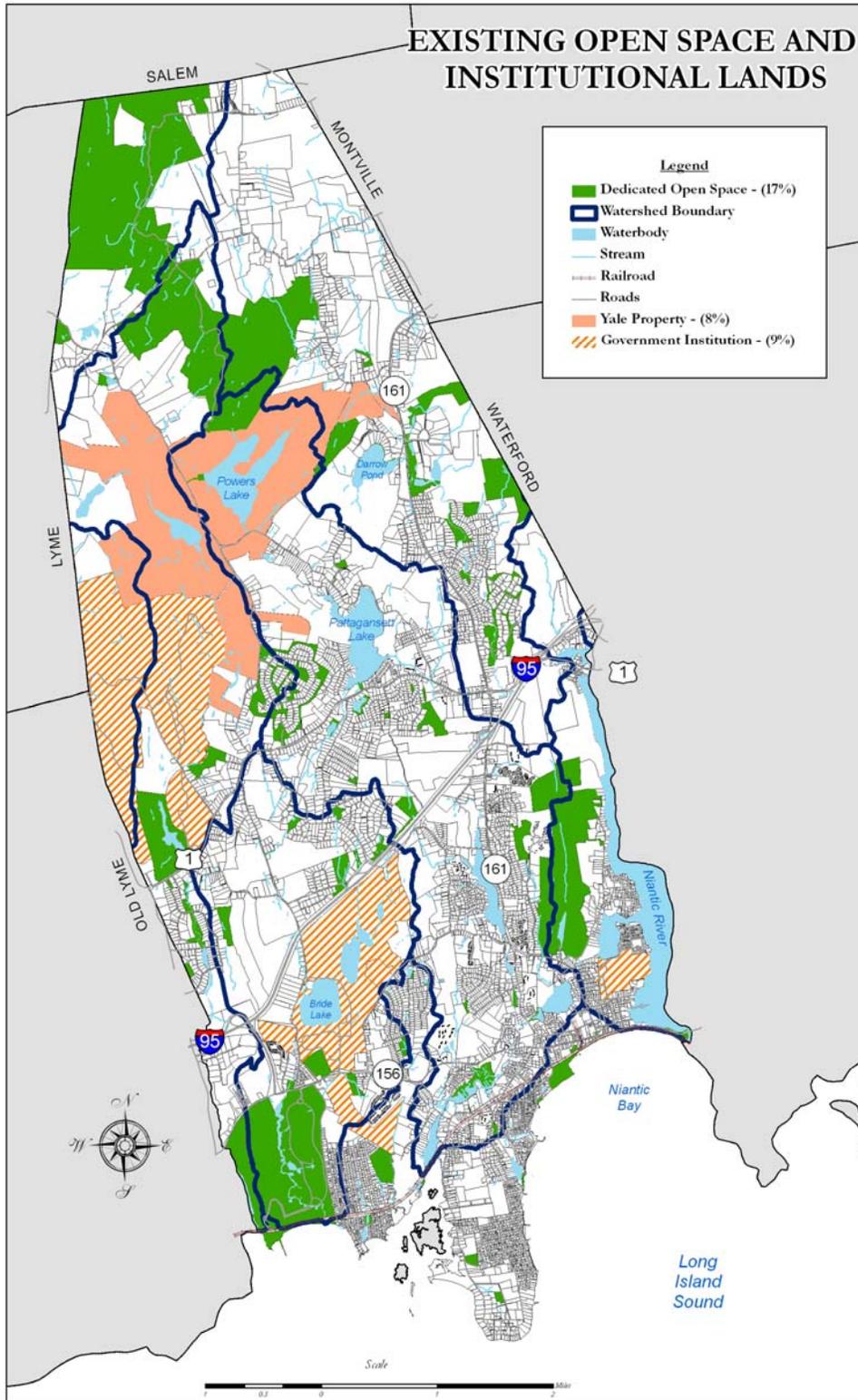


FIGURE 20 - EXISTING OPEN SPACE AND INSTITUTIONAL LANDS



## 5.2 OPEN SPACE POLICIES

### 5.2.1 Open Space Plans

Two “Open Space Plans” are considered within the 2010 POCD. The first Open Space Plan was endorsed by the NRC which adopted the final report of the Open Space Steering Committee, which worked from the fall of 2006 to the fall of 2007, as their “Open Space Plan” (see Appendix D) and furnished it to the Planning Commission. The second Open Space Plan is a recommendation of the LUV Study (see Appendix A) for future open space, which was prepared with assistance from Uconn’s CRDC. The two Plans are viewed as complimentary, not exclusionary. As such, the following shall set forth East Lyme’s Open Space policies.

### 5.2.2 NRC Open Space Plan

The Open Space Plan endorsed by the NRC (see FIGURE 21 – NRC OPEN SPACE PLAN) identifies a number of private properties that if secure in perpetuity in their current or more-or-less natural state, would measurably benefit the town. These properties were evaluated against a set of eight characteristics used to define the attribute or resource elements of the open spaces. The Open Space report indicates the single most important feature of any open space is its ability to aid and abet in the quality and quantity of our Town’s drinking water supply. As approximately 30-percent of East Lyme is on Town supplied water, we draw about as much as we can during the peak use season. The Town’s drinking water comes from stratified drift aquifers (define stratified drift aquifer) within the Town. These aquifers are located within two of four main watersheds (see FIGURE 22).

As a result of the Town’s natural topography, historically development has occurred over these aquifers. Therefore, the result of past development has established the need for protecting these aquifers. In addition to drinking water protection, the Open Space Report considers seven other resource characteristics. The eight resource characteristics along with a rating system used to quantify the overall importance of each property identified is provided in Table 5 – NRC Open Space Plan Table 2

FIGURE 21 – NRC OPEN SPACE PLAN

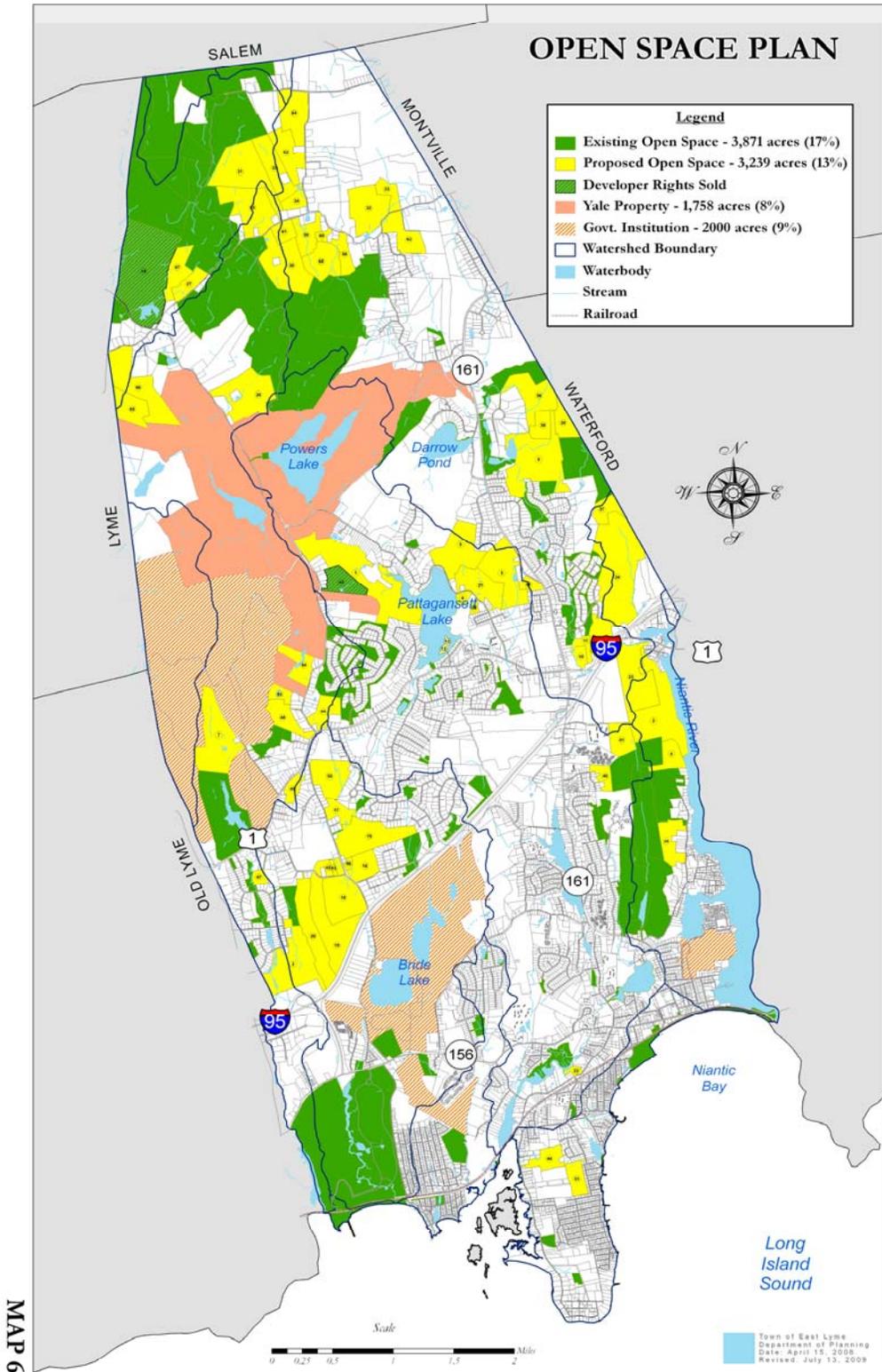
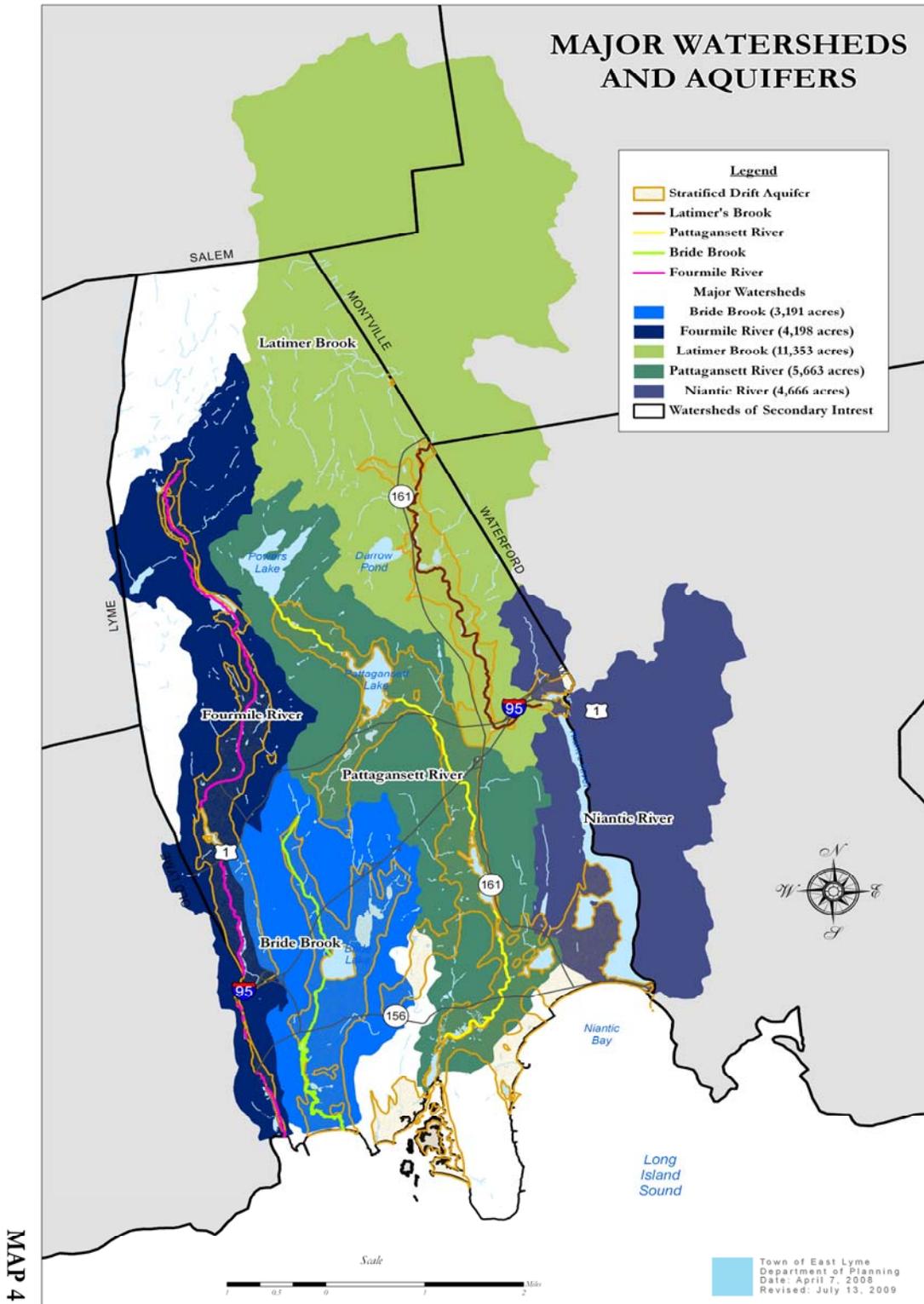


FIGURE 22 - MAJOR WATERSHEDS AND STRATIFIED DRIFT AQUIFERS

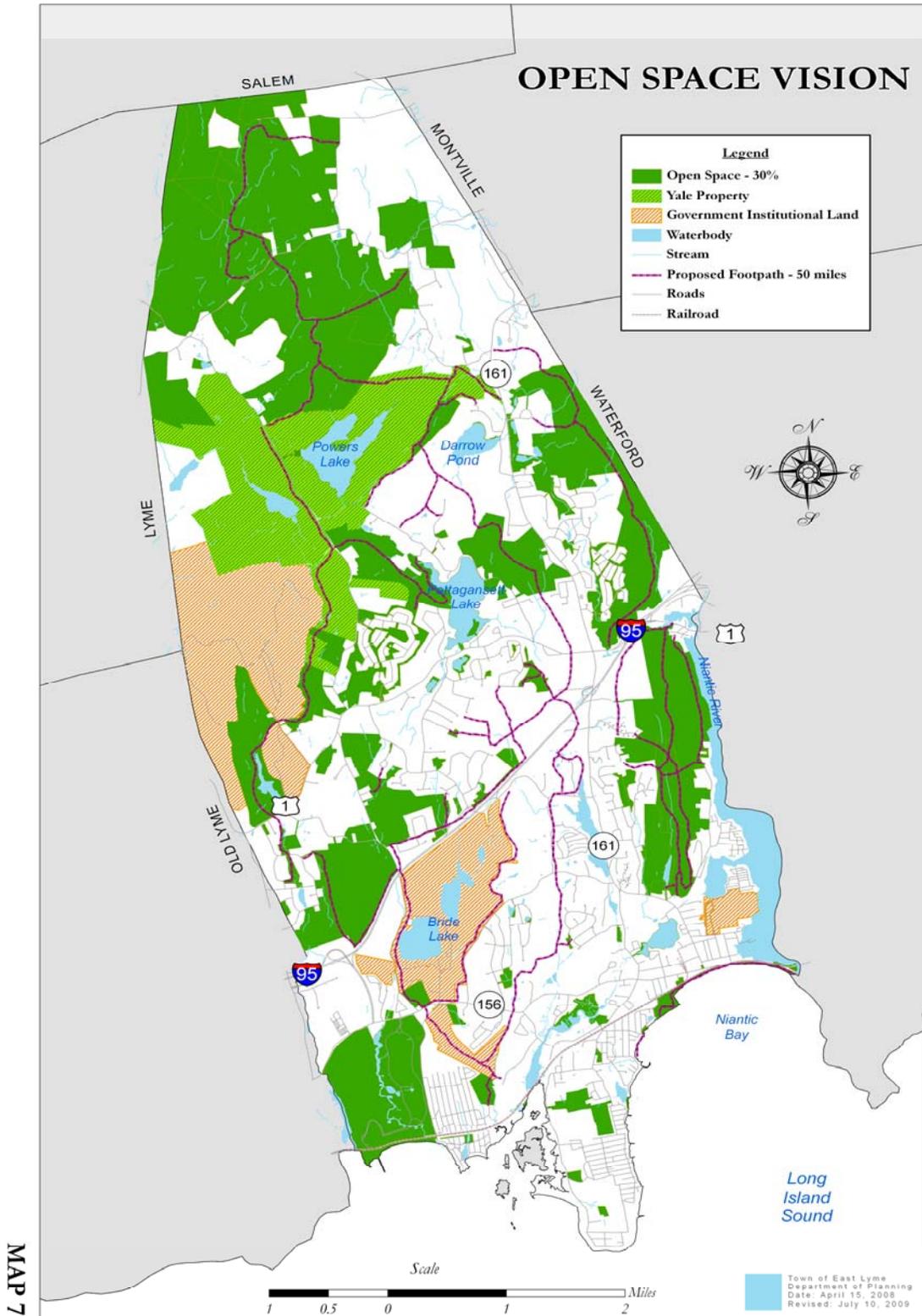




In an effort to acquire any of the properties identified in Table 5, the Town may consider the several options such as the outright purchase, purchase of development rights, and through gift or donation. The acquisition of all these parcels would most likely take years to accomplish. However, if totally successful the town would gain approximately 3,000-acres of protected open space (see FIGURE 23 – NRC OPEN SPACE VISION). This space if developed would sustain approximately 2,000-houses under current Zoning and Subdivision regulations.

It is important to remember that all the land evaluated and presented in the NRC's Open Space Report is privately owned and the Report does not affect its status as such.

FIGURE 23 – NRC OPEN SPACE VISION



### 5.2.3 LUV Study Open Space Plan

The LUV Study's recommendation for Future Open Space is based on the following Town objectives:

- Identify and preserve the natural, historic, cultural and environmental resources and habitats of the community;
- preserve and conserve the natural environment of the town for the benefit of future generations and maintain a high quality-of-life for East Lyme's people and maximum protection for flora and fauna;
- investigate and recommend environmentally responsible technologies in order to protect and preserve East Lyme's beaches, salt marshes, inland wetlands, and watercourses, and aquifers;
- continue making attempts to preserve environmentally sensitive areas such as Oswegatchie Hills and other lands identified in the Open Space Plan of the Town of East Lyme; and
- develop conservation restrictions to protect natural ecosystems, continue supporting the preservation and establishment of public access to East Lyme's shoreline.;

The LUV Study's Recommendations for Future Open Space provides a map and a matrix showing the relationship between the recommendations and the EPA's 10 Guidelines (Table 6) for Smart Growth (see FIGURE 24 - LUV STUDY RECOMMENDATIONS FOR FUTURE OPEN SPACE).

**Table 6 - U.S. EPA's 10 Guidelines for Smart Growth**

<b>Smart Development</b>	
1	Mix land uses
2	Take advantage of compact building design
3	Create a range of housing opportunities and choices
4	Create walkable neighborhoods
5	Foster distinctive, attractive communities with a strong sense of place
6	Strengthen and direct development towards existing communities
7	Provide a variety of transportation choices
<b>Conservation / Preservation</b>	
8	Preserve open space, farmland, natural beauty, and critical environmental areas
<b>Decision Making</b>	
9	Make development decisions predictable, fair, and cost effective
10	Encourage community and stakeholder collaboration in development decisions

FIGURE 24 - LUV STUDY RECOMMENDATIONS FOR FUTURE OPEN SPACE

# Chapter 1 Recommendations for Future Open Space



Chapter 1 page 6

Legend	Recommendations	EPA's Guidelines for Smart Growth										Comments	
		Use Land Uses	Compact Building Design	Range of Housing	Walkable Neighborhoods	Strong Sense of Place	Direct Development Existing	Transportation Choices	Preservation	Options Feasible Fair	Encourage Collaboration		
1	Potential Open Space: Type 1 Unique Values w/Development Limitations												Type 1: Critical Preservation Parcels. Development of these parcels would be detrimental to the town's natural and cultural systems. These parcels present significant legal and physical obstacles to development. The presence of highly valued natural and cultural resources dominates the characteristics. Close proximity to surface water bodies makes these parcels key to maintaining a clean hydrological system.
2	Potential Open Space: Type 2												Type 2: Important Preservation Parcels. Development of these parcels would be detrimental to the town's natural and cultural systems. Some of these parcels present significant legal and physical obstacles to development. Other parcels function as necessary open space in otherwise fully developed areas. The presence of highly valued natural and cultural resources dominates the characteristics.
3	Potential Open Space: Type 3												Type 3: Conservation Opportunities. Partial development of these parcels is possible without compromising the integrity of the site. A combination of physical obstacles and resource conservation opportunities make over 50% of these parcels suitable open space.
4	Potential Open Space: Type 4 Conservation Opportunities												Type 4: Habitat Enhancement Opportunities. Development of these parcels is possible without compromising the integrity of the site. Parcel resource location makes about 50% of the land in open space possible without lowering development yield.
OH	Continuo protection of Oswagatchie Hills												Protection of Oswagatchie Hills. Root Lyme's commitment to the preservation of Oswagatchie Hills has been made clear throughout the years. The commitment should become official, as the hills provide natural habitat, riparian buffer zones, and aesthetics, in addition to a multitude of cultural benefits.
LB	Protect Latimer Brook Watershed												Protection of the Latimer Brook Watershed. The southern portion of Latimer Brook flows directly into the North River and Long Island Sound. Protecting the riparian buffer is essential to the health of the system. This need is accentuated by the steep slope down to the water channel, giving character runoff little to no filtration zone.
HP	Protect high points												Protect High Points. High Points provide unique plant/animal habitat as well as contributing to town identity. Views of and from high points define much of Rome's and are valued by the citizens of Root Lyme as important cultural resources.
8	Maintain open space adjacent to water bodies												Maintain Riparian Buffers along Watersheds and Waterbodies. The fluctuation of surface water runoff before it enters the hydrology system is vital to the health of the environment. This is true in all forms, but especially so in Root Lyme due to its proximity to the ocean, and intense water consumption during the summer months.
9	Maintain existing undeveloped lands in higher density areas												Important Community Open Spaces. These parcels contain relatively little in the way of natural resources. However, as they are surrounded by development, their function as necessary green space and ground water recharge areas becomes highly valuable.
10	Maintain Open Space corridors between water bodies												Connect "New" Open Space to Existing Open Space & Ecosystems. Designated open space should be situated to increase the size of existing natural patches and promote connectivity between ecosystems such as hilltops to valley floors, wetlands to forested areas, and so on.

The Recommendations for Future Open Space prioritizes the preservation of open space into four different categories as follows:

- Type 1: Critical Preservation Parcels,  
Development of these parcels would be detrimental to the town's natural and cultural systems. These parcels present significant legal and physical limitations to development. The presence of highly valued natural and cultural resources dominates site characteristics. Close proximity to surface water bodies makes these parcels key to maintaining a clean hydrological system.
- Type 2: Important Preservation Parcels,  
Development of these parcels would be detrimental to the town's natural and cultural systems. Some of these parcels present significant legal and physical limitations to development. Other parcels function as community open space in otherwise fully developed areas. The presence of highly valued natural and cultural resources dominates site characteristics.
- Type 3: Conservation Opportunities,  
Partial Development of these parcels is possible without compromising the integrity of the site. A combination of physical limitations and resource conservation opportunities makes over 50% of these parcels valuable open space.
- Type 4: Network Enhancement Opportunities  
Development of these parcels is possible without compromising the integrity of the site. Parcel resource location makes allocating 50% of the land to open space possible without lowering development yield.

The LUV Study also provides specific recommendations for the continued protection of Oswegatchie Hills, the protection of the Latimer Brook watershed, and the protection of high points. In addition, the LUV Study recommends the maintaining open spaces and riparian buffers adjacent to water bodies and existing undeveloped lands in higher density areas for the purpose of community green space. Further, the Study recommends maintaining open space corridors between water bodies by promoting the connection of “New” open space to existing open space, the protection of natural ecosystems, farm fields, and the continued support for the preservation of public access to the East Lyme shoreline.

#### **5.2.4 Long-Term Perspective**

The Town of East Lyme will need to continue evaluating the policy for open space acquisition, specifically for the purpose of preservation of resources and growth management opportunities. In addition, the Town should continue developing policies and regulatory methods to improve recreational opportunities that link the community together, specifically bike paths, walking trails and greenways.

Outright acquisition of open space would contribute to providing a basis for stabilizing the fiscal impacts of residential development on the Town’s long-range financial structure. As, there is a finite carrying capacity for land resources in East Lyme, the remaining land available for development is in areas with proportionally more critical resources per acre than land developed during the last two decades. Steep slopes, wetlands, ledge outcrop and ridgelines, as well as agricultural soils are an increasing factor in vacant parcels of land available for development. These critical areas will need more protection through adherence to cluster zoning and subdivision regulations. Therefore, areas such as Oswegatchie Hills, the Smith Ledges, Latimer Brook and Four Mile River continue to be targeted areas for protection.

### 5.2.5 Recommendations

1. A strong need still exists for additional Athletic Fields, areas such as the Roxbury Road Property and existing land abutting the Samuel M. Peretz Park at Bridebrook should be explored for future active use. In addition, areas north of Interstate-95 should be investigated for a park setting preferably on open space land surrounding Pattagansett Lake with consideration for both passive and active activities. With the construction of the Railroad Bridge adjacent to Cini Memorial Park consideration should be made so that vehicle/tractor access for maintenance purposes can be made to the Amtrak Beach after construction is complete.
2. With expanded use of Cini Park and the Niantic Bay Boardwalk consideration should be made for the construction of a restroom/storage facility at Cini Park similar to the newly constructed support building at the Hole in the Wall Beach.
3. New restroom facilities are needed at the Main Beach Lower at McCook and Veterans Memorial Park which also serves as the trailhead for the Oswegatchie Hills Nature Preserve. Both facilities were built in the early 1970s and are not ADA Accessible.
4. Consideration should be given for a new Parks and recreation Maintenance Facility. The present facility was built in the early 1950s and is inadequate for work space and the storing of the department's equipment and vehicles. The Town should look at upgrading the Bobrow Property with trails, parking and picnic areas.

5. Pressure from dog owners continues in our park settings. It is recommended that the town explore the possibility of developing an area exclusively available for dogs to roam off leash in the maintained area.
  
6. Through the joint efforts of the NRC, the Parks and Recreation Commission and the Planning Commission, the Town should conduct an updated open space study and ten-year needs assessment for recreational facilities, focusing on land areas which would be suitable for sports fields, recreational development, greenway corridors for bicycles and pedestrians (see FIGURE 25 and FIGURE 26) and preservation of critical land areas, such as agricultural land areas along Latimer Brook, Four Mile River or properties which enhance the connective open space corridor as shown in FIGURE 27.

FIGURE 25 – “GREENWAY” WITH BIKING/WALKING LANES

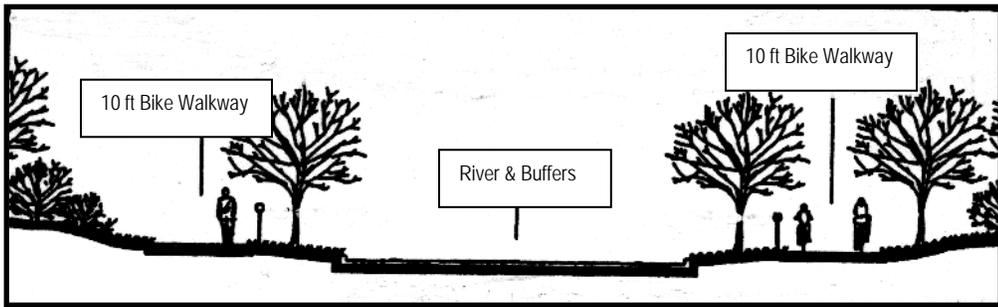


FIGURE 26 - BIKE/WALKWAY ALONG RIVER FRONT

(North/South Trail along Pattagansett River from Middle School to High School and Flanders Village).

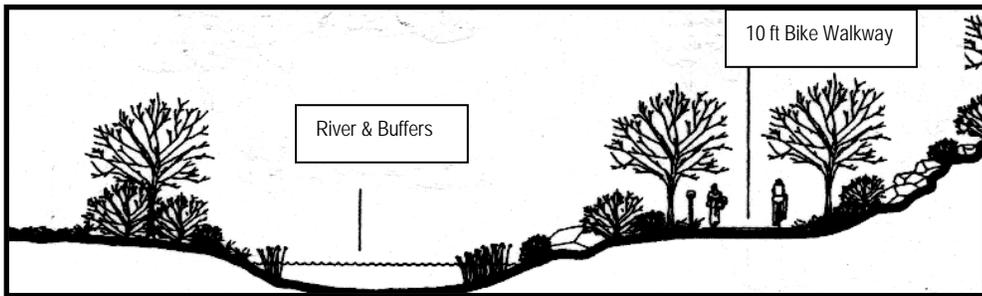
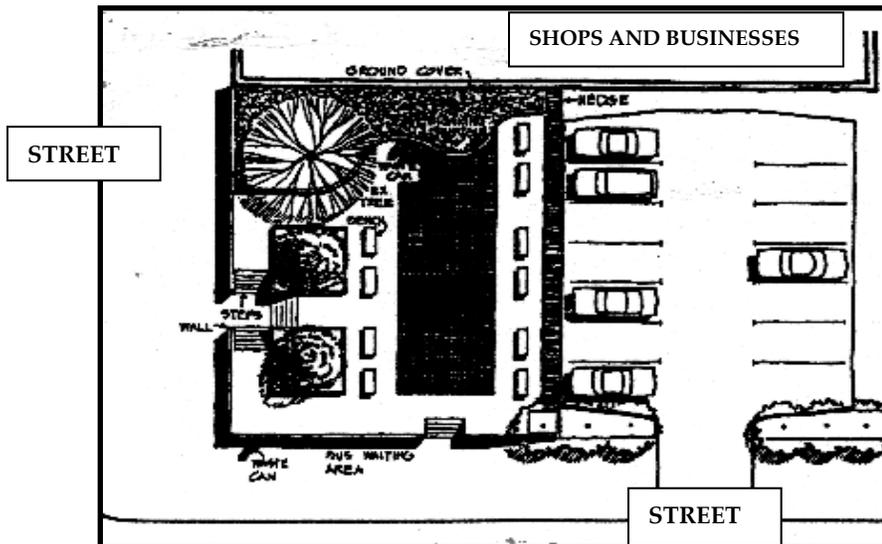


FIGURE 27 - MINI-PARKS

(Through regulatory guidelines should be incorporated into commercial design of retail centers or site plans for construction or redevelopment of commercial buildings in Niantic or Flanders commercial districts)



7. The Town should also continue to encourage the preservation of Smith Ledges: a 200-acre area of rock outcrop cliffs located north of I-95 and west of Bridebrook Road. Smith Ledges is distinctive for the near vertical walls of its west face.
8. The Parks and Recreation Commission should pursue a plan for development of a second Town park to be located north of Interstate 95. Such a park would relieve pressures on the McCook Point facility, while providing recreational opportunities closer to those areas of the Town that are growing in population. Recommended areas for a new park include property located off Chesterfield Road, which was formerly a gravel mining area, or the campground property located on an island on Pattagansett Lake.
9. The Parks and Recreation Commission has identified an immediate need for new sports fields. Any short-term purchase of open space should take into account the topography for development of additional playing fields.
10. The Town should upgrade the Bobrow Property with trails, limited picnic areas and a small parking area. In the event that the Town constructs another public well on the property, the design of the well house and the access road should be in harmony with the natural terrain and recreational aspects of the property.
11. The Town should incorporate into the design plans or Zoning Regulations, a riverfront walkway along the Pattagansett River in conjunction with development along the River. In the event that Interstate-95 is widened or the bridge over Route 161 is replaced, the Town should request a design that incorporates a pedestrian tunnel under Interstate 95 (see FIGURE 25).

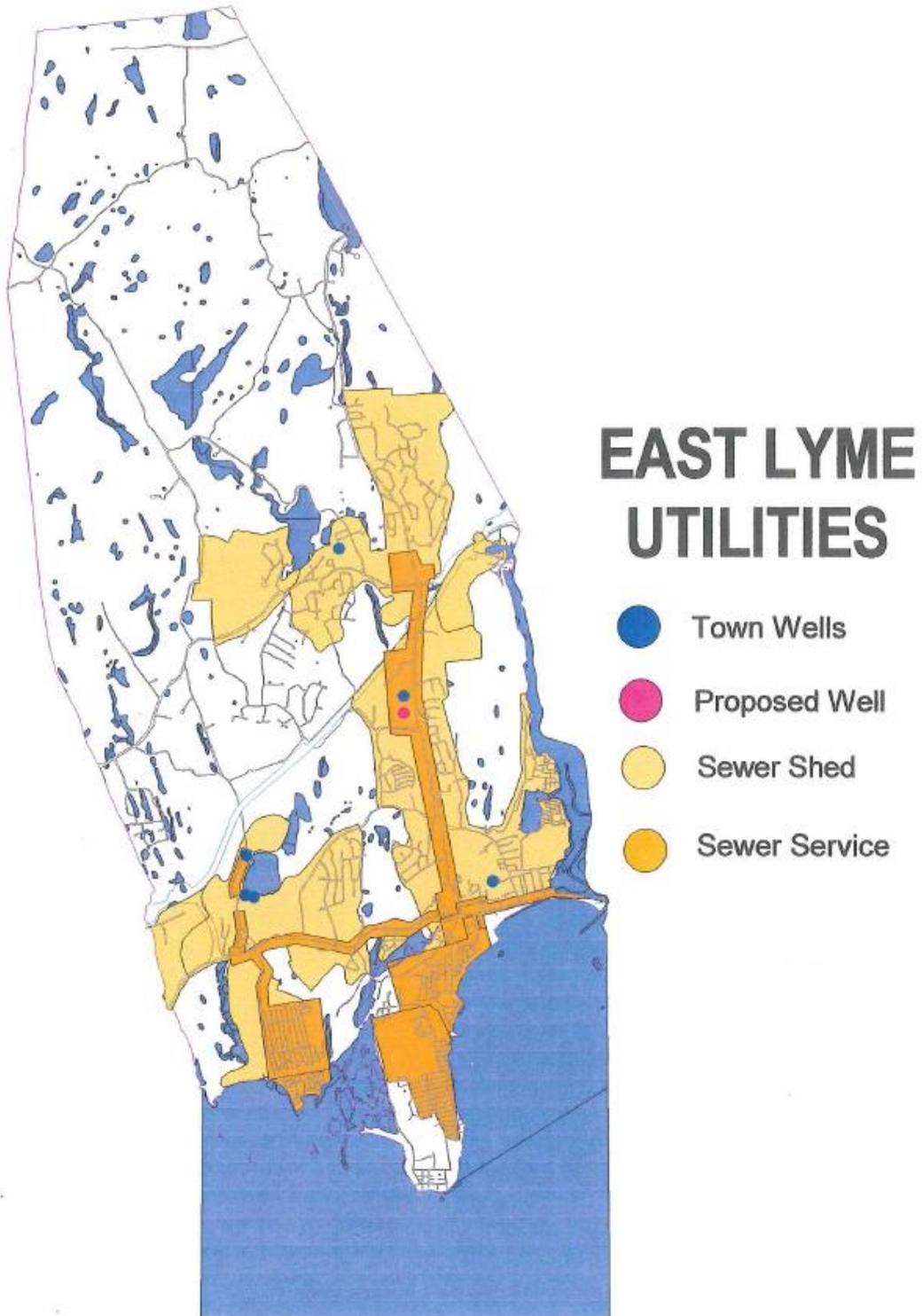
12. The Zoning Regulations should include as part of the site plan review process design guidelines and methods for site developers to incorporate mini-parks into shopping areas or near buildings in either Flanders and Niantic village (see FIGURE 27).
13. The Town should endorse the Niantic Bay Overlook and fishing pier as recreational facilities for East Lyme that will significantly add to the recreational and open space opportunities for residents and visitors to the Town.

### **5.3 LAND AND WATER RESOURCE MANAGEMENT**

A primary goal of the Plan of Development is to maintain and, where possible, enhance the environmental quality of East Lyme's land and water resources. Clean and adequate supplies of water are essential for the future growth and prosperity of the Town. Approximately 60% of the Town is served by public water through the operation of six wells located in four stratified drift aquifers (see FIGURE 28). The remaining 40% is served by private wells in bedrock aquifers.

Environmental quality should be the concern, not just of conservationists, but of all citizens, because destruction or disturbance of environmentally sensitive areas results in real losses to the social and economic welfare of the community. Inadequate management of natural resources can create hazards from flooding, destroy productive habitats, jeopardize drinking water supplies and limit recreational enjoyment. In East Lyme, Pattagansett Lake, Gorton Pond and Dodge Pond have all been adversely affected by adjacent development and have been or will need to be dredged in the near future. Erosion caused by over development of coastal shore fronts has resulted in a loss of storm protection and the need for high-maintenance protective structures. Higher than acceptable levels of bacteria in bathing waters have necessitated the closing of beaches in Town on several occasions. In each case, there exists either an actual or potential cost to the public or loss of revenue as a result of the resource being impaired.

FIGURE 28 - EAST LYME UTILITIES



### 5.3.1 Environmentally Sensitive Areas

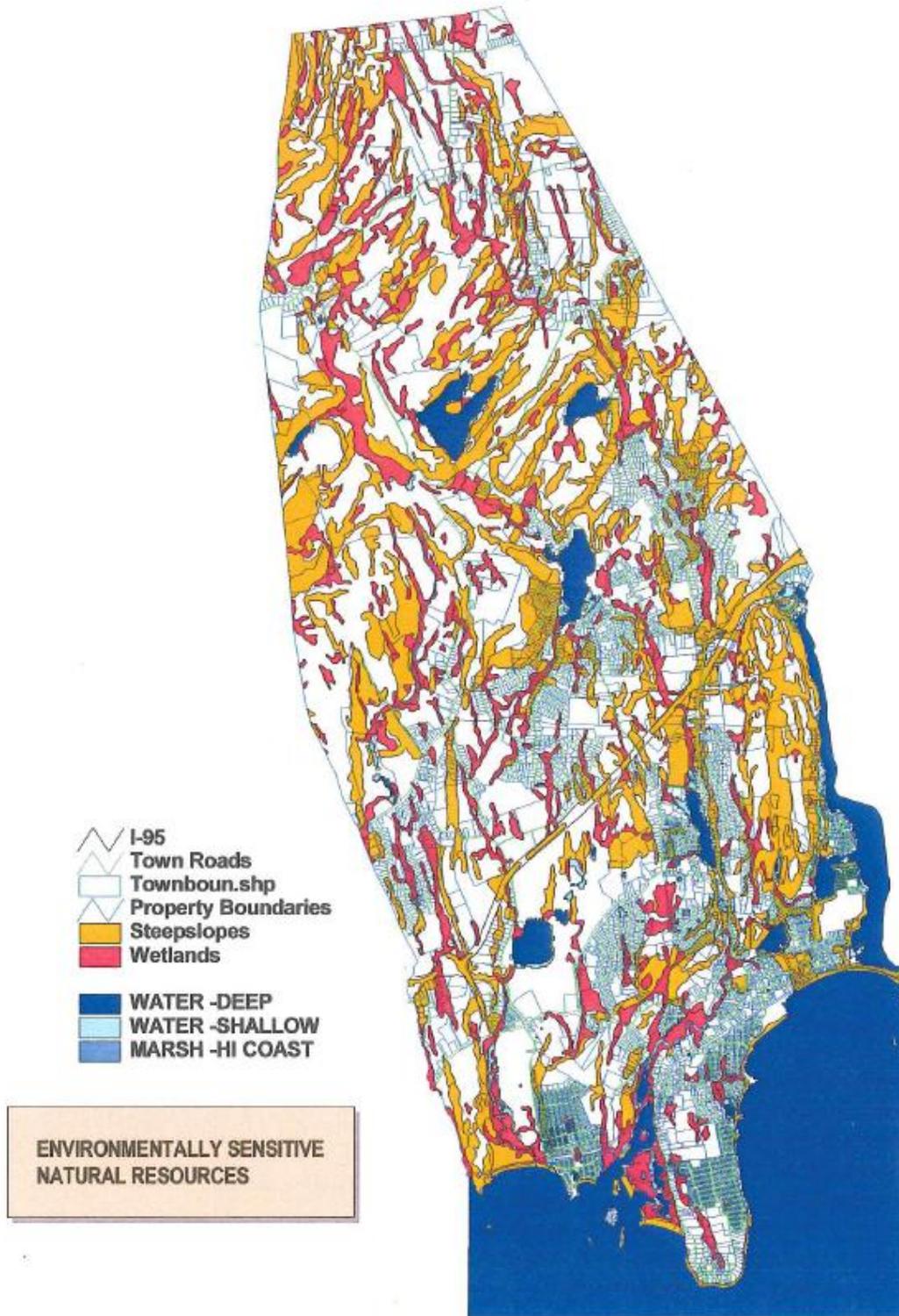
The following land and water areas are considered environmentally sensitive, either because they serve valuable natural functions or because their improper use will impair the functioning of other resource areas.

- **Aquifers:** Within the Town of East Lyme, there are four stratified drift aquifers and numerous bedrock aquifers, which provide the Town with its drinking water supply. The aquifers and their recharge areas must be protected from contamination by chemical and biological pollutants.
  
- **Surface Waters:** Rivers, streams and inland water bodies serve as conduits and storage areas for flood waters and therefore, should be protected from encroachment and filling, which could lessen their carrying capacity. Although East Lyme does not currently utilize surface waters for potable water supply, these waters are valuable recreational resources and also support animal life. They should therefore be protected from erosion and sedimentation, chemical runoff and domestic sewage leachate.
  
- **Floodplains:** Land areas adjacent to rivers and streams, which are inundated during floods, should not be developed since the presence of development will raise flood levels above natural levels and endanger other areas.
  
- **Inland and Tidal Wetlands:** Wetland areas are valuable flood-water storage areas and, in the case of tidal wetlands, buffers the surrounding area from storm wave action. They are also highly productive plant and animal habitats and improve water quality by trapping pollutants before they enter surface waters. Excavation, filling, building or sedimentation within wetlands impacts all these functions.

- **Beaches, Dunes and Bluffs:** These erodable coastal resources are, of course, highly valuable recreational resources. They also act as buffers to coastal flooding and dissipate wave energy during storms. These lands are inherently unstable and are highly susceptible to destruction through any modification.
  
- **Steep Slopes:** While serving no particular natural function of value, slopes greater than 15 to 20 percent are highly erodable, and construction on them is likely to result in sedimentation of down-grade watercourses unless erosion control measures are taken. Erosion losses are exacerbated by the typically thin soil layer over rock on steep slopes, which requires major site modification to install foundations and septic systems.

As can be seen from these brief descriptions, damage to environmentally sensitive resources, and the related losses in public and private investment, occurs in three ways: (1) pollutants seep into the ground, impacting groundwater supplies; (2) natural materials and man-made pollutants are transported over the land and deposited in watercourses through erosion and sedimentation; and (3) land is exposed to the destructive force of flood and storm waters, a natural occurrence, but one which is aggravated by modification of natural water retention areas and development in floodplains. The objective of resource management is to control the use of sensitive lands in a manner that prevents, or at least minimizes, groundwater pollution, erosion/sedimentation and development in floodplains. This is accomplished by first directing intensive development away from sensitive lands, and second, by adopting controls for sensitive lands when they are used (see FIGURE 29).

FIGURE 29 - ENVIRONMENTALLY SENSITIVE AREAS

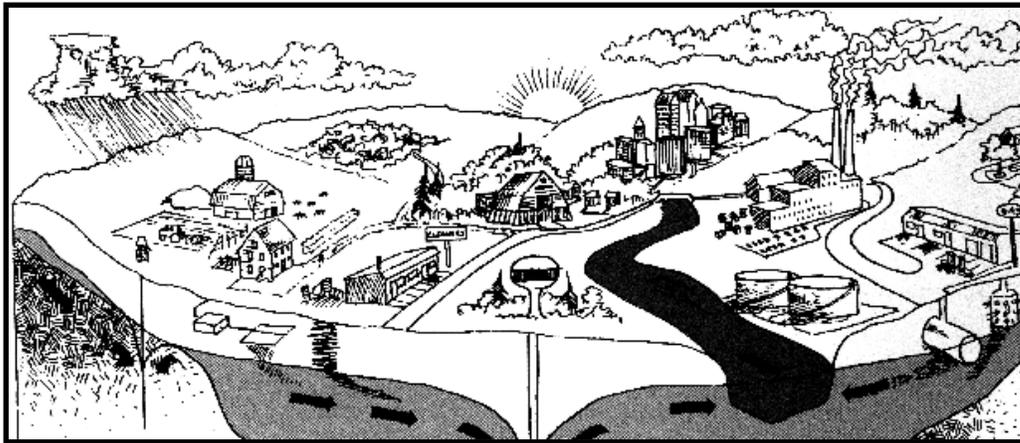


### 5.3.2 Groundwater and Surface Water Protection

#### Sources of Contamination

Groundwater pollution can derive from a variety of point and non-point sources, with a range of potential severity. Some of the most common forms of groundwater pollution are listed below (also, see FIGURE 30 for a diagram of groundwater risks).

FIGURE 30 - SOURCES OF POTENTIAL GROUNDWATER CONTAMINATION



**Synthetic Organic Chemicals and Hydrocarbons:** By far, the greatest share of groundwater contamination is caused by organic chemicals, mostly of man-made origin (synthetic organic chemicals), along with refined hydrocarbons from naturally occurring sources, such as petroleum. This group includes toxic substances used as solvents in industries, businesses and homes; pesticides used on lawns and agricultural fields; refined liquid fuels, such as gasoline and heating oil; petroleum distillates used in industry; and oils of many types and uses.

A few chemicals in this group, such as benzene and vinyl chloride, are known human carcinogens. Several other compounds, such as some of the chlorinated solvents, are suspected human carcinogens or are known to promote cancer in animal tests. Federal and State drinking water standards have been established for only a handful of SOS. Allowed concentrations are very low because even minute amounts of these chemicals in groundwater can threaten human health. These chemicals are often persistent in soil and water and may affect groundwater for many years. All new wells are tested for compliance with drinking water standards by the local Health Department through the well permitting process.

**Landfill Leachate:** Seepage of precipitation through the refuse dumped at landfills has the potential for introducing a number of soluble pollutants to groundwater. Heavy metals, numerous organic decomposition products and synthetic organic and inorganic chemicals are typically present in leachate.

**Salt:** Salt is commonly used for winter road maintenance to help melt ice and provide safer driving conditions. Salt is a compound which is soluble in water, does not easily degrade and which can remain in the soil for long periods of time. Improperly stored road salt can contaminate groundwater supplies as the material is dissolved in surface water runoff and then seeps into the ground. Highway runoff from salt application can be discharged directly to surface water where it can eventually infiltrate the soil or groundwater resources. High concentrations of salt in drinking water supplies can pose a health hazard. Salty groundwater contamination can also be caused by “backwash” from residential water softeners. Discharge of these salts to septic systems is illegal. However, many users are unaware that discharging water softener backwash can pose a risk to area wells and groundwater supplies.

**Nitrates:** Nitrogen is a major component of living tissue and a necessary plant nutrient. Nitrates are nitrogen salts that occur widely as a result of decomposition and other natural processes, but at high concentrations they affect the ability of the human circulatory system to provide oxygen, especially in infants. The principal sources of nitrate contamination are animal manure, fertilizers and subsurface sewage disposal systems. Nitrates are highly persistent in groundwater.

**Biological Pollutants:** An improperly installed septic system can be a source of disease-causing bacteria and viruses in groundwater. Adherence with the Public Health Code has been very effective in minimizing this risk. Farm animal wastes over 5,000 gal. per day are regulated as well. Some surface waters have been contaminated by flocks of waterfowl such as ducks and geese whose waste has rendered the pond or lake unswimmable for periods of time. Control of these populations must be considered to avoid contamination from occurring.

**Pesticides:** Some agricultural pesticides are suspected carcinogens and have been found in Connecticut to persist in groundwater for over 15 years. The use of pesticides is regulated by DEP but it is acknowledged that further research and monitoring is needed to determine the impact of pesticide use on groundwater supplies. Many of the farmlands in Town are being developed as residential subdivisions. Sufficient soil and water testing criteria should be established to ensure that there is no potential risk to human health associated with past pesticide use on the property.

The following control measures have been implemented to protect against the various sources of contamination:

### **Aquifer Protection**

East Lyme has delineated primary and secondary aquifer protection district boundaries, which operate as overlay zones and are regulated through zoning. Areas within the protection districts retain their underlying residential, commercial or industrial zoning but are subject to additional restrictions for protection of the underlying groundwater. Certain uses with the greatest potential for pollution of the groundwater are prohibited outright within the primary protection districts. Other uses are permitted only upon granting of a special permit by the Zoning Commission. The applicant must show, on the basis of plans and reports, that any hazardous materials used on the site will be properly stored and disposed of, that there will be no increase in storm water runoff from the site after development and that the provisions for disposal of sanitary wastes are adequate. These restrictions apply to new development only and do not affect the continued operation of prohibited or special permit uses in place prior to the adoption of the regulations.

Unlike stratified drift aquifers, the recharge areas for bedrock wells are difficult to determine since the movement of groundwater in bedrock depends on the location of fractures. This unpredictability makes it especially difficult to protect bedrock wells. Until new techniques are developed to better delineate the recharge areas of these wells, they can be defended by protecting the entire resource area.

### **Soil & Erosion Control**

The filing and approval of an erosion control and sedimentation plan is a standard requirement for all land-use applications that will result in the disturbance of cumulatively more than one-half acre, or if the project lies within 50 feet of one or more of the following natural resources: tidal wetlands, watercourses, beaches, dunes and naturally-eroding coastal bluffs. Plans must be developed in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control and certified by the approving agency. Performance bonds are required as necessary and inspections made by the Commission or its agent during development to ensure compliance with the certified plan.

### **Stormwater Management**

Many different activities and land-use patterns create non-point source (NPS) pollution. Commonly, NPS pollutants are carried by rain and snowmelt that run into lakes, streams and other water bodies. Stormwater runoff can carry soil, fertilizers, pesticides, oil and other car fluids, trash and other materials that affect water quality. Runoff increases when natural vegetation, which captures and uses much of the rainwater, is removed. Problems also occur when natural lands are developed and covered with houses and hard surfaces, such as asphalt, that do not absorb water. Rainwater that falls on these surfaces quickly runs into surrounding areas. Non-point source pollution has been identified as one of the major sources of water quality problems. The best way to reduce NPS pollution is to reduce the amount of nonabsorbent and minimally absorbent ground cover. Where necessary, the best management practices should be implemented to mitigate the potential for contamination of surface or groundwater.

Stormwater Management Plans are now required by the Connecticut DEP for commercial activities with five (5) acres or more of contiguous impervious surface, as well as for municipal facilities through the NPDES (National Pollutant Discharge Elimination System) permit program. Additional NPS controls are necessary at the local level, particularly in association with road design and construction.

### **Sewage Disposal**

If improperly designed, installed or maintained, on-site sewage disposal systems can introduce biologic pollutants to the groundwater. Permit responsibility for on-site septic systems is shared between the Town and the State, depending on the size of the discharge. Development proposals that would generate sewage flows in excess of 5,000 gallons per day must be approved by the Connecticut Department of Environmental Protection (DEP) based on an evaluation of the proposed system design in relation to the assimilative capacity of the specific site. Septic systems for sewage flows of less than 5,000 gallons per day are subject to approval by the Town Sanitarian in accordance with the Public Health Code. In addition, as noted above, developments to be located in the Town's aquifer protection districts are permitted only by special permit if the projected sanitary wastewater discharge exceeds 625 gallons per acre per day in the primary protection districts and 1,000 gallons per acre per day in the secondary districts.

DEP permits must be renewed every five years, thus providing a periodic check that the system is operating properly and an opportunity to order repairs if it is not. Groundwater monitoring is sometimes required as well. Locally-permitted systems, however, will generally be inspected and repairs ordered only if an apparent failure of the system has occurred. A mandatory periodic inspection and maintenance program would further ensure that the system is functioning properly. A new local ordinance and additional personnel would be required to put such a program into place.

Nitrates are not readily removed by filtration through soil and are the end product of any properly functioning conventional leaching system. Dilution of nitrates through infiltrated rainwater is necessary to meet the minimum goal of compliance with the drinking water standard of 10 mg/l. According to a Report on Pollutant Loadings and the Lot Sizes Needed to Support Residential Development in Connecticut prepared by the DEP, Water Compliance Unit, "the reasonable range of adequate lot sizes range from 0.6 to 2.5 acres, for the purpose of diluting nitrogen." Presently, the Town of East Lyme allows development at densities which may exceed this recommendation. A review of allowable lot sizes in areas served by on-site septic systems and private wells taking into account the sensitivity of the receiving resource should be made to ensure that adequate nitrogen reduction can be accomplished. Nitrogen reduction is especially critical on developed properties adjacent to surface water bodies and can be accomplished through extension of sewers or the upgrade of existing on-site systems using alternative technologies designed to remove nitrogen.

### **Hazardous Waste**

In addition to the Zoning Regulations concerning aquifer protection, the Town has an ordinance concerning the storage and disposal of hazardous substances, adopted in 1981. This ordinance makes unlawful the discharge of any hazardous substance on or into the land or water throughout the Town. Mandatory construction standards, periodic testing and enforcement procedures are prescribed for liquid storage systems of greater than 1,000 gallon capacity. Thus, the orientation of the ordinance is toward the prevention of failure of large, underground storage systems, most commonly represented by service station gasoline tanks and other commercial storage of fuels.

There are also Federal EPA and State DEP programs in place for permit review and inspection of the storage and disposal of hazardous substances and the management of used oil, which are, again, preventive in nature. These programs require the upgrade of existing storage vessels as well.

To reduce the risk of contamination of the groundwater by improper disposal of hazardous products used in and around the home such as motor oil, gasoline, pesticides, fertilizers, paint strippers and thinners and cleaning agents, the Town has participated in sponsoring regional household hazardous waste collection events. The hazardous wastes are brought to a designated site and collected by a licensed waste management firm and transported to a legal disposal site, just as industrial wastes are.

### **Solid Waste**

Federal legislation was adopted in 1991 that prompted the closure of the Town's landfill on Roxbury Road in 1993 and a transfer facility for recycling and bulky items is presently in operation. All other trash is transported directly from curbside pick-up to the Preston Waste to Energy Plant, which was constructed in 1991 to handle solid waste in the region. The existing landfill was capped following strict guidelines designed to prevent rainwater from seeping through the refuse and acting as a vehicle of transfer for the contaminants.

### **Road Salt Storage/Use**

The Town's aquifer protection regulations prohibit salt storage in the primary protection districts and establish specific standards for storage in secondary districts. The location for salt storage at the Town garage is not within an aquifer protection zone and follows best management practices. Additionally, the Town has reduced the amount of salt used on the roads. The Connecticut Department of Transportation has a salt storage facility located in a secondary district. The facility was upgraded in 1994 and now meets all the requirements for that district.

### **Inland and Tidal Wetland Protection**

Inland and tidal wetlands are protected reasonably well under existing laws. In 1990, the regulated area was extended to within 100' of inland wetlands and watercourses. The continuance of protection depends upon strict enforcement of the regulations in place. Tidal wetlands have limited protection under current regulatory setbacks within the Zoning Regulations and the regulatory setback should be increased from 25 feet to 100 feet for grading, clearing and development of structures and buildings.

### **Flood Hazard Protection**

An ordinance and zoning regulations concerning flood damage protection have been adopted by the Town. They include methods and provisions for: 1) restricting uses which result in damaging increases in erosion or in flood heights or velocities; 2) requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; 3) controlling the alteration of natural flood plains, stream channels and natural protective barriers which help accommodate or channel flood waters; 4) controlling filling, grading, dredging and other development which may increase flood damage; and 5) preventing and regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas. Additional protections are needed through a special permit regulatory process to ensure that damage to structures and property in flood prone areas, including Coastal Hazard Areas, are mitigated.

### **Water Supply Management**

In 1998, due to a limited developed water supply, the Town found it necessary to implement a moratorium on new water connections for subdivisions and commercial establishments. Although the Town has the potential for developing new wells, the water supply is not infinite. Furthermore, it is becoming increasingly more difficult to obtain the required DEP permits (including renewal of existing permits) for water supplies from aquifers feeding surface waters due to adverse environmental impacts caused by the potential lowering of water levels in rivers and lakes. Two of the six wells presently in operation are in danger of not being re-permitted by DEP for this reason. A revision to the Town's Water Supply Plan is currently underway. Once the plan is completed and an analysis made of potential build-out and future demand, the Town may need to re-evaluate the extent to which public water supplies can be extended to undeveloped areas and employ additional protective and conservation measures of existing and potential water supplies where possible. Required minimum lot sizes may need to be adjusted accordingly depending on the results of this analysis.

### **Recommendations**

The following paragraphs present recommendations for additional controls and policies that should be considered by the Town. Any final proposals should be drafted in consultation with the appropriate Town agency(s) as listed in italics.

1. Of immediate concern is the need to assess the viability of Town public water supplies in light of new permitting requirements by DEP. A build-out analysis should be conducted to ascertain the feasibility of planned extensions of public water to undeveloped properties based on existing or potential supplies. Allowable lot sizes should be re-evaluated in areas not to be served by public water or sewer taking into account the findings of the Report on Pollutant Loadings and the Lot Sizes Needed to Support Residential Development in Connecticut prepared by the DEP, Water Compliance Unit.

According to The Water Quality Standards and Criteria adopted by the CTDEP, all groundwater north of I-95 in East Lyme, and in much of the remaining Town, has been classified as GA, which means that the existing groundwater quality is suitable for drinking and must not be allowed to fall below its present quality. *Planning Commission, Health Dept., Water and Sewer Commission.*

2. Consider adopting a Zoning Regulation requiring that all lots contain a minimum area of buildable land to further protect sensitive environmental resources. The adoption of buildable land criteria into local land-use regulations has been identified as a State goal in Connecticut's Environmental Plan, Environment 2000. *Zoning Commission.*
  
3. Consider incorporating the following stormwater best management practices into Town Road Design Standards and Subdivision and Zoning Regulations. *Planning Commission, Zoning Commission, Engineering Department.*
  - Stormwater runoff management in aquifer areas shall promote pre-treatment of runoff prior to discharge and aquifer recharge. Stormwater drainage for new industrial and commercial development shall be treated to remove particulate and dissolved pollutants associated with road and parking lot runoff prior to discharge. Infiltration of clean or pretreated run-off should be maximized, except in areas subject to an unusually high risk of hazardous material spillage. Open vegetated basins, depressions and buffer strips are the preferred methods of infiltrating stormwater runoff from paved surfaces.

- New or enlarged sites for the accommodation or storage of manure, fertilizers, pesticides and herbicides shall:
  - Have a roof which shall prevent precipitation from coming into contact with these materials.
  - Have a liquid-tight, diked floor with no drains other than a sump pit.
  - Be located so that surface water runoff drains away from the storage area.
  
- Any above-ground chemical and fuel storage tank shall be on an impervious, structurally diked area to contain any leaks or spills, with no drains other than a sump pit, and suitably covered to prevent precipitation accumulation.
  
- Dumpsters and other waste receptacles shall have covers or shall be located within roofed areas and shall be placed on impervious surfaces, away from storm drains.
  
- Except for clean roof drainage, the use of underground drywells or leaching trenches is not allowed for any stormwater runoff from developed areas. Avoid extending public sewers into sensitive groundwater areas, which may encourage intensive land use and cause secondary impacts. Priority should be given to extending sewers into areas to solve existing pollution problems, particularly along our shorefronts and in highly developed commercial & residential areas (less than 0.6 acres per dwelling unit). *Water & Sewer Commission, Planning Commission, Health Department.*
  
- 4. Consider a reduction in required road width from 30' to 24' for new subdivisions to minimize impervious surfaces and the amount of clearing/regrading made necessary for road construction. *Planning Commission.*

5. Review cluster subdivision regulations to encourage further protection of sensitive natural resources. *Planning Commission, Zoning Commission.*
6. Consider re-zoning land north of I-95 and west of Route 161 that lies in part within the Pattagansett Aquifer Protection District from industrial to office/light industrial. A more suitable area for industrial development could be located to replace it. *Zoning Commission, Planning Commission, Economic Development Commission.*
7. Consider establishing a sewer avoidance program consisting of mandatory inspections and maintenance at regular intervals to manage existing on-site sewage disposal systems. The benefits of such a program are threefold. First, with preventative maintenance, the need for costly repairs by the homeowner can be avoided. Second, systems which are not providing adequate treatment can be detected and improved, and lastly, installation of sewers can be avoided. As mentioned previously, additional personnel would be necessary to implement such a program. *Board of Selectmen, Health Department.*
8. Systematic maintenance programs in place should be reviewed to assure regular vacuuming and routine catch basin clean-out. Decreasing impervious surfaces and methods to increase infiltration is another measure that should be included in road and parking design. *Board of Selectmen, Planning Commission, Zoning Commission.*
9. A storm-water management ordinance or regulations should be instituted for both Town and private construction and development. *Board of Selectmen, Planning Commission, Zoning Commission.*
10. The regulatory setback for tidal wetlands should be increased from 25 feet to 100 feet for all grading, clearing and building of structures.

11. The Town should consider mitigation measures in coastal high hazard areas. These measures might include beach nourishment programs in critical areas, such as Oak Grove Beach.

#### **5.4 COASTAL AREA DEVELOPMENT**

##### **5.4.1 Coastal Area Development Plan**

The East Lyme Coastal Area Development Plan (CADP) was adopted by The Planning Commission in October 1982. As such, it is an element continued in this 2009 Plan of Conservation and Development. The CADP is herewith being physically incorporated into the Plan of Conservation and Development because of its importance in many of the land-use decisions made in this coastal town. In addition, integration of these two documents will allow for a more widespread distribution of the CADP, as well as provide for its easier access. The following presents the text of the CADP in its entirety, as previously adopted by the Planning Commission. (In reading this section, it should be kept in mind that it was written in 1982 as a separate plan; reference made to the Plan of Development is to the 1978 Plan. Recommendations concerning the coastal area made in earlier sections of the 1999 Plan were intended to update recommendations in the CADP.)

##### **5.4.2 The Municipal Coastal Program**

The Coastal Area Development Plan for East Lyme is the initial element in the Town's Municipal Coastal Program. The purpose and objectives of the Coastal Plan are, therefore, best understood in the context of the overall Municipal Coastal Program and of the shared state/local coastal area management system that exists in Connecticut.

### 5.4.3 Coastal Area Management in Connecticut

The basic concepts underlying coastal area management, as embodied in Connecticut's Coastal Management Act (C.G.S. 22a-90 through 22a-114) can be summarized as:

- The coast and its adjacent waters are a uniquely valuable natural resource.
- The coast also possesses great value for a wide variety of competing uses--residential, commercial, industrial, recreational--which have exerted intense pressure for development.
- Development of coastal areas unsuited for intensive use has resulted in damage to, or the loss of, natural coastal resources.
- Within those coastal areas best suited for development, many sites have been committed to uses that do not require a shorefront location, thus limiting future water-dependent development opportunities.
- Improved public management of the coastal area depends on: (1) adequate consideration of the capacity of natural coastal resources to support development when planning for and regulating coastal uses; and (2) improved coordination among the various governmental authorities sharing regulatory control over the coast.

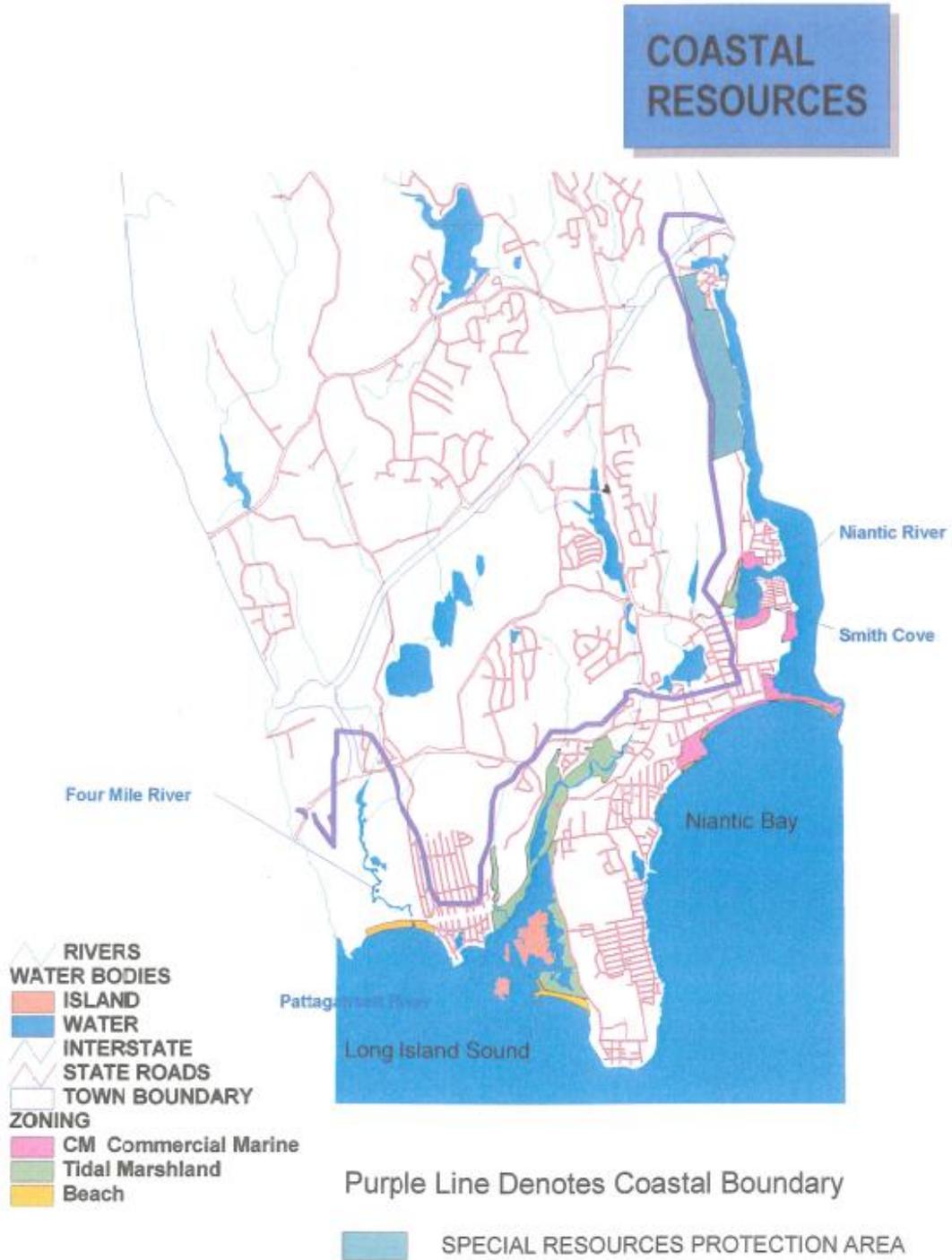
Following on the initiative of the Federal Coastal Zone Management Act of 1972, the Connecticut Coastal Area Management (CAM) Program was established in 1975. A four-year planning process culminated in passage of the Connecticut Coastal Management Act, which took effect January 1, 1980. The Act defines the boundary of the coastal area, establishes policies to guide coastal development, and sets forth the regulatory system to be employed to manage the coastal area.

**The Coastal Boundary:** Connecticut has established a general coastal area which includes the Connecticut portion of Long Island Sound and the entire land and water area of the 36 towns fronting on Long Island Sound and the salt water portions of the Connecticut, Thames and Housatonic Rivers. The coastal management system and coastal policies, however, apply to a more limited land area. The boundary of this management area is delineated on the landward side by the farthest inland of: a 1,000-foot setback from mean high water; a 1,000-foot setback from the inland edge of tidal wetlands; or the inland limit of the 100-year coastal flood zone. The extent of East Lyme's coastal management area is shown in FIGURE 31 - COASTAL RESOURCES MAP.

**Coastal Policies:** The Connecticut Coastal Management Act establishes a total of 43 policies that are to be applied by federal, state and local governmental authorities in planning for, regulating and funding coastal development. Three general policies contained in the Act establish the "resource zoning" approach to coastal management in Connecticut, wherein a balance is sought between conservation of natural resources and economic growth. These policies are to manage the coast:

- "To insure that the development, preservation or use of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water resources to support development, preservation or use without significantly disrupting either the natural environment or sound economic growth.
- "To give high priority and preference to uses and facilities which are dependent upon proximity to the water...
- "To resolve conflicts between competing uses on the shorelands adjacent to marine and tidal waters by giving reference to uses that minimize adverse impacts on natural coastal resources while providing long-term and stable economic benefits.
- "To encourage public access to the waters of Long Island Sound."

FIGURE 31 - COASTAL RESOURCES MAP



**The Act's more specific policies:**

- Provide guidance in evaluating the potential impact of major development activities such as dredging and filling, commercial port and recreational boating facilities, sewer and water systems, and transportation facilities.
- Identify individual coastal resources (such as beaches and dunes, tidal wetlands, bluffs and flood hazard areas) and the natural functions of these resources, which should be preserved.
- Establish guidelines for the administration and coordination of the coastal management program.
- The Coastal Management System: Connecticut has established a system in which the authority and responsibility for coastal area management is shared between the State and the coastal municipalities. The existing division of regulatory powers between State and Town is not significantly altered by coastal area management; each continues to administer its existing development control mechanisms. The change brought about by coastal area management is that each level of government is now required to evaluate development proposals to assure that they are consistent with the applicable coastal policies.

State agencies must be guided by the coastal policies in making permit decisions affecting the coastal area; State regulatory authorities directly affecting the coastal area include required permits for erection of structures and placement of fill in coastal water, dredging, use of tidal wetlands, and discharge of pollutants into State waters. In addition, State agencies must consider coastal policies in designing and constructing State-sponsored development projects such as transportation improvements, park and recreation facilities, and flood and erosion control projects. Finally, plans guiding future State activities in such areas as transportation, recreation, water pollution control and economic development must be revised to ensure consistency with the coastal policies.

At the local level, application of the coastal policies on a case-by-case basis is carried out by means of coastal site plan reviews. All individual development projects coming before the municipal zoning commission, variance requests before the Zoning Board of Appeals, and subdivisions of land before the Planning Commission are subject to site plan review if they are located within the coastal area. (The Coastal Management Act allows a municipality to exempt, by regulation, certain activities from the site plan review requirements. These activities include minor additions to existing structures, construction of incidental structures and utilities, and construction of a single-family residence as long as the house is not within 100 feet of tidal wetlands, coastal bluffs, or beaches. East Lyme's Zoning Commission has adopted these exemptions.) In addition to meeting the application requirements contained in the Town's zoning and subdivision regulations, the applicant must submit a coastal site plan that: shows the coastal resources on and about the site; assesses the capability of the resources to accommodate the proposed use and the suitability of the project for the site; evaluates the impacts of the project; and describes proposed methods to mitigate any adverse impacts.

Assuming that the proposed project satisfies the applicable provisions of the Town's planning and zoning regulations, the Commission then evaluates the proposal in light of the capability and suitability of the site and the consistency of the project with the appropriate coastal policies. Based on this evaluation, the Commission may approve, deny, or attach conditions to the applicant's proposal.

### **The Municipal Coastal Program**

Local coastal site plan reviews are, then, a regulatory mechanism applied on a case-by-case basis in reaction to current development proposals. The second element of municipal coastal area management, the Municipal Coastal Program, differs in that it focuses on comprehensive, long-term planning. Development of a Municipal Coastal Program is a two-step process. First, the town reviews and revises as necessary its Plan of Development for the coastal area to reflect both the statewide coastal policies and the coastal issues, problems and opportunities particular to the town. The town then reviews its zoning, subdivision and other land use regulations and may revise these regulations to ensure consistency with the revised Plan of Development.

The objectives of a Municipal Coastal Program are:

- To establish a long-range plan for land use within the coastal area of the town which, in concert with the Coastal Management Act policies, will provide guidance to the town's regulatory commissions and boards in conducting coastal site plan reviews.
- To ensure effective controls over land use within the coastal area so that coastal development proceeds in a manner consistent with local desires.
- To provide coastal area property owners and developers with consistent and specific guidance in planning development projects.

- It should be clear that development of a Municipal Coastal Program is voluntary and that any revisions to the municipal Plan of Development and local regulations arising out of the program are locally developed.

#### **5.4.4 East Lyme's Program**

The Town of East Lyme developed its Municipal Coastal Program under the guidance of a Steering Committee of six citizens appointed by the Selectmen. A planning grant from the Connecticut Department of Environmental Protection enabled the Town to retain a consultant to undertake the necessary analysis and to develop the recommended planning and regulatory changes.

The Coastal Area Development Plan contains an analysis of existing land use and development patterns in East Lyme's coastal area, the Town's land use planning and regulations, the nature and location of its coastal resources, and its coastal problems and opportunities. These form the basis of the Plan's goals and policies and its recommended actions. The Coastal Area Development Plan is intended to supplement, rather than replace, the existing townwide Plan of Development.

#### **5.4.5 The East Lyme Coastal Area**

The coastal area, shown in Figure 12-1, includes the core of the Niantic commercial district, the entire Black Point peninsula and Pattagansett River, Giants Neck and Rocky Neck. Also within the coastal boundary are the lands bordering the Niantic River: Smith Cove, Pine Grove, Saunders Point, Oswegatchie Hill and the Golden Spur. The land area within the coastal boundary is 4.7 square miles, 13 percent of the total area of the Town.

However, population density within the coastal area is more than double the townwide average; approximately 30 percent of East Lyme's year-round residents live in the coastal areas. In addition, the coastal area supports the commercial center of the Town, provides housing for a seasonal influx of part-time inhabitants and tourists, and contains a State outdoor recreation facility. With the exception of lands possessing serious physical constraints, virtually all the coastal area has been developed.

McCook Point itself is a steep, rock bluff 50 feet in height; picnic and playground facilities are provided atop the bluff. **Niantic Village:** The retail commercial core of Niantic is clustered about the "T" intersection of Main Street (Route 156) and Pennsylvania Avenue (Route 161). The downtown area is adjacent to Niantic Bay but separated from it by Amtrak's Northeast Corridor mainline, which runs roughly parallel to Main Street through the downtown and is carried on an embankment above the beach. Main Street and the railroad tracks cross the Niantic River into the Town of Waterford at the end of a narrow spit known as the Bar. Because of the physical and visual barrier created by the railroad embankment, the downtown has developed with little relationship to Long Island Sound.

With the exception of two small shopping centers anchored by supermarkets which occupy the first two blocks of Pennsylvania Avenue, commercial development consists primarily of single establishments on individual parcels. In the blocks behind the two primary streets, commercial uses generally give way to residential development on quarter-acre lots, although certain businesses not requiring extensive exposure (such as small professional offices and funeral homes) have been established in converted residences. West of the downtown area, commercial uses fronting on Main Street gradually thin out, first mixing with residences and then occurring periodically.

Marine-related commercial development is densely concentrated in a five to six-acre pocket on the Niantic River bounded by Main Street, Smith Avenue, and Morton Street. In this area are six businesses providing dockage for approximately 425 boats as well as boat sales, repair, hauling, and winter storage. Waterfront businesses in the form of commercial fishing boats and a charter fishing boat are located at the river mouth at the end of the Bar. Four other marine-related businesses--two bait and tackle shops, an engine repair business, and a boat sales shop--are located along Main Street but do not occupy waterfront sites.

**The Niantic River:** The coastal area north from Niantic to the headwaters of the Niantic River displays a variety in type and extent of land use. Lying between the downtown area and Smith Cove is the 76-acre State-owned National Guard encampment used primarily during the summer months. North and south of the entrance to Smith Cove are residential concentrations at Saunders Point and Pine Grove. Originally developed as summer colonies on small lots, these areas contain about 250 homes. Approximately three-quarters of these dwelling units are now occupied on a year-round basis as a result of winterization of original cottages and more recent construction of year-round dwellings on remaining lots. Within the cove is a single marina with 150 slips and yacht sales, repair, and storage facilities. Above Saunders Point, the east slope of Oswegatchie Hill reaches down to the riverbank. The steep slopes and shallow depth to bedrock with extensive outcrops have limited development to a few dozen houses along the upper limits of Quarry Dock Road; except for these houses, the entire east slope of Oswegatchie Hill remains in a natural state. Finally, at the head of the Niantic River is the Golden Spur, a small concentration of houses flanked by a motel at I-95 Interchange 75.

**Black Point:** The Black Point peninsula, lying south of Niantic and separated from it by the Northeast corridor tracks, contains the beach communities of Crescent Beach, Oak Grove Beach, Davis Beach, Attawan Beach, Black Point Beach and Old Black Point. Immediately south of downtown Niantic and acting as a buffer between it and Crescent Beach is McCook Point Park, the Town facility for shoreline recreation. The 19-acre site includes two beaches, one adjacent to Crescent Beach and the second (Hole in the Wall Beach) north of the point at the foot of the railroad embankment.

While the Black Point communities vary in size and each has a distinct character, all (with the exception of Old Black Point) have been developed at high density in single-family units on small lots. The initial development of these areas occupied virtually all the buildable sites on and adjacent to the Niantic Bay waterfront. In subsequent years, development expanded back into the center of the peninsula and to a more limited extent, to the Pattagansett River side of the Point. In the 1958-1970 period, about 275 dwelling units were added in these interior portions to an existing stock of approximately 650 houses directly along the Bay. From 1970 to 1990, construction of new housing (with the exception of approximately 60 units in two apartment complexes in the northern interior) virtually ceased. Two interior areas remain undeveloped--behind Attawan Beach and north of Old Black Point--totaling approximately 250 acres. Since sanitary sewer lines were installed into the area in the early 1990s, much of this area has been in-filled with development at the current zoned density.

Like the Saunders Point/Pine Grove area, many of the houses built on Black Point for summer use have been winterized and with the advent of sewers, an increasing number are being occupied on a year-round basis. Census information from 1990 indicates that about three-quarters of the dwelling units in the Black Point and Attawan Beach communities are used during the summer only or as weekend and vacation homes throughout the year.

Typically, the more recent units in the central and upper portions of the peninsula were originally constructed as primary residences and are occupied year round.

**The Pattagansett River:** The Pattagansett River separates Black Point from Giants Neck, reaching inland nearly to the western edge of downtown Niantic. The land areas surrounding the lower river (south of the railroad) are largely undeveloped because of the extensive tidal wetlands present; 1,500 to 2,000 feet of open land exists between the west bank of the river and the Giant's Neck community. North of the railroad crossing, a number of residential subdivisions border the wetlands.

**Giants Neck:** A final cluster of beach-oriented residential development occupies Giants Neck. Approximately 425 dwellings are divided into two segments by the Northeast Corridor rail line: Giants Neck Beach along the waterfront and Giants Neck Heights on the western slope of the Neck north of the railroad. Like the other beach communities, the area is characterized by dense development on small lots and a substantial number of homes held for vacation use, particularly in Giants Neck Beach.

**Rocky Neck:** Between Giants Neck and the town boundary at Four Mile River, the coastal area is in public ownership and is developed for recreational use. Rocky Neck State Park, 562 acres in size, offers 2,600 feet of sandy beach, 164 campsites, parking for 3,700 cars, and various concession and toilet facilities. The park is open to the public year round, but peak use, of course, occurs during the summer when the number of daily visitors can exceed 10,000. Nineteen-eighty-one attendance at Rocky Neck totaled 421,712 day visitors and 55,891 overnight campers.

#### **5.4.6 Local Land Use Planning and Regulations**

The existing use of East Lyme's coastal lands has just been described. The future uses of these lands and the effect of those uses on coastal resources will depend, at least in part, on the guidance provided by the Town Plan of Development and the development controls applied through the Town's land use regulations.

#### **5.4.7 The East Lyme Plan of Development**

**Plan objectives:** This Plan contains a number of general recommendations which, taken together, constitute a set of objectives for the future development of East Lyme. In summary, objectives bearing some relationship to the coastal area are:

- To maintain the residential character of the Town; future residential development should be predominantly single-family at suburban densities (one acre or larger lots) and residential areas should be protected from intrusion by commercial or other uses.
- To direct future development toward areas most suited for use and away from areas with serious natural resource limitations, such as poor soil, steep slopes and flood hazards.
- To limit commercial development to the existing commercial centers; in particular, the village atmosphere of Niantic should be retained by limiting intensity of use, upgrading design standards, and controlling strip development.
- To encourage expansion of light industry within designated industrial park zones.

- To encourage marine-oriented tourism and commerce.
- To expand public recreational opportunities and preserve significant natural open space areas; particularly, increased public access to the coast for bathing, boating and fishing should be pursued.

#### 5.4.8 Specific Recommendations

To meet the above objectives, the Plan makes the following specific recommendations:

**Commercial Uses:** The Plan recommends establishment of a deeper commercial zone in Niantic Village to allow for limited commercial expansion without extending strip development westward along Route 156. Target growing commercial development to the Exit 74 area. Upgraded design standards and a site plan review requirement for commercial development proposals are also recommended. Consideration of a public marina is recommended near the “Bar” area park where public docking facilities could include a pump-out facility and other public amenities.

**Residential Uses:** The Plan locates areas suitable for residential development (one-acre lot size) within the coastal area, open land considered suitable for such development is very limited, consisting of two areas in the southern interior of Black Point and portions of larger parcels in the Indian Woods area north of the Pattagansett River. Most of the undeveloped land in the coastal area is recommended for low intensity uses because it possesses one or more natural limitations for development, such as wetland soils or steep slopes.

These areas are recommended for acquisition by the Town as open space. The major coastal areas designated for low intensity or specially designed low-density residential use are the southern half of Oswegatchie Hill along the Niantic River, the open land between the Pattagansett River and Giants Neck, and the remaining undeveloped area at the south end of Black Point. In addition, the Plan endorses the concept of cluster development for preservation of natural resource areas and establishment of additional recreational space.

**Recreation and Open Space:** The Plan recommends town acquisition (in fee or by easement with public access) of three open space parcels in the coastal area: the beach fronting on Niantic Bay along the Bar in addition to the proposed Niantic Bay Overlook, 200-600 acres of Oswegatchie Hill along the upper Niantic River and the undeveloped central area of Black Point. The Black Point area contains no special natural features other than some inland wetlands; it was included in the open space designations because of a perceived need for open space adjacent to the dense residential settlements of Black Point and because of concern for the impacts of its development following sewer construction. Therefore, the Plan offers low-density residential use as an alternative if public acquisition were possible.

In addition to advocating expansion of Town-owned beachfront along the Bar, the Plan recommends improved public access to the waterfront in the Niantic Bay Overlook, park development at the “Bar” area, car-top boat launch and fishing dock facilities. These proposed facilities should be accessible particularly to Niantic Bay. Finally, the Plan identifies the National Guard Camp as having significant recreation potential and recommends that the camp be reserved for Town or State open space if its present military use is ever abandoned.

The Plan recommends the extension of sewer service to coastal areas of Golden Spur, Pine Grove, and Saunders Point to help alleviate potential increased nutrient loading in the Niantic River through failing septic systems.

The Plan also recommends within the Finance and Open Space section, the development of an open space fund to acquire identified parcels of particular significance to the Town, especially those in coastal areas.

**Land Use Regulations:** Under Connecticut law, a municipal Plan of Development is an advisory document; no private individual proposing a development project or any town commission evaluating a project is legally bound by it. State law does, however, confer limited authority on the Planning Commission that may be used to encourage consideration of the Plan of Development. When considering a zone change or revision of the zoning regulations, the Zoning Commission must request the comments of the Planning Commission; should the Planning Commission oppose the change or revision, it may be adopted only by a two-third majority vote of the Zoning Commission. Municipal improvements are also subject to Planning Commission review, although Commission opposition can be overruled by a majority vote in town meeting. Day-to-day control of the use of land is the function of the various regulations and ordinances discussed below.

**Zoning Regulations:** The East Lyme zoning regulations establish and divide the Town into 11 districts. These districts and their locations within the coastal area are summarized below.

**CB Commercial:** A high-density commercial district representing the central business district of the Town; typical retail, institutional, and professional uses are permitted on one-quarter acre lots, as well as two-family dwellings on one-half acre parcels. This district is limited to the downtown Niantic area, basically coterminous with the limits of existing commercial development, except for the marina located on Smith Cove.

**CA Commercial:** A somewhat less intense designation than CB, intended for the perimeter of the downtown; single-family housing is permitted. A continuous strip of CA zoning extends 1.5 miles west of downtown Niantic along Route 156.

**CM Commercial:** A district intended for waterfront properties with marine-oriented use; uses are restricted to water-dependent or water-oriented businesses except that restaurants and single and two family dwellings are also permitted.

**R-10:** A high density (one-quarter acre) residential district providing a transitional zone between commercial uses and lower density residential areas; single-family and two-family dwellings, in-home professional offices, and certain institutional uses are permitted as of right with limited commercial activities permitted by Special Permit. R-10 is the zoning designation of a number of areas within the coastal boundary that are fully or nearly fully developed in small lots, including the residential portion of downtown Niantic, Saunders Point and Pine Grove, Golden Spur and Giants Neck Heights.

**R-12:** Virtually identical in lot size and permitted uses to R-10, this high density residential zone applies to the entire Black Point peninsula above Old Black Point and to Giants Neck Beach.

**R-20:** The zoning map depicts this particular zone. It is used as a reference for regulatory purposes as no R-20 zones are presently included in the town zoning regulations.

**RU-40:** A one-acre residential zone, RU-40 is the most prevalent zoning designation in the town, encompassing most of the land area in the central and northeastern sections. The primary coastal areas zoned RU-40 are Oswegatchie Hill north of Saunders Point, Old Black Point and the undeveloped land between the Pattagansett River and Giants Neck. Also in this district are the State-owned Camp Rowland and Rocky Neck State Park (excepting the Bride Brook wetlands).

**RU-80:** A two-acre rural residential zone, confined primarily to the northwestern portion of the town. There are no lands zoned RU-80 in the coastal area.

**LI:** Light Industrial and heavy commercial uses are permitted in this district. Small portions of an LIE area located between 1-95 and Rocky Neck fall within the coastal boundary.

**SU:** The Special Use district is intended to accommodate certain uses requiring large tracts of land such as research laboratories, executive office complexes, commercial recreation or resort development. Again, a small portion of an SU zone north of Rocky Neck lies within the coastal boundary.

**TM:** The Tidal Marsh district is a conservation zone that includes coastal areas and adjacent islands characterized by extensive tidal marshlands of high value as wildlife conservation areas, and generally unsuited to any form of building or development. Recreation/open space and agriculture are the only uses permitted in the TM zone, and no buildings or structures may be constructed other than boat houses, docks, or similar structures not designed for human occupancy. Included within the TM zone are the Town's two major tidal wetland systems, the Pattagansett River and Bride Brook marshes.

The Zoning Regulations also contain three provisions with direct or potential effect on the coastal area and its management. First, the Regulations apply to certain chartered beach communities only to the extent that they do not conflict with independent zoning controls exercised within those associations. Areas that have adopted their own zoning controls are Black Point Beach, Attawan Beach, crescent Beach, and Giants Neck Beach. (Giants Neck Heights is chartered to establish independent zoning but has not exercised that authority). Under State law, the governing boards of these associations are empowered to act as their zoning commissions. Day-to-day administration of the regulations varies, with Black Point Beach and Crescent Beach having their own zoning enforcement officers while the other two communities rely on the Town's zoning enforcement officer.

Second, the Town Zoning Regulations contain provisions governing construction in flood hazard areas. These provisions derive from East Lyme's Flood Damage Prevention Ordinance and are discussed separately below. Third, the Regulations provide that the Zoning Regulations permit cluster development at the recommendation of the Planning Commission in its consideration of a proposed subdivision. The cluster provisions apply only to tracks of ten acres or more located in the RU-40 RU-80 and RU120 zones. A cluster subdivision provides for extensive tracts of open space with no increase in the number of lots allowed under conventional subdivision.

### **Subdivision Regulations**

The subdivision regulations are established and administered by the Planning Commission. They detail the design standards and required improvements such as streets and utilities to be applied in converting raw land to building lots. Among the basic provisions of subdivision regulations, East Lyme's included, is the requirement that all lots in a proposed subdivision not served by sanitary sewers (the entire Town in East Lyme's case) must be suitable for installation of on-site sewage disposal systems in accordance with health codes.

Other subdivision regulations bearing on management of the coastal area include special provisions for subdivision in flood hazard areas and for control of erosion and sedimentation. These regulations are based on Town ordinances and are discussed individually below.

**Inland Wetlands Regulations:**

The Town, through its Conservation Commission, regulates development affecting inland wetlands and watercourses. Any activity which would involve construction, removal or disposition of material, alteration, or pollution of an inland wetland or watercourse is permitted only with the approval of the Conservation Commission. Beyond their intrinsic value in preventing flooding, assimilating pollutants, and providing wildlife habitat, inland wetlands and watercourses within the coastal area are often adjacent to or tributary to tidal wetlands. (Use of tidal wetlands is regulated by the State.)

Flood Damage Prevention Ordinance: The hazards of periodic flooding are of particular concern in the coastal area because of: the coast's exposure to tidal surges and wave wash during hurricanes and other storms; the low elevation of many land areas near the coast; and the prevalence of rivers and streams carrying flood waters from inland areas to the sea. In keeping with federal flood insurance requirements, East Lyme enacted in 1981 a Flood Damage Prevention Ordinance, the purpose of which is to prevent encroachment onto flood hazard zones. That ordinance:

- Requires that a permit be obtained from the building official before constructing or reconstructing any building or undertaking any other development within the 100-year flood zone.
- Requires that all new residential construction or reconstruction shall have its lowest inhabitable floor elevated to or above the 100-year flood level and that non-residential construction shall be so elevated or be flood proofed and structurally reinforced.
- Requires that water systems and on-site sewage disposal systems be designed and located to prevent health hazards during flooding.

- Allows the Board of Selectmen to grant variances to the requirements under hardship conditions. The ordinance states that a variance will generally be issued under conditions that are common within East Lyme's coastal area: specifically, if the proposed construction is to take place on a lot a half acre or smaller in size which is surrounded by existing structures built below the 100-year flood elevation.

Coastal areas subject to tidal surges and hurricane wave wash are subject to special requirements. All buildings in coastal high hazard areas must be constructed with the lowest supporting member at or above the 100-year flood level with the space below left open or enclosed with breakaway open lattice walls. Also, alteration of sand dunes which could increase flood damage is prohibited.

As noted above, the applicable provisions of the Flood Damage Prevention ordinance have been incorporated into the zoning and subdivision regulations.

**Erosion and Sedimentation Ordinance:** This ordinance regulates building activity to ensure that erosion of topsoil and deposition of sediments into watercourses during and subsequent to construction is minimized. Developers are required to submit a plan for erosion and sedimentation control to the Planning Commission for approval as part of an application for subdivision of land. Development proposals that do not involve subdivision but will include grading and excavation are subject to permit requirements. Construction of a single-family residence by the owner of an individual lot is exempted. In such cases, the Planning Commission or its designee will review the project proposal and may require submission of an erosion and sedimentation plan.

**Coastal Site Plan Review:** The final mechanism for local land use regulation is, of course, municipal coastal site plan review carried out pursuant to the Connecticut Coastal Management Act. East Lyme has had little experience with coastal site plan reviews for the simple reason that the pace and scale of development in the coastal area since 1980 and 1990 has been very limited. To date, none of the coastal site plan reviews has raised significant coastal issues such as public access to the coast or water-dependent use opportunities nor has any involved significant potential impacts on natural coastal resources.

### **Coastal Resources of East Lyme**

The Connecticut Coastal Management Act identifies 14 land and water resources that together make up the coastal ecosystem as it occurs naturally and as it has been modified by man's activities. These coastal resources and their individual values and functions are:

**Coastal Waters:** This category encompasses three water resource areas: estuarine embayments (tidal rivers, bays and coves), nearshore waters (Long Island Sound between the shore and the ten-meter contour), and offshore waters (waters seaward from ten-meter depth). Coastal waters are, of course, valuable for recreation, fisheries, navigation, and as a "sink" for the assimilation of industrial, commercial, and residential wastes, as well as being highly productive of marine animal and plant life.

**Shellfish Concentration Areas:** Coastal waters containing concentrations of shellfish are identified as a coastal resource because shellfish contribute to the diversity of benthic (bottom-dwelling) life, are a source of food to other marine species, and provide, recreational and commercial shellfishing opportunities.

**Intertidal Flats:** Consisting of mud, silt, or sand, flats are exposed low tide. They are excellent shellfish habitat and feeding areas for invertebrates, fish and shorebirds.

**Tidal Wetlands:** The value of tidal wetlands can scarcely be overemphasized. They are highly productive biological systems supplying decomposed vegetation to coastal waters that becomes a critical part of the aquatic food chain. They provide habitat for shorebirds and certain shellfish and function as the home of many aquatic organisms during their critical larval and juvenile stages. Further, wetlands improve water quality by trapping pollutants, and they stabilize and protect the shoreline by controlling erosion and absorbing wave energy.

**Beaches and Dunes:** Beaches, and (where existing)-their associated sand dunes are, of course, an extremely valuable recreational resource for swimming, sunning, fishing, and simply enjoying the view. Beaches perform a number of important natural functions as well. They provide specialized habitat for certain plant species and critical nesting areas for many shorebirds. Beaches also act as a buffer to coastal flooding and dissipate wave energy during storms. In the case of barrier beaches, they provide protection conducive to the establishment and growth of tidal wetlands behind the beach and dunes.

**Bluffs and Escarpments:** These steep cliffs at the water's edge are, when unstabilized by erosion control structures, naturally eroding features and are, therefore, a potentially valuable source of sediments for replenishment of beaches. Bluffs also protect landward areas from flooding and wave energy, can possess valuable wildlife and plantlife habitat, and often provide scenic ocean vistas because of their elevation.

**Rocky Shorefronts:** Consisting of both gently sloping, bouldery lands and steep rocky cliffs, these shorefronts are home to many organisms that cling to the rocks in the intertidal zone. They are highly resistant to erosion and, therefore, a good buffer to storms.

**Islands:** Islands may be made up of various other coastal resource features (such as rocky shorefront, beaches, etc.) but are classified as a separate coastal resource. Their isolation makes them good nesting areas and habitats for shorebirds such as terns and herons. islands also have open space and recreation value.

**Inland Wetlands:** Freshwater wetlands and watercourses within the coastal boundary are often adjacent or tributary to tidal wetlands and estuaries. They control the transfer of fresh water to Long Island Sound and coastal estuaries and serve as spawning areas for anadromous fish (saltwater finfish that migrate up rivers and streams to fresh waters to lay their eggs).

**Developed Shorefront:** These are harbor areas that have been highly engineered and developed for various uses resulting in the alteration or elimination of their original natural functions. Developed shorefronts are the coastal areas suitable for intensive water-dependent commercial, industrial and recreational use.

**Coastal Flood Hazard Area:** The coastal hazard area encompasses most other shorefront resources and includes all coastal land areas lying below the 100-year flood level (approximately ten feet above sea level). These lands are subject to inundation, and wave wash in the high-hazard zone.

**Shorelands:** All remaining lands within the coastal boundary and upland of the 100-year flood boundary are classified as shorelands. Possessing no special natural coastal features, shorelands are generally suited to development subject to other, non-coastal-related constraints.

#### **5.4.9 The East Lyme Coastline**

The irregular coastline of East Lyme is formed by a series of upland features--the steep, bedrock ridges of Rocky Neck, Giants Neck and Oswegatchie Hill, and the low glacial till peninsula of Black Point--separated by tidal estuaries and their associated lowlands. The characteristics of the coastline in the various areas is a function of their geological makeup and degree of exposure to Long Island Sound. The bedrock necks, of course, display rocky shorefronts while the coast of Black Point is primarily low bluffs naturally subject to erosion. Interspersed with these features are many of the small "pocket" beaches characteristic of the Connecticut coast. Most of the beaches and bluffs have been stabilized by structural devices such as groins, seawalls and riprap armor. In the more protected estuaries (excepting the Niantic River) large expanses of tidal marsh are present and structural modification of the coastline is less extensive.

For purposes of inventorying East Lyme's coastal resources, the coast may be divided into four areas: the Niantic River, Niantic Bay, the Pattagansett River, and Rocky Neck. The entire coastal area has been mapped by DEP according to the fourteen coastal resource categories discussed above. The following discussion focuses on those resources that, because of their natural qualities or their social value, are considered particularly significant (see FIGURE 31).

**Niantic River:** The Niantic River, which forms the eastern edge of the East Lyme coastal area and the southern portion of the Town's boundary with the Town of Waterford, extends some 3.5 miles from Niantic Bay to its headwaters at the Golden Spur. The 31-square-mile watershed drains a majority of the land area of Waterford and a small portion of East Lyme (generally the east slope of Oswegatchie Hill and the Village of Niantic). The river is wide (over half a mile) and shallow (generally less than ten feet with tidal flat areas) in its lower reaches. North of Sandy Point, the river is narrow with depths up to 22 feet, and at its head north of the Boston Post Road, the river ends in a small cove ringed with tidal wetlands.

The Niantic River is unusual among the large coastal estuaries of Connecticut for two principal reasons. First, its connection with Long Island Sound is through a very restricted channel; between the Bar and the Waterford bank, the channel narrows to a width of approximately 160 feet and a mean cross-sectional area of about 1,600 square feet. The restricted opening creates a generally poor water exchange with Long Island Sound. Given this poor flushing, the second unusual characteristic of the estuary--the absence of intensive commercial and industrial development and their associated pollutants--is fortunate. Water quality is classified SB, the primary problem area apparently being lack of sewers in the residential areas along the lower river on the East Lyme side and along the upper three miles of the river on the Waterford shore. Eutrophication is a reported concern in the coves of the upper river. Nevertheless, the estuary is relatively unpolluted and is open to shell fishing south of Sandy Point.

In Smith Cove, water quality is poorer than the rest of the lower estuary because of the density of development and the further restriction on flushing caused by the Cove's narrow entrance channel. The small-lot residential development at Saunders Point and Pine Grove is served by individual on-site septic systems, and Camp Rowland and Bayreuther's marina each have larger subsurface disposal systems.

Effluent percolates rapidly and is poorly filtered by the gravelly, sandy soil found in this area, resulting in moderate septic contamination and closure of the Cove to shell fishing. A narrow fringe of tidal wetlands occupies the southern end of Smith Cove. The presence of phragmites indicates that the wetland has been disturbed, reportedly by sediment loading from upland construction-related erosion.

Shellfish, particularly scallops but also including hard clams (quahogs), soft shell clams and oysters, are an important resource of the Niantic River estuary. Harvesting of shellfish is regulated by the Waterford-East Lyme Shellfish Commission, which also engages in seeding and in research activities to improve the resource. Once abundant, the scallop fishery failed entirely in the mid-1960's; the collapse was eventually attributed to a number of unfavorable conditions occurring simultaneously, the most damaging of which were starfish and drill predation and fouling by the seaweed codium. With the institution of aquaculture programs, the scallop population has re-established itself.

Continued local management of the shellfish resource is a high priority, particularly because of the susceptibility of the scallop to changes in its environment, such as the heavy rainfalls of early June 1982 which introduced unusually high levels of fresh water and sediments into the estuary at the beginning of the spawning season. In addition to shellfish, the Niantic River supports a variety of finfish; of particular interest are the spawning runs of sea trout.

Important coastal land resources fronting on the Niantic River include the Niantic Village marine commercial district, the largely open land of National Guard Camp (both previously discussed), and Oswegatchie Hill. A densely wooded hill of rock outcrops with steep slopes running down the river's edge, Oswegatchie Hill is almost totally undeveloped along its ridge-top and east face.

The areas vegetation and wildlife are characteristic of upland forests in Southeastern Connecticut; the value of Oswegatchie Hill as a natural area lies in its size, rugged topography, and undeveloped nature.

**Niantic Bay:** The nearshore waters of Niantic Bay and the adjacent offshore waters of Long Island Sound contain a diversity of marine life with great recreational and some commercial importance. Finfish are the most sought-after resource in the Bay and offshore waters with bluefish, striped bass, and winter flounder being particularly plentiful. Lobster and blue crab are also taken, and hard clam concentrations ring the entire bay. Along the shorefront, low bluffs (usually stabilized to control erosion) are interspersed with short and narrow stretches of beach. Significant land resources along the Niantic Bay shorefront are: Indian Pond barrier beach and its associated wetlands; McCook Point Park; and the beachfront along the Bar.

Indian Pond (also known as Davis Pond) and the contiguous tidal wetlands north of the pond lie behind a narrow barrier beach. North of the pond houses have been constructed directly on the beach. This is a specific area of concern because the beach one-quarter mile north and south of Pond Point has been identified as an area of significant erosion. The shoreline south of the point has receded approximately 200 feet since 1949. Such long-term changes in the configuration of the shore caused by beach erosion or instantaneous changes resulting from a hurricane could endanger both the beachfront houses and the residences surrounding the pond. This is the largest and most exposed coastal flood hazard area in the Town.

McCook Point Park has already been identified as an important recreational resource for the townspeople of East Lyme. The only potential concern here would be the stability of the McCook Point bluffs. However, the potential for erosion is greatly limited by the rocky foot of the bluffs along their southern exposure and the riprap protection placed along the eastern face.

From Hole in the Wall beach to the beginning of the Bar, the railroad embankment reaches to the water, forming a rocky shorefront. For the half-mile length of the Bar, however, a narrow beach exists at the foot of the embankment. Recreational use was once much more extensive; in 1948, the New Haven Railroad entered into a lease with a private association granting the use of the beach property and the right to construct a footbridge under the railroad bridge for safe access to the beach. The remains of this footbridge still exist.

Public access to, or acquisition of the Railroad Beach, has been an identified local objective for many years. Recent inquiries as a result of the permitting of the Niantic Bay Overlook have been positive and the Amtrak is willing to donate the beach to the Town in conjunction with the construction of the Niantic Bay Overlook. The National Railroad Administration is still reviewing whether to build a new railroad bridge across the Niantic River or repair the existing span.

There exists a unique opportunity to combine the current proposal for the Niantic River Boardwalk and park at the end of the "Bar" to the Niantic Bay Overlook, thereby creating over 2 miles of coastal access for the public. This recreational opportunity would be unprecedented in Southeastern Connecticut as a coastal access project. The Niantic Bay Overlook would achieve several objectives. First, there would be unaltered access to the Niantic Bay coastline for residents and visitors to the Town. There would also be the opportunity to provide protection and enforcement of Railroad beach. Finally, the construction may have the effect of increasing the visual perception of Niantic as a community accessible to the boating public, thereby increasing the market area for the Niantic commercial district.

**Pattagansett River:** The Pattagansett River estuary is a largely natural system comprised of the river itself, extensive tidal marshes along the length of the estuary, and the barrier beach and rocky islands at the river's mouth which afford protection from Long Island Sound. The tidal portion of the river extends to just north of Route 156. The upper river wanders north through the Town, encompassing two large ponds and two lakes; the associated watershed drains the entire central portion of the Town.

The tidal marshes total some 170 acres and are designated as a natural area of Statewide significance due to their extent, productivity, and relatively undisturbed condition. At the upper end of the tidal reach, the river meanders through large expanses of marsh. As the river widens and straightens south of the Fairhaven Road crossing, narrower wetlands fringe the river banks, and Watt's Island occupies the center of the river. A rocky, wooded upland forms the southern end of Watt's Island providing, along with Huntley and Griswold Islands and Black Point Beach, the protection from Long Island Sound that has allowed the rest of Watt's Island to develop as salt marsh.

The Pattagansett River marshes provide habitat for an array of waterfowl and wading birds, and Watt's island is a nesting site for the endangered osprey. Migratory runs of alewife are known to occur. The lower river and the nearshore waters at its mouth also support a concentration of hard clams. However, the river north of Griswold Island is closed to shellfishing due to the SB water quality designation. A substantial portion of the marsh (72 acres) is controlled (either through ownership or easement) by the Nature Conservancy and the East Lyme Land Trust, including all Watt's Island.

Fronting on the Sound at the mouth of the Pattagansett and providing protection for the wetlands behind it is Black Point Beach, one of the very few unaltered barrier beaches in the State and reported by DEP to possess the highest elevated dunes in Connecticut. The protection from salt spray afforded by these dunes makes possible an extensive area of maritime scrub woodland vegetation on the landward slope of the dunes.

Such areas, dominated by Wild Black Cherry, Shadbrush, Poison Ivy and False Solomon's-seal, are rare along the Connecticut coast. Black Point beach is owned by the Old Black Point Beach Association and is protected by an easement agreement between the Association and the Nature Conservancy.

**Rocky Neck:** Significant coastal resources in the area of Rocky Neck include Rocky Neck State Park, the Bride Brook marsh, the Four Mile River, and North Brother Island. The State Park has been previously identified as a major recreational resource centered around the half mile sandy beach. The shorefront area has been quite extensively engineered to stabilize and improve the beach and to provide a way for the Northeast Corridor railroad tracks. A large groin has been constructed at the west end of the beach and a smaller groin exists at the east end, dividing the State property from the Giants Neck Heights Association beach; also, the State has recently reconstructed the outfall of Bride Brook to eliminate the present break in the beach.

North of the railroad embankment and generally east of the parking, bath house, and concession facilities of the Park is the 150-acre tidal marsh surrounding Bride Brook. DEP has designated the Bride Brook marsh a natural area with State ecological significance as an extensive and highly productive tidal marsh supporting a diverse population of wading shorebirds and waterfowl. The wetland possesses an unusual formation in the number of small ponds sprinkled among the marsh, and a diversity of habitat exists as the salt marsh grades into freshwater marsh at the edges of the wetland and then into a shrubby border before turning to oak forest in the upland areas.

A pair of osprey, an endangered species, were observed in 1981 occupying with their young a nesting platform erected in the area. Also, spawning runs of alewife have been recorded historically in Bride Brook.

Bride Brook is not classified under the State water quality standards; however, the brook and Long Island Sound within 1,000 feet of the mouth of the brook is closed to shellfishing, though this is not designated a shellfish concentration area.

North Brother, a small rocky island lying about 2,000 feet south of Rocky Neck, has been identified as an important nesting site for common Tern and a possible habitat for the rare Roseate Tern. Confirmed nesting sites for Common Tern in the State number only 16; a second site in East Lyme's nearshore waters is Wigwam Rock of McCook Point. DEP staff have expressed concern over disturbance of these Tern colonies, particularly by people swimming out to them from the Rocky Neck and McCook Point beaches.

The Four Mile River in its 0.8 mile tidal reach forms the boundary between East Lyme and Old Lyme. The railroad crosses the mouth of the river, mostly on embankment, which restricts tidal flow and has resulted in the growth of wetland areas behind the embankment. Additional wetlands, an eight-acre State-owned public boat launching facility, and a small-boat marina are found along the west (Old Lyme) bank. Shoaling around the river mouth is a potential threat to the continued use of these facilities. Water quality in the tidal portions of the river is classified SB. shellfish beds in the lower river and embayment reportedly contain limited numbers of oysters and hard clams. The primary identified source of pollution is from the Town of Old Lyme's sanitary landfill.

#### **5.4.10 Coastal Issues and Problems**

This section focuses on the present and potential coastal issues, problems and opportunities in East Lyme that have been identified to date. The discussion also includes some recommendations for planning and regulatory revisions to address these issues.

**Downtown Niantic:** The 1987 Plan of Development identified a number of problems relating to Niantic Village, including a proliferation of signs, strip development along Main Street/Route 156 to the west of the center, and traffic. To these may be added the lack of visual access to Niantic Bay. Another change currently under consideration is a redesignation of Niantic Village as a specialized village district which would include special regulations for height setbacks to allow views of Niantic Bay, and incentives for adhering to design guidelines that foster the village atmosphere and create visual interest. The purpose of such a district would be to encourage high quality in the design of commercial projects and to ensure that the development does is in character with the historical development of the village.

**Waterfront Development Opportunities:** East Lyme faces a distinct problem in providing access to the coastal area for water-based commercial recreation and in realizing the economic development potential of the Niantic business district. The source of this problem is the dearth of waterfront development opportunities in the Niantic River, specifically the lack of unused or underutilized waterfront for the expansion or establishment of marine commercial businesses. The lower Niantic River is the only feasible and desirable location for marine commercial development in the Town in terms of protected waters, ready accessibility to Long Island Sound, compatibility with adjacent land uses and potential impact on natural coastal resources.

An area that deserves attention as an underutilized shorefront resource is the National Guard Camp. With its 76 acres of largely open space and its direct waterfront location close to the Niantic River navigation channel, the Camp Rowland property has great potential value as a site for water-dependent recreational use, whether in a publicly-owned or private commercial mode. While admittedly a long-term consideration given that the State apparently intends to maintain the present National Guard use for the foreseeable future, the Plan of Development should consider the potential water-dependent, use of this parcel.

The Town should pursue the acquisition of the parcel for park purposes in the event that the National Guard abandons the camp and the Zoning Commission should rezone the property for marine dependent use. Finally, the Town may wish to explore with the State the possibility of public use (for waterfront access or recreational development) of a portion of the waterfront, allowing the military use to remain on the remainder of the site. For instance, only a short stretch of waterfront and a few acres of adjacent land would be needed to develop a park facility.

**Expansion of Public Beach Areas:** To continue on the recommendations of the 1987 Plan of Development, the Town should pursue a beach expansion policy. Since the Federal Railroad Administration is currently in a position to dedicate the beach land to the Town in conjunction with the construction of the Niantic Bay Overlook, this may be an opportune time to provide a clean and accessible public beach to the public without infringing on the Hole in the Wall beach which accessible to town residents only. Currently the Railroad Beach is accessible to the public, but there is no maintenance or policing of the property since it is privately owned. It is therefore not perceived as a clean and accessible beach by the general public. Public recreational use of the Railroad Beach should be approached in concert with development for boating and fishing of the area between the highway and railroad bridges. Opportunities for this area are discussed further below.

**Flood Hazards:** As is the case in every coastal community, East Lyme has substantial pre-existing development within flood hazard areas. Of particular concern are structures within the coastal high-hazard zone, that area potentially exposed to tidal surge and wave wash during hurricanes. The Town may wish to consider adopting additional controls over development in coastal high-hazard zones. Further development in these zones is not a current concern because of the fully-developed nature of the beachfront areas of the Town. However, in the event of a destructive hurricane, intense pressure could develop to rebuild in high hazard zones.

A regulatory mechanism often employed to control such development is floodplain zoning, in which more stringent requirements are applied in flood-prone areas as an overlay to the normal requirements applicable to the various zoning districts. The primary difficulty with floodplain zoning is the multi-jurisdictional zoning authorities and the extent to which heavily-developed coastal areas of East Lyme would become non-conforming.

**Oswegatchie Hill:** With the exception of the Pattagansett River marshes, Oswegatchie Hill is the last extensive, undeveloped waterfront area in East Lyme. Unlike the Pattagansett marshes, which are protected by State tidal wetland regulations and the Town's Tidal Marsh zoning designation, Oswegatchie Hill could be subject to future development. The most likely progress of development would be extension of a road from Boston Post Road to Sleepy Hollow Road. The terminus of Quarry Dock Road is owned by a single property owner. The entire hill within the coastal boundary possesses severe constraints for development because of the steep slopes and bedrock soils. Development would certainly result in increased erosion and runoff into the upper Niantic River.

Further, the Plan of Development recommends acquisition of the north end of the Hill for public open space, and the State has designated it as a natural area worthy of preservation. Therefore, the Plan of Development reinforces its open space recommendation for Oswegatchie Hill, emphasizing its coastal resource aspects. Recognizing that public acquisition of this area would likely entail substantial cost to the Town and may, therefore, not occur, the Zoning Commission should reassess the capacity of the area to support private development. Based on the build-out analysis in this document, the technology provided by GIS (Geographic Information Systems), and more extensive research by the state on the effects of NonPoint Source Pollution, the Town should re-evaluate the property and provide a regulatory mechanism to lower the density from 3-acre and target future development to areas of the properties that are most suitable for development. For instance, cluster development should be mandated for the Oswegatchie Hills area and directed to the western most portion of the properties. Road built into these properties should be built with the slope rather use cut and fill technique which would seriously compromise the stability of the soils.

#### **5.4.11 Coastal Goals, Policies and Recommended Actions**

The guidance provided by the Coastal Area Development Plan consists of: (1) coastal goals and policies; and (2) specific recommendations. The goals and policies are broad guideline statements intended to express the desired future direction of the Town in the use of its coastal land and water resources. While they must be consistent with State coastal policy, as expressed in the Connecticut Coastal Management Act, the Town's coastal goals and policies should reflect existing local conditions and should address the coastal problems and opportunities particular to East Lyme.

The plan recommendations outline specific actions that the Town should take to carry out its goals and policies. These specific recommendations fall into two general categories:

1. Direct municipal action, such as public acquisition of an open space area
2. Revision of existing, or adoption of new land use regulations to guide private-sector development.

Typically, the revisions to a municipal Plan of Development would include proposed changes in the type or density of land use recommended for specific parcels within the coastal area. No such changes are proposed here because the coastal land use recommendations of the existing East Lyme Plan of Development are consistent with the Coastal Management Act and with the Town coastal goals and policies.

#### **5.4.12 Coastal Goals and Policies**

##### **General**

- a. Preserve and enhance coastal resources while providing for public use and enjoyment of the coast and sound economic growth.
- b. Plan for and regulate the use of coastal lands on the basis of the capability of the land and adjacent waters to support development.
- c. Manage the coastal area as recommended in the Harbor Management Plan to assure that priority and preference in the use of waterfront areas and the lands immediately adjacent to the coast are given to uses and facilities which are dependent on proximity to the water.
- d. Accommodate waterfront uses requiring extensive structural development in the developed shorefront area of the lower Niantic River.

- e. Increase public access, both physical and visual, to East Lyme's coastal waters consistent with the rights of private property owners and the capability of the coastal resources present to sustain use.
- f. Carry out East Lyme's coastal goals and policies through a coastal management program that effectively coordinates municipal planning and land use regulation. Revise land-use regulations as necessary and desirable to carry out coastal goals and policies, giving due consideration to the maintenance of existing neighborhoods and the protection of property values.

### **Commercial and Industrial**

- a. Maintain and upgrade the existing downtown commercial area of Niantic Village as the commercial and public service center of the Town.
- b. Follow the recommendations of the Plan of Development to prevent further strip commercial development and to protect the stable Niantic residential areas from commercial encroachment.
- c. Exert greater control over commercial development by application of standards for building design, parking and circulation, landscaping and buffers, and signs.
- d. Encourage expansion of marine-related commerce in Niantic and apply controls to maintain, upgrade, and expand, where possible, water-dependent commercial uses in the lower Niantic River.
- e. Reserve East Lyme's coastline for commercial, residential, and recreational/open space uses; accommodate expansion of light industry in inland, industrial park zones possessing superior access to interstate highways, subject to aquifer protection controls.

### **Residential**

- a. Accommodate future population growth by directing new residential development to non-coastal areas of the Town. Allow new residential development in the coastal area only in those areas recommended for residential use in the Plan of Development and only at a density consistent with the capabilities of the land.
  
- b. Incorporate flexible development techniques and special controls—including cluster zoning, open space dedication, and non-infringement area requirements—into East Lyme's land use regulations to allow development to proceed while preserving and protecting sensitive and ecologically valuable natural resources.

### **Open Space and Recreation**

- a. Expand and diversify public coastal recreational opportunities:
  - Expand Town ownership of beachfront where possible, giving highest priority to waterfront areas with potential for multiple recreational uses.
  
  - Provide a wide range of waterfront recreational opportunities, including in addition to swimming beaches, facilities for boat launching, fishing, hiking and scenic enjoyment.
  
  - Expand and improve visual access to the coast.
  
- b. Encourage the provision of expanded marine recreational facilities by the private sector.

- c. Promote the preservation of sensitive coastal land resources-particularly tidal wetlands, natural beach systems, and islands-through public acquisition, donation to conservation groups such as the East Lyme Land Conservation Trust, and conservation easements.

### **Coastal Waters**

- a. Maintain and improve the quality of East Lyme's coastal waters through local action and support of State and federal water quality control measures.
  - Minimize the pollution of coastal waters from erosion and runoff by vigorously enforcing the Erosion and Sedimentation Ordinance and by establishing land use controls to prevent disturbance of areas adjacent to watercourses and wetlands.
- b. Support continued local regulation, aquaculture programs and research efforts to maintain and improve East Lyme's shellfish resources.
- c. Support necessary periodic maintenance dredging of the existing Niantic River navigation channel (including Smith Cove), with appropriate restrictions to assure minimum possible impact on shellfish and finfish resources; discourage dredging elsewhere in East Lyme's coastal waters except where necessary to maintain access to existing water-dependent facilities or where natural circulation patterns have been impaired.
- d. Discourage further structural alteration of the East Lyme coastline except when coastal structures are necessary and unavoidable for the protection of infrastructure facilities, water-dependent uses, or existing inhabited structures.

### **Coastal Hazard Areas**

Control development in coastal flood areas in a manner that minimizes hazards to life and property; require strict adherence to the Flood Damage Prevention ordinance to prevent construction or reconstruction that would increase exposure to coastal storm hazards.

### **Transportation**

- a. Initiate planning for safety and capacity improvements to Route 156 in the downtown Niantic area and to Route 161. Look to intermodal means of transportation to minimize the need to widen both state roads: railroad stop, shuttle service, improved SEAT service.
- b. Monitor State and federally-proposed transportation projects in the coastal area (particularly, the Niantic River highway and railroad bridge projects) to identify potential coastal resource impacts and opportunities to further coastal goals and policies. Work with sponsoring agencies to assure that transportation improvements enhance coastal access and recreational opportunities.

### **Coastal Plan Recommendations**

- a. Encourage clustered residential development as a means of creating permanent open space and preserving environmentally sensitive areas.
  - The Planning and Zoning commissions should revise the new cluster provisions as a means to achieve the above objectives of minimizing impacts from road construction and improved allocation of open space dedication.
- b. Protect natural resource areas such as wetlands, watercourses, and beaches by establishing Non-Infringement Area controls.

- Development within tidal and inland wetlands, watercourses, waterbodies, and beaches is regulated by a variety of existing controls. However, each of these sensitive resource areas is susceptible to pollution or alteration from activities occurring on adjacent lands. Wetland-- and waterbodies can be polluted by soil erosion, surface runoff of oils and chemicals, and leaching of sanitary wastes. Construction immediately adjacent to beaches, dunes and bluffs may accelerate their natural rate of erosion and require structural stabilization in the future.
  - These impacts can be reduced by adopting Non-Infringement Area provisions in the Zoning Regulations. Such provisions require the reservation of a buffer strip between the portion of the lot to be developed and any of the above resources that are contained within or border on the lot. Construction of buildings and septic systems is prohibited in the Non-Infringement Area as are other activities that disturb the area such as filling, excavation and stripping of vegetation.
- c. In context with Town ownership of the Niantic River waterfront at the end of the Bar, the Town should acquire Railroad Beach in conjunction with the Niantic Bay Overlook Project as a multipurpose public recreation facility.
- The Town should explore the recreational opportunity presented by these adjoining coastal resources. Two initial steps are recommended:
  - The Town should undertake a feasibility study for development of the land at the end of the "Bar", including the feasibility of sewers or temporarily, a holding tank for restrooms. The use of the parcel should include a significant (at least ½) portion for recreational greenspace. Parking should be evaluated in conjunction with an easement from Amtrak to park near the sidewalk leading to the beach.

- The Town should seriously consider and adopt the major initiative for coastal public access in the form of Niantic Bay Overlook.
- d. Pursue Town acquisition (or easements with public access) of the east slope and Niantic River waterfront of Oswegatchie Hill.
- The remote, peaceful nature and rugged, wooded topography of Oswegatchie Hill is unique among East Lyme's waterfront areas. Town acquisition, particularly of the mile of undeveloped riverfront, could preserve these natural amenities while allowing low-impact public use and enjoyment of the open space. One appropriate improvement would be establishment of a riverfront hiking trail. The Town should also investigate limited facilities for camping (non-vehicular), canoeing and swimming. The Oswegatchie Hill open space would provide a coastal recreational experience distinctly different from that available at McCook Point Park and would, therefore, further the goal of diversifying the coastal recreational opportunities available to the townspeople.
  - In consideration of this proposed use and the severe constraints of the area for development, it is recommended that the zoning of Oswegatchie Hill be changed to a minimum-density classification.
- e. Encourage State and federal agencies to:
- Dredge the sand shoal at the mouth of the Four Mile River to restore tidal circulation and maintain access between the State boat launch and Long Island Sound.
  - Dredge the Niantic River at Golden Spur to correct sedimentation, particularly that caused by the spring 1982 flooding, and to restore circulation.

- Dredge Smith Cove and look for methodologies to improve flow to and from Niantic River.

## 5.5 HISTORICAL RESOURCES AND CULTURAL RESOURCES

In the absence of historical events, the historical resources of a town are the essence of its very existence: the neighborhoods, the places of commerce, the centers of education, religion and government, etc. The preservation of such resources, or, at the very least, development that acknowledges and respects those resources, are vital to a sense of community and continuity, and contribute to the overall quality of life in any town.

The Town of East Lyme has over 200 buildings built before 1900, although not all of them are still recognizable as such. Many of these buildings are concentrated in particular areas, such as the Smith Street/Smith Avenue neighborhood or Crescent Beach, giving these areas an historic value as well. In addition, many of the early institutional buildings are still in existence, although their conditions and uses have changed over the years. Even some of the early commercial buildings have survived. Where they have not, the signs of their existence, such as dams, millponds and foundations are still to be found.

As part of this plan, the LUV Study includes an inventory of Cultural Artifacts of historical sites and buildings erected prior to 1800 (see Appendix A).

While an Open Space Plan should contribute to the protection of East Lyme's historic and cultural resources, ultimately that responsibility should rest with groups intended for that purpose. The East Lyme Historical Society and the Smith-Harris Commission are currently established and working on both preservation and education. In addition, the Board of Selectmen has recently established a Historic Properties Committee, preparatory to becoming a Certified Local Government, which is in the process of reviewing those properties in town of historic value.

It would, nevertheless, be possible to make the following recommendations as part of this committee's work:

- A complete historic resource database should be developed and periodically updated to indicate changes to properties. This database could then be used by the land-use
- commissions in the process of making their decisions. It may be appropriate that the Certified Local Government Commission maintain this database.
- Historical interest should be promoted through photograph displays, markers, tours, oral histories, lectures, etc. Much of this work is already being done, but the creation of an easily accessible archive and display area would do much to encourage public interest. One possibility would be to turn the old town hall, last used by the police, into a community history building. This would also allow for the secure, climate-controlled storage of historic documents and readily accessible display areas. There are many grants available for projects of this kind.

- In the event of properties of historic value being threatened by destruction, it might be in the best interest of the Town to become actively involved in the acquisition of such properties for conservation and preservation purposes.
- Stonewalls, quarry holes, animal pens and other cultural artifacts should be identified and protected in the course of site plan review. Where appropriate, efforts should be made to minimize the visual impact of new development on significant historic areas.
- Designation of scenic roads, vistas, ridgelines, etc., should be encouraged. In particular, every effort should be made to maintain roads in the northern part of town such as in the Scott Road/Whistletown Road area in their present state.
- The Town should encourage the development of a nonprofit foundation to dispense money at low interest rates from a revolving fund for the renovation of significant historic structures requiring rehabilitation standards owners might otherwise not afford.

## 5.6 GREEN ENERGY

**Renewable energy** is energy generated from natural resources—such as sunlight, wind, rain, tides and geothermal heat—which are renewable (naturally replenished). Renewable energy technologies include solar power, wind power, hydroelectricity, micro hydro, biomass and biofuels.

In 2006, about 18% of global final energy consumption came from renewables, with 13% coming from traditional biomass, such as wood-burning. Hydropower was the next largest renewable source, providing 3%, followed by hot water/heating, which contributed 1.3%. Modern technologies, such as geothermal, wind, solar, and ocean energy together provided some 0.8% of final energy consumption. The technical potential for their use is very large, exceeding all other readily available sources and has been proposed to be primary power source.

Renewable energy technologies are sometimes criticised for being intermittent or unsightly, yet the market is growing for many forms of renewable energy. Wind power is growing at the rate of 30 percent annually. The manufacturing output of the photovoltaics industry reached more than 2,000 Mega Watts (MW) in 2006. Solar thermal power stations operate in the USA and Spain. The world's largest geothermal power installation is The Geysers in California. Ethanol fuel is also widely available in the USA.

While there are many large-scale renewable energy projects in production, renewable technologies are also suited to small off-grid applications, sometimes in rural and remote areas, where energy is often crucial in human development.

Climate change concerns coupled with high oil prices, peak oil demand, increasing government support, and drives to cut carbon dioxide emissions.

Besides trying to be good caretakers of the the Earth, there are also financial incentives to help towns like East Lyme actively participate in “green energy” programs. East Lyme must consider the viability of some of these programs and continuously update our knowledge base of ever expanding technologies to reprioritize our active participation in future programs.

#### **5.6.1 Current East Lyme Energy Studies**

East Lyme’s First Selectman established a Fuel and Energy Subcommittee in August of 2008. The subcommittee is working on Energy Awareness Issues, Energy Conservation, and Sustainable Green Energy.

The Town of East Lyme held an initial meeting with the Connecticut Center for Advanced Technology Inc. (CCAT) on January 22, 2009 to determine the economic viability of a 400KW Fuel Cell in town to provide heat and electrical energy to some combination of schools, municipal buildings, commercial shopping malls and the two correctional centers in town.

#### **5.6.2 General Comments**

The Connecticut Clean Energy Fund is a State organization that is responsible for the funding of grants for Energy Conservation and unique Green Energy production proposals. It is funded by the State of CT. via the electric ratepayers. The Town should look to them for appropriate funding.

The Connecticut Center for Advanced Technology, Inc. is an organization that is available to Connecticut communities pro bono via funding provided by the Department of Economic and Community Development for the purpose of developing a town "Fuel Cell Economic Development Plan".

### **5.6.3 Recommendations**

- 1) The Fuel and Energy Subcommittee should become a continuing group composed of the following permanent members: First Selectman, High School Business Agent, Town Engineer and a Coordinator who would be a Town staff person responsible for advising the chairman of the Subcommittee, coordinating meetings, generating minutes, handling logistics, etc. The rest of the Subcommittee would be volunteer town residents appointed by the First Selectman.
  
- 2) Use a bifurcated approach to becoming a Green Community, I.E: a) Energy Conservation (the mantra of Energy Experts is "The Kilowatt hour that you don't have to buy is the cheapest one!"). Educate people on conservation methods like insulating homes, turning off lights, wearing sweaters reducing thermostat settings, using high efficiency lighting, etc. b) Investigate alternative Green forms of energy like: Photo Voltaic (solar panels), Fuel Cells, Wind Turbines, Tidal Turbines, etc.

- 3) Investigate requiring town planning, zoning and building codes to be updated to allow for solar, wind, fuel cell and other forms of green energy and consider revising planning, zoning and building codes to reflect the best thinking in conservation and green construction. Included would be requirements for citing of housing for maximum solar gain, green landscaping, reduction in impervious surfaces, and using new forms of paving, allowing newer and more efficient building techniques, and increased insulation standards. Leadership in Energy and Environmental Design (LEED) or similar green building certification should be incorporated in all new or refurbished municipal buildings.
  
- 4) With proper planning, fuel cells can provide green energy to discrete districts within East Lyme. Industrial Parks, Office Parks, Commercial Malls, Hospitals, Correctional Institutions, and Office Complexes are top candidates for this new approach to power generation and can take large users off the grid, providing premium power for economic development.
  
- 5) It may make sense to identify a potential Energy Improvement District within the town to take large users off of the grid and provide premium power for economic development. CCAT works with the state Department of Economic and Community Development to assist towns like East Lyme. The Connecticut Center for Advanced Technology is working with East Lyme to identify potential Energy Improvement Districts. Because it is contiguous to Long Island Sound, East Lyme may be able to develop tidal power and/or wind power. There has been some suggestion to look into the economic viability of putting up a wind turbine on the former landfill facility off Roxbury Road.
  - Another potential is the development of a tidal turbine in the Niantic River channel under the railroad bridge. The current reaches a maximum speed of approximately 2.3 knots in this location.

## CHAPTER 6: PARKS AND RECREATION

The Town of East Lyme owns and operates a wide array of active and passive recreational facilities as described in the Open Space section of this plan. The diverse array of recreational facilities is complemented by a broad selection of programmed and supervised recreational activities, undertaken by the Parks and Recreation Department, designed to appeal to all age groups and interests. The 2007 Community Survey showed that many East Lyme residents were generally satisfied and the town's facilities and its programs, yet improvements could be made. The policy set forth in this document is to maintain and enhance existing recreational facilities to meet the ever increasing needs of the residents and visitors.

### 6.1 CURRENT RECREATIONAL FACILITIES

According to the Parks and Recreation Department, East Lyme has over 200-acres of Recreational space (both passive and active); which includes Parks and Recreation Athletic Fields, Board of Education Athletic Fields, parks, High School swimming pool, walking trails, picnic areas and open space areas. Of this total; 140-acres are currently dedicated to active playing fields, which are extremely popular and are used for various organized programs and activities. This results in approximately 700-hours of annual usage per field throughout the town. Since the 1999 POCD, the number of recreational space in town has actually increased and been improved. With the addition of the Berardo Field at Peretz Park at Bridebrook and improvements made to Middle School Soccer Field, the Parks and Recreation Department is working to better meet the needs of the town's residents. Yet, even with these increased number of recreational facilities, the town still could use an additional 60-acre hours of field availability. Several of these new recreational facilities are being used in conjunction with the town's school system, which also has an impact upon the upkeep of the recreational field space.

In addition to the traditional fields and recreational space, East Lyme is fortunate to be a beachfront community, which affords the town the ability to operate 3 beaches, the Niantic Bay Boardwalk, mooring areas and boat launches. These areas include Cini Memorial Park (AMTRAK Beach), McCook Point Park, and the Hole in the Wall Beach. The 2007 survey showed that many residents favorite part of the community are the beach areas, almost 40-percent of residents reported that McCook Point Park is their favorite part of town and 33.8-percent stated that the Niantic Bay Boardwalk was their favorite. While great strides have been made since the last POCD in 1999, such as the construction of bathroom facilities at the Hole in the Wall Beach and upgrades to McCook Point Park Walkways and Parking Barriers, other areas of the shoreline still need to be updated.

Historic and conventional standards for minimum park and recreation areas range from 10 to 15-acres per 1,000-people, depending on the reference source. Using these conventional standards a desirable park and recreation acreage would be approximately 200 to 285-acres. These areas would include playgrounds, fields, parks, walking paths recreation complexes and special purpose areas such as beaches and the boardwalk. More recent publications of the National Parks and Recreation Association indicate that the acres per population-type standard should be given less weight than the desires and resources of the community, and the difference in priorities applied to open space by different communities should be considered. Community input has consistently indicated a desire for expanded municipal open space and recreational land acquisition throughout the community of East Lyme.

### **6.1.1 Recommendations**

It is recommended that both the Parks and Recreation Department and Board of Education update their playing field inventories and develop a plan to address needs for locations of new fields and management of existing fields, such as investigating the use of synthetic turf and the feasibility for a park setting preferably on open space land surrounding Pattagansett Lake.

To provide park and recreational facilities that meet the current and future needs of residents, which includes enhancing existing recreational fields and exploring the possibility of adding additional passive and active recreational facilities the following recommendations are being made:

- Continue to recognize the need for additional active recreation fields. The Parks and Recreation Department should identify and develop locations, which can increase the inventory of multi-use recreational playing fields; such as Roxbury Road, Peretz Park at Bridebrook Park and areas north of Interstate-95. These areas should be identified and developed in conjunction with Chapter 5: Open Space, Natural, Historical, and Cultural Resources.
- Continue to recognize the need for additional passive recreational areas. The Parks and Recreation Department should identify and develop locations which can increase the passive recreational facilities of the town; such as upgrading the Bobrow property, explore the possibility of developing an area exclusively available for dogs to roam off leash in a maintained area and for developing a park setting preferably on open space land surrounding Pattagansett Lake. These areas should be identified and developed in conjunction with Chapter 5: Open Space, Natural, Historical, and Cultural Resources.

- The Parks and Recreation Department and Board of Education should update playing field inventories and usage to develop recommendations for maintenance and long-term improvements, such as the investigating the use of synthetic turf.
- With expanded use of Cini Park and the Niantic Bay Boardwalk by the town's residents, the Parks and Recreation Department should investigate the feasibility of constructing a restroom/storage facility in Cini Park similar to the newly constructed support building at the Hole in the Wall Beach.
- The Parks and Recreation Department should investigate updating the restroom facilities at McCook Point Park and Veterans Memorial Park, which also serves as the trailhead for the Oswegatchie Hills Nature Preserve. Both facilities are not compliant with the American with Disabilities Act (ADA) and are inadequate to meet the needs of our residents.
- The town should look at the feasibility of relocating or constructing a new Parks and Recreation Maintenance Facility. The present facility was built in the early 1950's and is inadequate as a workspace and for the storage of the department's equipment and vehicles.
- With the re-alignment of the railroad tracks and re-construction of the Niantic Bay Boardwalk and beach area, maintenance and emergency vehicles access to the beach should be considered.

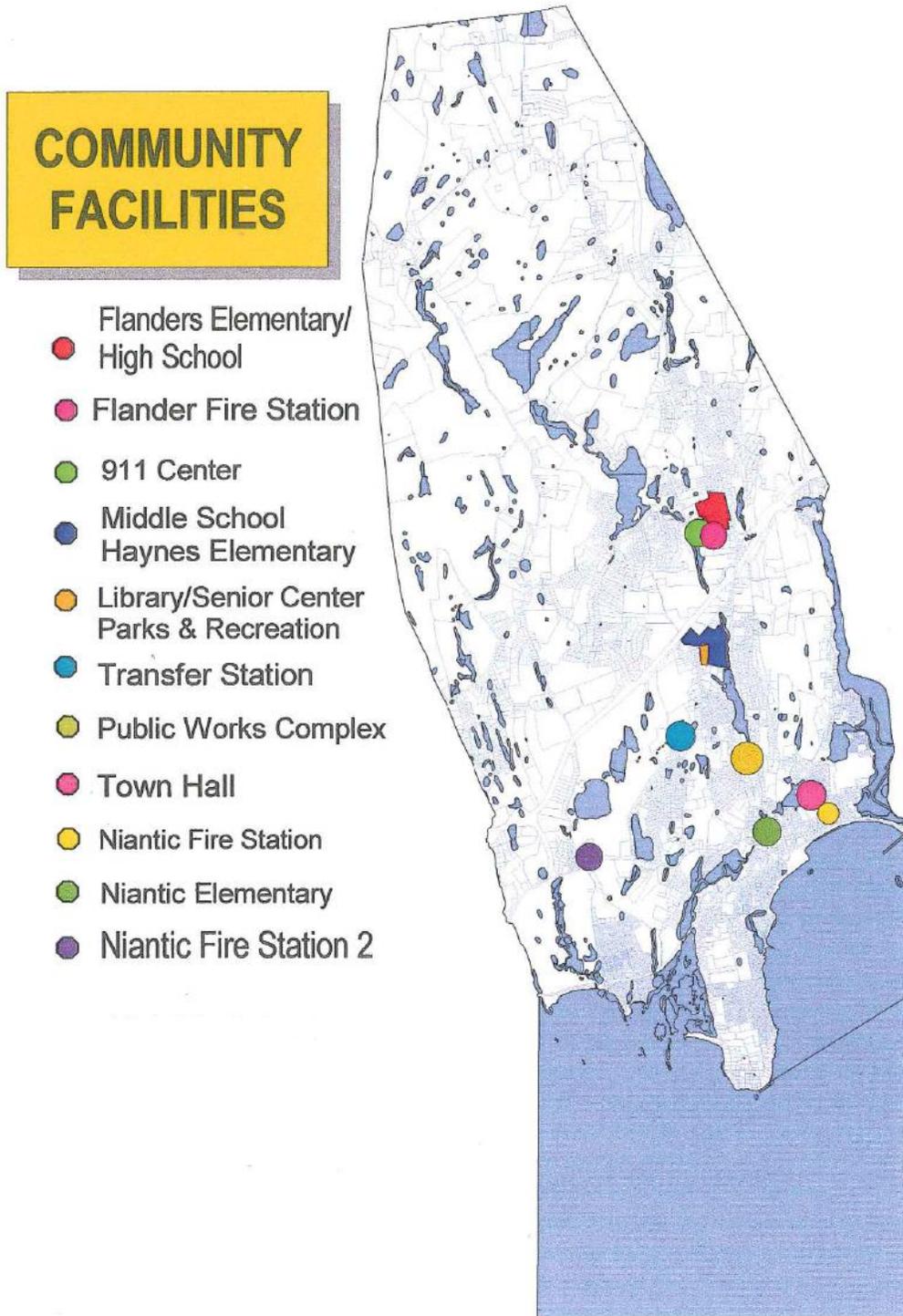
## CHAPTER 7: COMMUNITY FACILITIES AND SERVICES

Community facilities within East Lyme have undergone significant changes since the last Plan of Development for East Lyme was released. Within the last ten years, a Community Center which includes a new

**Community facilities** are publicly owned or operated facilities necessary for the provision of services to the municipality. They include buildings such as the town hall, police and fire stations, schools, senior centers, library and other town buildings. Utilities, such as the water system, town roads, sewer system and landfills are included in this category (see FIGURE 32).

library, senior center, recreation facilities, etc. was constructed. Another major facility improvement was the installation of a municipal sewer system to correct environmental problems caused by on-site sewage disposal systems. Major community facility projects under consideration for the next ten years are outlined in the following paragraphs. Currently, the primary project is the expansion of the high school to include an addition with a swimming pool. Several projects should be accomplished within the next ten years.

FIGURE 32 - COMMUNITY FACILITIES



## 7.1 MUNICIPAL FACILITIES

### 7.1.1 Town Hall

As noted in the 1987 Plan of Development, the new Community Center relieved the overcrowding in Town Hall by removing certain recreational and meeting activities from the Town Hall to the Center. In 1998, the Town Hall is undergoing an evaluation on how available space can be managed to better serve the public. However, space originally designed for a large meeting room is currently being used for offices and further streamlining of related offices within the Town will require even more use of meeting room space.

Many of the interior offices have been built in rooms designated as meeting rooms and do not have windows or easy access. Future growth of Town departments, an increased need for record storage and near-capacity use of meeting spaces (Community Center and school meeting spaces are also near capacity) will require a capital expenditure for improvements within the next ten years.

Another issue related to the Town Hall is the fact that it is not fully handicapped accessible, as required by law. For instance, people in wheelchairs can get up the ramp to the entrance door by themselves, but cannot get through the doors by themselves. The doors can also be a barrier to handicapped people who are not in wheelchairs. Based on the this discussion several recommendations for changes at the Town Hall are listed below:

1. The Town government should initiate a study of Town Hall space needs; i.e., what offices, meeting facilities and storage spaces are required to support the increasing needs of a Town on the move. This study should take into account the space availability in other Town buildings and include handicapped accessibility in the design of any new facilities. With the requirements established, the Town should take immediate action to obtain funding, start design and initiate construction of the required additions.
2. The Town government should make a survey to determine all the changes required to make the Town Hall fully handicapped accessible; input from handicapped individuals would also be appropriate. Again, any future additions to the Town Hall should meet handicapped accessibility requirements.
3. Additional lighting should be provided in the parking area of the Town Hall to increase the safety of those citizens using the Town Hall and the parking lot at night. Funding and some lighting fixtures are currently available and installation of these lights should be started.

#### **7.1.2 Emergency Facilities and Public Safety**

The Niantic Fire Department is comprised of two fire stations, one 5-bay station located at 8 Grand St., Niantic, built in 1957, that houses two pumpers, one aerial, one rescue, and one BLS transport ambulance. Station #2, located at 227 West Main St., Niantic was built in 1973. It is a four-bay station housing a pumper, a forestry unit, a spare ambulance and a fire alarm service vehicle. Approximately 35 certified volunteers, 4 career and 12 part-time firefighter/EMT's are responsible for fire, rescue and medical emergencies in the Niantic district, 24 hours a day, 7 days a week. The call volume is 1,400 + per year.

The Flanders firehouse, located at 151 Boston Post Rd., East Lyme, was built in 1973 in modified in 2002. The station houses two pumpers, one tower, one rescue/mobile command, one duty officer car, one service truck and one transport ambulance, a forestry unit, a service vehicle, and one chief's private vehicle. Approximately 30 certified volunteers, 3 career and 10 part-time firefighter/EMT's are responsible for fire, rescue, and medical emergencies in the Flanders district, 24 hours a day, 7 days a week. The call volume is 1,430 + per year.

The Public Safety building, located at 171 Boston Post Rd., East Lyme, is home to the Public Safety Director's office, the town's Fire Marshal's Bureau, Emergency Management Office, the town's Emergency Operations Center, and the town's 911 emergency communications center. The building was built in 1945 as the former Flanders firehouse. The building is home to one Public Safety Director/Fire Marshal, one full-time Deputy Fire Marshal, one full-time Emergency Management Director, one part-time Administrative Assistant, three full-time emergency 911 dispatchers and 12 part-time emergency 911 dispatchers.

The Police Station moved into the former Northeast Utilities Energy Center at 278 Main Street, Niantic from 110 Pennsylvania Avenue in 2006. The police station houses 21 full-time officers, including four sergeants, one detective, one DARE officer, and one canine officer, two part-time officers, one full-time secretary, and one resident state police trooper. There are 10 patrol cars, two road construction vehicles, eight bicycles, one all terrain vehicle and one boat.

### **7.1.3 Educational Facilities**

There is a strong desire for East Lyme to maintain its residential pattern of development. As noted in the economic and financial sections of this document, a projected increase in residential development will require consideration of expansion of the Town's school facilities. There is an inter-relationship between the quality of the school system and residential property values. If residential property values do not remain high, it will be difficult to sustain a quality educational program. If a quality educational program is not maintained, residential property values may slowly decline.

The strength of our educational system has historically added to the attractiveness of East Lyme as a place of residence and maintaining that strength is important to our planned development patterns. The current reputation of our educational system will support desirable new development and maintain the values of existing properties which come onto the market. The Board of Education budget represents a major portion (63%) of the Town's overall budget. Planning for future expenditures must preserve the assets of a strong system, as well as minimize increased costs, which would adversely impact tax rates.

#### **Current Status**

The East Lyme School District currently operates three elementary schools, one middle school and one high school. The original structures of these schools range in age from 31 to 73 years. They occupy three locations:

- Niantic Center School is on the edge of the downtown Niantic area and fully utilizes the property on which it is located;

- Lillie B. Haynes Elementary and East Lyme Middle Schools are located south of I-95, adjacent to the Community Center and a group of athletic fields, with some room for possible expansion; and
- Flanders Elementary and East Lyme High Schools are located north of I-95 adjacent to the Flanders village and essentially fully utilize Town-owned property.

Although these facilities are not new, a program to accomplish major maintenance needs, i.e., roof replacement and elimination of code violations, is near completion. Future budgets must provide for continued maintenance of these facilities to avoid problems which did recently force shutdown of a wing of the middle school for roof repairs.

Current enrollment in the schools is also a significant issue. Elementary schools are operating over capacity, as defined by a 1996 study by NESDEC, by more than 250 students. Currently, elementary school students are being taught in converted locker rooms, temporarily partitioned gymnasiums and storage areas. This situation not only results in substandard teaching environments, but also in sacrifice of programs in music and physical education, which are integral to child development. The middle school is at capacity and the high school somewhat over capacity with both these facilities expecting significant growth in student population over the next 3-5 years.

### **Plans for Growth**

In the fall of 1997, steps were taken to deal with high school issues. A long-term contract was entered into with the Town of Salem to send its students to East Lyme. An expansion and renovation plan to accommodate an expected enrollment growth of 500 students was also approved and an arrangement with Salem will result in State

reimbursement of 61% of the construction costs. When completed, the new facility should resolve concerns through the period covered by this plan.

The plan also includes a swimming pool, which is intended for both school and community use. It is important that the Board of Education and the established pool authority enter into agreements prior to completion of the project that will provide for full utilization of the facility to the benefit of both the education program and the community. That authority should deal with hours of availability, responsibility for supervision and budgeting necessary to properly maintain such a facility.

Elementary and middle school space concerns remain unsolved. The need to provide added facilities at minimum practical cost strongly suggests use of the Haynes/Middle School area as a location. This would avoid both land acquisition costs and the administrative costs inherent in a separate facility. Long-term projections suggest a student population remaining at or above current levels, making efforts to deal with existing overcrowding through temporary/portable facilities impractical. These facilities tend to be expensive over extended periods, provide less than optimal education settings and would be unattractive to families considering East Lyme as a place of residence.

Therefore, it appears imperative that the Town proceed urgently to provide space for between 450 and 500 students in the K-8 grades. Preliminary studies are being undertaken to this end and should be moved forward promptly. Plans should recognize that, although parents have substantial pride in the schools their children attend and resist reassignment plans, East Lyme schools cannot be defined as neighborhood schools; only a very small percentage of students are able to walk to school and others are transported to buildings that are not the closest to their homes.

Facilities that allow both basic instructional space and the ability for presentations of related programs are important to development in a system where pride in the total

enterprise is deserved and at present should be the core of our planning. Selection of one of the following options currently under review should be made and pursued:

- Additions to both Haynes and ELMS to accommodate projected enrollments through 2010;
- Additions to ELMS sufficient to provide for grades 5-8 in an arrangement that would allow some separation between the 5/6 and 7/8 groups.

**Recommendations:**

1. The Board of Education should pursue options for providing permanent facilities that would meet projected enrollments through 2008 and present recommendations to the necessary Town boards and the general public expeditiously. Presentations should also deal with any costs related to projected facility shortfalls between the present and 2008 without use of permanent facilities.
2. The Board of Education should consider temporary arrangements that would minimize the impact of current over-utilization, including pupil reassignment, staggered hours, extended school year, leased space, etc.

**7.1.4 East Lyme Community Center**

While the Community Center, the adjacent Smith-Harris House and the Haynes and Middle schools are centrally located in East Lyme, there are few connections, except by car, from the Community Center back to the two village centers. Youth Services and the Library, located in the Center, would experience greater usage if accessibility were improved.

Another important issue is the fact none of the entrances or internal doors are handicapped accessible. While entrances and most doors are at ground level, none of the doors are equipped with automatic devices to enable someone in a wheelchair, on crutches or otherwise disabled, access to or within the building without assistance. This is a matter that warrants the attention of the Town's administrators, not only as a help to the handicapped, but as a matter of legality. Another important issue is the lack of adequate storage space within the Community Center complex. There are few closets and no large storage spaces to hold all supplies required to operate and maintain the numerous programs that are run at the center.

The Town should consider further development and increased utilization of this site. With the Community Center, the Smith-Harris House, the Middle School Campus, Gorton Pond, the ball fields, a potential connection to Midway Plaza, etc. it could become a very attractive "town center" for both the local population and tourists.

Based on the above statements, it is recommended that several projects be accomplished at the Community Center as follows:

1. A review of all areas within the Community Center should be made to determine what changes or additions are needed to make it completely handicapped accessible. Once the needs are determined the Town government should obtain the necessary funds through grants, the Town budget, etc. to design and construct the required corrections. Even a piecemeal correction, such as making one set of doors handicapped accessible at a time, would be a step in the right direction.
2. A study of the open spaces within the Community Center, especially in the main entrance area, should be made to determine if more storage areas could be added in these spaces at a reasonable cost. Assistance might be obtained from users of the Center in carrying out any construction and installation work required.

3. An evaluation should also be made, in conjunction with the Town Hall space study, to determine whether the Community Center is nearing capacity with regard to office and meeting space. If this is so, expansion of the Center should be considered.
4. Other sections of this Plan of Development outline recommendations for sidewalks and bike/hiketrails which could be located to make the Community Center more accessible to townspeople, especially youth, who do not have automobiles available.

It is recommended that the above projects be pushed to completion. In addition, a plan for the installation of additional bike racks at the Center should be devised and carried out.

#### **7.1.5 Dodge Pond**

Dodge Pond sits right in the middle of Niantic with a boat landing near one end and the Town Hall, with a small pavilion at the water's edge, backing onto the other end. The municipal lands along Dodge Pond, except at the Town Hall, have not been developed and are scarcely used. The East Lyme Charrette Report contains several proposals for using the municipal land along the pond and it is recommended that steps be taken to activate these proposals to provide an additional recreation area for the townspeople, especially the youth. A breakdown of these proposals is as follows:

1. Create Dodge Pond Park, with frontage along the pond, on the municipal land to north of the railroad siding corridor, to include a low deck out over the water for recreational fishing and a pavilion which can be used for picnicking and Town events.
2. Create a hike/bike recreational trail from Hole-in-the-Wall Beach to the Dodge Pond Park to provide an attractive and easy access path to the park.

3. Acquire the Navy property on Dodge Pond, if it becomes available, once the environmental cleanup has been completed. The DEP expects to receive the Navy's finalized plans for the cleanup during the winter of 1999 and expects that the actual cleanup will commence in the spring/summer of 2000.
4. Connect Dodge Pond Park to the Town Hall Park with a short path along the pond's edge, provided that easements are obtained.

#### **7.1.6 22 Main Street**

The Town recently bought the land at 22 Main Street, also known as the Bailey Property. This is a parcel of land located at the tip of the bar near the entrance to the Niantic River and provides an entrance to the AMTRAK Beach and the potential Niantic Bay Overlook boardwalk. Plans for the parcel include parking areas, landscaping, recreational boating, commercial fishing docks and storage buildings, etc. The Town obtained grant funding to reconstruct three of the commercial fishing docks that were in disrepair. It is recommended that the Town continue to pursue the following with respect to this property and adjoining parcels:

1. Obtain funding to reconstruct the remaining docks and improve the on-site structures for storage and public facilities.
2. Continue to provide long-term leases to the commercial fishermen to defray costs of improvements and maintenance of the lot.
3. Improve the park facilities in conjunction with adjoining parcel to the north and south to assure maximum public benefit.
4. Obtain funding for additional commercial and public transit docks on the adjoining parcel, which is the old bridge approach.

## 7.2 MUNICIPAL FINANCE

Over the past ten years, both municipal expenditures and revenues have doubled through the combined effects of inflation, population increase and a higher level of services provided. Land use has a significant impact on existing and future revenues and expenditures. While residential land use can cause an increase in expenditures for school services, properly designed and attractive residential subdivisions stabilize property values and reduce fluctuations in the Town's mil rate. The residents of these subdivisions also provide the customer base for the commercial land use. Commercial and industrial land use will produce revenue in excess of the expenditures required by the Town to service these uses. Conversely, poorly designed commercial and industrial properties, or excessive commercialization, will have a negative effect on residential, commercial and industrial property values.

Both the allocation of expenditures by function (see Table 7) and sources of revenue by category (see Table 8) have remained relatively constant over this time. Exceptions to this include increased allocation to service the debt from 6 to 11% of expenditures and increased "other revenue" (including sewer, etc.) from 4 to 11% of revenues.

**Table 7 - General Government Expenditures**

TOWN OF EAST LYME									
General Government Expenditures by Function									
Last Ten Fiscal Years									
Fiscal Year	General Government	Public Safety	Public Works	Health & Welfare	Culture & Recreation	Education	Capital	Debt Outlays	Service
<u>Total</u>									
1989	2,316,514	1,533,924	1,630,478	275,811	699,961	14,527,031	417,620	388,066	21,789,405
1990	2,569,174	1,514,426	1,850,503	307,005	863,487	16,048,202	547,622	799,163	24,499,582
1991	2,860,911	1,631,698	1,898,126	445,637	902,522	16,697,518	1,141,765	1,554,979	27,133,156
1992	3,014,831	1,610,018	2,003,283	436,759	911,629	16,999,517	290,558	1,877,687	27,144,282
1993	2,846,566	1,614,244	2,263,998	364,699	924,041	16,999,218	280,865	2,118,158	27,411,789
1994	2,897,475	1,685,382	2,166,312	401,695	969,040	17,799,321	829,075	2,360,724	29,109,024
1995	3,078,237	1,696,506	2,366,338	385,596	1,006,254	18,789,457	749,056	2,912,990	30,984,434
1996	3,284,870	1,738,680	2,388,094	404,370	1,044,004	19,868,970	306,240	3,663,421	32,696,649
1997	3,230,675	1,839,879	2,444,108	272,083	1,082,907	20,986,919	549,664	4,204,202	34,610,437
1998	3,411,349	1,866,117	2,304,239	273,646	1,119,510	22,202,339	666,489	4,181,998	36,025,637
1999	3,350,275	1,924,817	2,504,988	228,440	1,136,025	23,519,182	487,091	4,207,349	37,358,167

While the Town has maintained steady sources of revenue over the past 10 years, an increasing amount of these revenues has been required to service the debt. New projects under consideration for funding by the Town will require careful prioritization based on the short and long-term costs versus perceived benefits, with due consideration given to the Town's financial status. Current spending is growing faster than tax revenue, requiring annual increases that are greater than the rise in cost of living, omitting the benefits of a prior year surplus and federal funds. Debt service for capital spending on new facilities for recreation, new school facilities and other capital facilities will put a strain on the budget.

The residential taxpayer is bearing an increasing burden to meet these obligations, providing about nine times the revenue contributed by all commercial and industrial sources. The recent surge in residential building will increase the imbalance. Depending on its impact on the school system, this build-up could increase everyone's taxes substantially. Clearly, steps should be taken now, to bring this situation under better control. A combination of managed growth, budgeting each year for a capital reserve to fund future capital expenditures and increased attention to attracting commercial/light industrial development may prove to be the only way to increase revenue and balance the burden among taxpayers.

**Table 8 - General Government Revenues**

<b>TOWN OF EAST LYME</b>							
<b>General Government Revenues by Source</b>							
<b>Last Ten Fiscal Years</b>							
<u>Fiscal Year</u>	<u>Taxes, Interest &amp; Liens</u>	<u>Licenses &amp; Permits</u>	<u>Inter-governmental</u>	<u>Other Revenue</u>	<u>Fines &amp; Forfeits</u>	<u>Interest</u>	<u>Total</u>
1989	14,702,634	355,926	6,032,539	704,853	96,439	329,701	22,222,092
1990	16,468,053	335,304	6,300,761	990,978	137,552	393,706	24,626,854
1991	18,840,465	338,074	6,489,503	929,158	209,413	368,139	27,174,752
1992	19,160,033	330,410	6,076,675	1,737,929	116,076	295,718	27,716,841
1994	19,670,120	418,518	6,222,426	2,307,423	36,521	219,168	28,874,176
1995	20,429,250	426,998	6,784,597	2,942,089	18,567	319,161	30,920,662
1996	21,245,9f8	441,415	7,128,962	3,697,682	36,625	280,458	32,831,110
1997	22,809,632	484,111	7,321,913	4,199,818	28,785	330,359	35,174,618
1998	23,467,848	506,036	7,963,223	4,144,004	16,559	446,897	36,544,617
1999	24,064,983	613,522	8,548,317	4,070,341	53,204	522,351	37,872,718

**7.2.1 Managed Growth**

In examining the build-out map for the Town (see FIGURE 10), there is a potential for an estimated additional 4,000 single-family housing sites in East Lyme. While a build-out of the Town is not projected within the next ten years, there is still potential for future development. Currently, there are plans for approximately 200-400 new single-family housing sites in the research stage or under current application before the Planning Commission. As previously mentioned, this growth may require modifications or new construction to the existing school infrastructure.

In the next ten years, the Town can expect a growth rate between 3-5% based on current population projections, a boost in the regional economy and East Lyme’s reputation for quality services. Sections Three, Six, Nine and Eleven of this Plan examine strategies and make recommendations for growth management. The Town should provide financial support for these recommendations when necessary. This will assure that incremental steps are being implemented which will provide a buffer against emergency expenditures for capital improvements.

### **7.2.2 Funding for the Future**

There is a current perception that new residential growth will require new capital expenditures for the schools. While this assumption may be true for 1999, cyclical fluctuations in the school population have been common over the last twenty years and are expected to occur over the next 10 years. In fact, the number of students per household has declined from .84 children in 1970 to .35 children in 1990. The current issue is that while the Town has already encumbered a significant debt for new capital facilities over the past ten years, State mandates for education have changed and costs for education per pupil are rising.

Residential, commercial and industrial development of the Town is cyclical, and depending on the regional and state economy, the Town will continue to experience fluctuations in all sectors of development. Starting in year 2000, the Town should look to its annual budget for future capital expenditures and acquisition of open space. This method will protect the Town against fluctuations in the development sector. A capital reserve fund for identified improvements and open space will help defray major expenditures when the need arises and provide a buffer against sudden increases in the mil rate.

### **7.2.3 Investing In Economic Development**

Development of revenue sources is the result of many unrelated actions taken in the Town, constrained only by the permitted uses of the land and conformance with the Zoning Regulations. Managing the economic development of East Lyme, so that the essential expenditures are made, without overburdening taxpayers will take a broader perspective of the East Lyme economic future. Beyond the revised Plan of Conservation and Development and the Yale Charrette Report, a "scope of work" developed by the Town is necessary to achieve objectives noted in this Plan and the Yale Charrette Report.

The “scope of work” would provide the necessary steps to develop revenue sources in such a way that the "reasonable" expectations of the Town could be accomplished without an imbalance in spending versus revenue or an inequity in tax burdens. Spending programs could then be synchronized with the projected build-up of revenues for a "reasonable" growth rate.

Any commercial or light industrial development approach must meet the needs of businesses and compete successfully with the sites, tax incentives and other inducements offered by other communities in the region. In this regard, the strengths and weaknesses of East Lyme would be assessed. The resulting development strategy would build on strong points, such as the shoreline, school system and convenience to major highways. Critical weaknesses would be improved upon or avoided. Once the assessment and a “ scope of work” is developed, the Town can use these strengths to attract candidates for new commercial and industrial development.

As a starting point, the implications of a change in the balance of tax contribution between the residential and commercial/light industrial sectors should be determined. Specifically, the business growth necessary for that sector to provide tax revenue equal to one-fourth the revenue from the residential sector should be calculated. This ratio could then be altered depending on how well the required development meets the objectives and requirements of the Town.

Time, effort and funding will be needed to develop and evaluate scenarios for growth that are suitable for the Town. The quality of this effort will directly affect the financial future for East Lyme.

#### 7.2.4 **Recommendations**

In addition to annual budget considerations for government and educational needs, careful consideration should be given to future financial goals and capital outlay on the part of the Town to ensure adequate funding for future capital expenditures and adequate increases in revenue. To achieve these goals, specific recommendations include the following:

1. Amend land-use regulations to promote growth management strategies where necessary to encourage high value residential, commercial and industrial development.
2. Review long-range capital expenditures and prioritize according to those items that yield the highest economic benefit.
3. Establish capital reserve funds for projected long-range infrastructure items to offset sudden large expenditures on major projects.
4. Establish an open space fund for future acquisition of open space to help offset the financial impacts of residential growth.
5. Invest in economic development initiatives and strategies that will result in an overall plan to encourage new commercial and industrial development.

### **7.3 PUBLIC WATER AND SEWER**

#### **7.3.1 Municipal Water System**

Connecticut state law requires each municipal water department to submit and periodically update a water supply plan for their system. The Town of East Lyme's Water Supply Plan and its periodic updates has assessed the ability of the Town to meet the intended goals of the Statutes and Regulations of Connecticut. The Water Supply Plan outlines the capital improvements and operations necessary to meet these goals and the steps to be taken to ensure a safe adequate source of future water supply.

#### **7.3.2 Current Water Infrastructure**

The East Lyme water system consists of seven active gravel-packed wells located in the Pattagansett River and Bride Brook aquifers. There are four greensand filtration plants, two water storage tanks and approximately 102 miles of water main. The water system also includes ten small booster pump stations. The water system serves approximately 6,400 customers or a population of over 15,000 people.

The water supply system in East Lyme includes both permitted and registered wells through the Connecticut Department of Environmental Protection (DEP). Well permits limit maximum withdrawal rates by limiting the use of certain wells through stream flow restrictions in Bride Brook and the Pattagansett River. Under stream flow restrictions, the Town is capable of pumping up to 3.16 million gallons per day (MGD) from its water supply sources. However, the safe yield of the water supply, which factors in a "resting period" for pumping of the wells, is 2.37 MGD. The East Lyme Water Department tests water quality at each of its drinking water sources on a routine basis and submits the results to the Connecticut Department of Health (DPH). The water quality for each of the water supply sources are in compliance with state and federal regulations.

The demand for water is spread over residential, state and municipal government, and commercial and industrial users. The average daily consumption of water in 2008 was 2.08 million gallons. During the summer months, June through August, the average consumption increased to 2.48 MGD. The maximum water consumed on one summer day in 2008 was 3.50 million gallons. This resulted in a shortage of 340,000 gallons on the peak day.

The *Town of East Lyme – 2005 Water Supply Plan Update* estimates an increase in average daily consumption to 2.62 million gallons in 2020. The 2020 summer consumption is expected to increase to 3.23 MGD with a maximum single day demand of 4.38 million gallons. With planned supply improvements and ongoing conservation measures, water production is expected to meet or exceed future demand. Demand on the system can be controlled through a prohibition on water main extensions until safe yield of the system can be increased to allow an adequate margin of safety above projected demand.

The goals and objectives of the Water Conservation Plan of the Town of East Lyme include increased efficiency of the system, reduced waste, and the encouragement of water conservation efforts. Operational efficiency is being improved by increasing the output of existing wells that have lost capacity, and by installing updated pump controls. Leak repairs identified during leak detection surveys reduce waste in the system. Conservation is promoted through an ongoing public awareness campaign.

The Town has adopted aquifer protection provisions as part of its zoning regulations. Certain uses with the greatest potential for polluting groundwater are prohibited within zones identified in the regulations.

The goals and objectives of the Water Supply Plan include optimizing the amount of source water allowable under regulations and a strategy to improve safe yield by taking an incremental approach to increasing available water supply. Replacement wells are planned to increase and restore the permitted capacity of existing wells. Long-term goals include regionalization utilizing water sources outside of East Lyme.

### **7.3.3 Recommendations**

#### **1. Increase Operational Efficiency**

Improve output of existing wells to authorized levels. Incorporate mechanical improvements to well components.

#### **2. Reduce Waste**

Perform leak detection surveys on a regular basis and repair leaks identified in the surveys.

#### **3. Control Demand**

Prohibit water main extensions until safe yield of the system can be increased to allow an adequate margin of safety. Promote conservation through an ongoing public awareness campaign.

#### **4. Improve Supply**

Optimize the amount of water available under regulations. In cooperation with state regulatory bodies and other regional municipalities, procure new sources of water from outside of East Lyme. Explore potential sources of water in East Lyme that are not adversely effected by stream flow restrictions.

#### **7.3.4 Municipal Sewer System**

The Town of East Lyme presently owns and operates its wastewater collection system with a finite wastewater discharge capacity of 15% of the permitted flow (presently 1.5 million gallons per day) at the New London advanced wastewater treatment facility. East Lyme has continued to experience significant growth in recent years. As such, the town is concerned that continued growth due to higher density development than originally projected within the existing sewer service area will exceed the discharge limit to New London's WPCF as well as the infrastructure capacity. To that end, a wastewater water collection system analysis planning report was completed in 2007 to evaluate the town's wastewater needs and will serve as an update to East Lyme's 1985 Facilities Plan.

#### **7.3.5 Current Sewer Infrastructure**

In 1985, the Town of East Lyme was presented with a Facilities Plan document recommending the installation of public sewers in the southern area of town near the shoreline, the Flanders Road and Pattagansett corridor, and the Flanders area along Route 161. This would serve to reduce pollution problems due to failing on-site septic systems. Wastewater flows from the sewers were recommended to be transported through Waterford to the New London advanced wastewater treatment facility. These sewers, composed of approximately thirty-eight miles of mainline gravity sewers, seventeen pump stations and more than six miles of force main, were designed and constructed in the late 1980's.

Flow monitoring during the wet period in March and April 2004 yielded a maximum wet day average wet weather daily flow of approximately 1,220,000 gallons per day from the existing infrastructure. This flow, when combined with the unused portion of the State of Connecticut reserved wastewater flow of 230,000 gallons per day (in 2004), leaves an existing unused capacity of approximately 50,000 gallons per day under wet weather maximum day conditions. It was determined that infiltration and inflow (I/I) from the entire collection system or any of the meter-sheds was not deemed excessive according to EPA thresholds.

Hydraulic modeling of the existing infrastructure determined that the majority of pipe sizing is satisfactory under existing wet weather conditions. The piping is capable of transporting ultimate wastewater flows from the sewer service district of approximately 3.6 MGD, with the exception of the East Pattagansett Road/Hope Street sewers, which would theoretically surcharge into the manhole structure, but not create a sanitary sewer overflow. A separate analysis performed to evaluate impacts from the connector of Point O' Woods in Old Lyme to the East Lyme System also identified potential surcharging of pipe segments at Route 156 and Hope Street. Sewer pipes in these areas should only be recommended for replacement if the East Lyme discharge capacity to New London is increased to greater than 3.0 MGD in the future and/or when Point O' Woods connects to the East Lyme System. In order to prioritize the build-out of the SSD, the Town Planning Department, Sanitarian, and Public Works Department and Zoning Department staffs were consulted to identify areas of need for a phased build-out in five year periods. The result of this phased build-out approach is presented in [Figure V-16](#) of the *Town of East Lyme, Connecticut – Wastewater Collection System Capacity Analysis Planning Report*, Fuss & O'Neill, Inc., September, 2007.

### 7.5.6 **Recommendations**

#### 1. Solicit Additional Capacity at New London WWTP

The Town should continue its efforts to negotiate increased capacity at the New London WWTP.

#### 2. Manage Future Development

Limit consideration of connection to sewers within developed areas of the Primary Aquifer District (or as defined by future Level A mapping for water supply wells in stratified drift aquifers) and inside the five year build-out boundary. The Town should consider restricting all new connections within vacant areas inside the primary aquifer district and outside the five year build-out boundary until the Town secures additional flow capacity at the New London wastewater treatment facility. The exception is if there is a significant pollution problem that cannot otherwise be corrected on-site to public health code requirements.

#### 3. Modification to the SSD Boundary

The Town should form a committee to periodically review the Sewer Service District Boundary. The SSD should be reviewed against the most up to date Town GIS parcel base to identify bifurcated parcels. If corrections are required to bring the bifurcated area into conformance with the Town's wastewater management plan, the committee should amend the SSD boundary accordingly.

#### 4. Rigorous On-Site Wastewater Management Program

On-site system failures should be considered for connection to the public sewers on a case by case basis to determine if public sewers are nearby and if on-site solutions to meet the public health code without variances are feasible. Community wastewater disposal solutions should be considered on a case by case basis as an alternative to public sewers.

#### 5. I/I and Flow Reduction Programs

Targeting sewershed areas for an infiltration and inflow reduction program may help the Town reduce existing wastewater flows. The Town should also undertake all possible efforts to institute water conservation measures to limit the existing wastewater flow including a public awareness campaign.

#### 6. Collection System Improvements

The pump stations have sufficient capacity to transport existing flows. Many of the pump stations would benefit from upgrades for safety, redundancy, functionality and improved telemetry. Recommended improvements to the pump stations will be completed in accordance with a capital improvement schedule to be reviewed and approved by the East Lyme Water and Sewer Commission as funds are available through the Water and Sewer Department's Capital improvement program.

## CHAPTER 8: CIRCULATION AND TRANSPORTATION

Transportation is the system of providing for the safe and convenient movement of people through the Town. The transportation system, including moving vehicles, walkers and cyclers, and parking areas, takes into account people using the local facilities, those just passing through and the movement of goods into or through the Town. It is important the Town work together with Amtrak during the change to a high speed rail system in order to achieve common goals such as rail location on the beach, underpasses, a commuter stop and fencing.

East Lyme is a prominent location and serves as the gateway to southeastern Connecticut. The Town is geographically and demographically suited for commercial and industrial development. Emphasizing East Lyme as the gateway to southeastern Connecticut should be a primary goal over the next ten years. Public art projects (see FIGURE 33), landscaping, providing service to visitors and traffic access management will be key in renewing attention to the East Lyme gateway commercial district. Many of the recommended improvements to the Town's transportation system are a result of extensive research, ideas presented in the East Lyme Yale Design Report and the proposed Regional Transportation Plan-FY 1998 for Southeastern Connecticut (see FIGURE 34).

**FIGURE 33 - RENDERING OF A PUBLIC ART PROJECT**

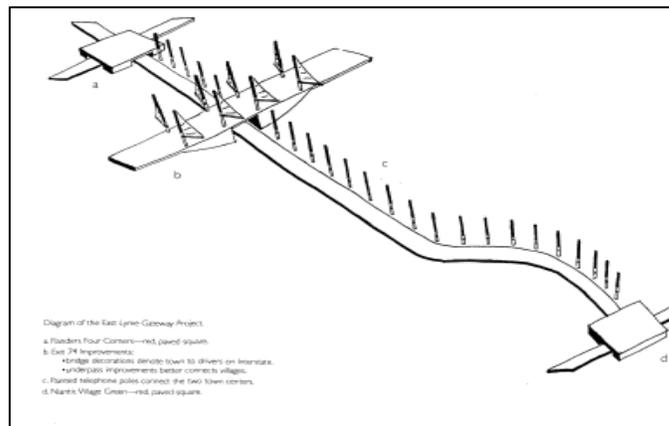


FIGURE 34 - EAST LYME TRANSPORTATION



As part of increased tourism and commercialism within the region, improvements to East Lyme's transportation system are an important aspect of this ten-year plan. Increased traffic congestion on Route 161 will be a continuing source of problems and challenges for both Town and State traffic officials. Suburban land-use development patterns in southeastern Connecticut have increased the dependency on the automobile, minimizing other alternatives such as walking, biking or using public transportation. There is a growing recognition that an expanded bus transit system, and potentially a light rail system, are essential in order to present a real alternative to an auto trip. The following sections examine the Town's transportation infrastructure in more detail.

## 8.1 ROADWAY INFRASTRUCTURE

East Lyme's road system is made up of approximately 136 miles of roads, each of which serves a specific function in the Town's traffic flow system. The following categories are generally accepted and were used in preparing the recommendations made in this plan.

Expressways: Designed to carry large volumes of high-speed "through traffic" between regions and towns. They afford no access to abutting properties and have grade-separated interchanges with ramps providing the only access. Example: Interstate 95 & State Route 449 (Rocky Neck Connector).

Arterials: Roads carrying heavy volumes of traffic, often providing access to expressways and connecting important points within the community. Example: Routes 156, 161 & 1.

Collectors: Carry traffic between points in the community and collect traffic from residential neighborhoods for distribution to arterials and/or other points in the community. Some of these roads are in rural areas and carry only low volumes of traffic. Examples: Black Point, North Bride Brook, Scott and Upper Pattagansett Roads.

Boulevards: Similar to collectors, but minimizes impact on the slope and natural terrain and incorporates a center-landscaped or tree-lined median and perimeter walkways/bikeways within residential neighborhoods. Boulevards can also be classified as arterials or local roads depending on traffic volumes.

Local Roads: Provide access to individual properties. Example: Pontiac Drive and Hillcrest Road.

Rural Collector and Local Roads: These roads are located in largely unsettled areas and are intended to carry low volumes of traffic. Example: Grassy Hill Road.

It is important to apply these categories in a manner which will provide an effective road network for the Town's future. With the accelerated changes expected over the next decade, the current function of many roads will have to be upgraded to a higher category to provide an effective road network for the Town. It is important to initiate a planned approach to upgrading the Town's transportation system with the following general goals:

Ensure that infrastructure systems are safe, efficient, modally balanced, environmentally sensitive and will support economic development.

Strive to minimize reliance on automobiles and dependency on the road network through increased use of alternative modes: buses, pedestrian sidewalks and crosswalks, bike ways and a commuter rail stop.

Given the increase in residential development, it is expected that new roads will be developed to access undeveloped property. This can affect the hierarchy of roads by causing local roads to become collector street and collector streets can evolve into arterial roads. This can increase the traffic load on current arterial roads. This heavier volume of traffic could require further upgrading of these arterials and the possible addition of a new north-south arterial in the western or eastern part of the Town. Care must be taken during this development period to provide a unified and integrated network of roads.

Approximately 32 miles of the roads within the Town are state-owned and maintained. These roads consist of the two major east-west routes (US 1 and Route 156) and the major north-south corridor (Route 161). The remaining roads are local roads maintained by the Town.

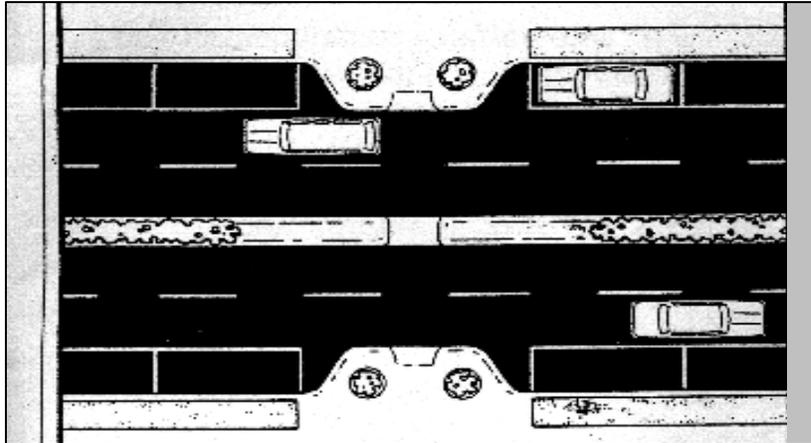
## **Recommendations**

### Traffic Management

1. Along Route 161, there will be a need to institute traffic access management techniques to control the number of curb cuts to and from commercial properties. Frequent access points onto Route 161 hinder traffic flow and cause congestion. Increased commercial development in this area will only accentuate this problem. The following methods are recommended:
  - a. Require that development or redevelopment of commercial properties is designed to encourage opportunities for shared access points between adjoining properties.

- b. Limit parking lot entrances and realign them with terminating streets (non-main streets) or with other parking lot entrances; this method will reduce the number of cross-traffic turning areas and should make parking lot entrances more visible to drivers.
  - c. Require that developers install a curb cut between adjoining lots near the rear portion of the on-site parking area to encourage inter-lot access without use of Route 161.
2. Traffic calming is a method by which road design is altered to encourage drivers to slow down and allow pedestrians to negotiate crosswalks more easily. While all commercial areas within East Lyme require installation of traffic calming techniques, downtown Niantic has been identified as a critical area. Several means of calming traffic are available:
- a. Narrow driving lanes to encourage automobiles to drive slowly and/or install street trees to provide the illusion of narrower travel lanes.
  - b. Formalize parallel parking on both sides of the street to better identify areas of parking from the travel lane and to provide a buffer for pedestrians from moving automobiles.
  - c. Install paved "Dog Bones " to mark the end of parallel parking areas and the beginning of pedestrian crossing zones and traffic intersections (see FIGURE 35).

FIGURE 35 - RAISED MEDIAN AND SIDEWALK - "DOG BONE"



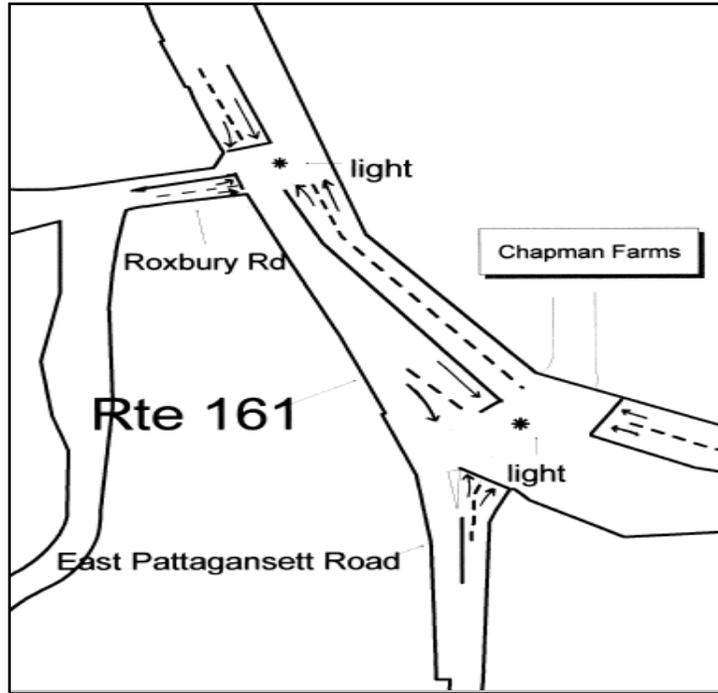
A raised median and sidewalk peninsula, or Dog Bone, provides for safe pedestrian access on busy roads.

## 8.2 STATE ROADS

The process of implementing state road improvements in Connecticut consists of two steps. First, necessary improvements should be identified in the Regional Transportation Plan, and second, projects must be programmed for construction by inclusion in the regional Transportation Improvement Plan (TIP). Projects can obtain funding priority through the political process. The Town, primarily through the Selectmen and the Town's representatives in the General Assembly, should press for necessary improvements as needed. The following projects should be included in the "TIP":

1. Provide for a traffic survey and an engineering program to establish current traffic patterns, estimate how upgraded or new roads might be configured to handle current and future traffic flow. The State currently has a project in the works to perform a study of I-95 usage and a Town study could be correlated with this project using data related to traffic exiting I-95 and coming into East Lyme.
2. Widen Route 161 and mark lanes on pavement at intersections with Roxbury Road and East Pattagansett Road. Mark Route 161 going north for a left turn lane at both intersections and a right turn going south at Roxbury Road. Both Roxbury Road and East Pattagansett Road could be marked with right turn lanes at this intersection with Route 161. The purpose for the addition of these lanes is to enhance the flow of traffic through these intersections. Appropriate signage and pavement markings notifying motorists of these lanes should also be initiated (see FIGURE 36 ).

FIGURE 36 - PROPOSED WIDENING AND TURNING LANES



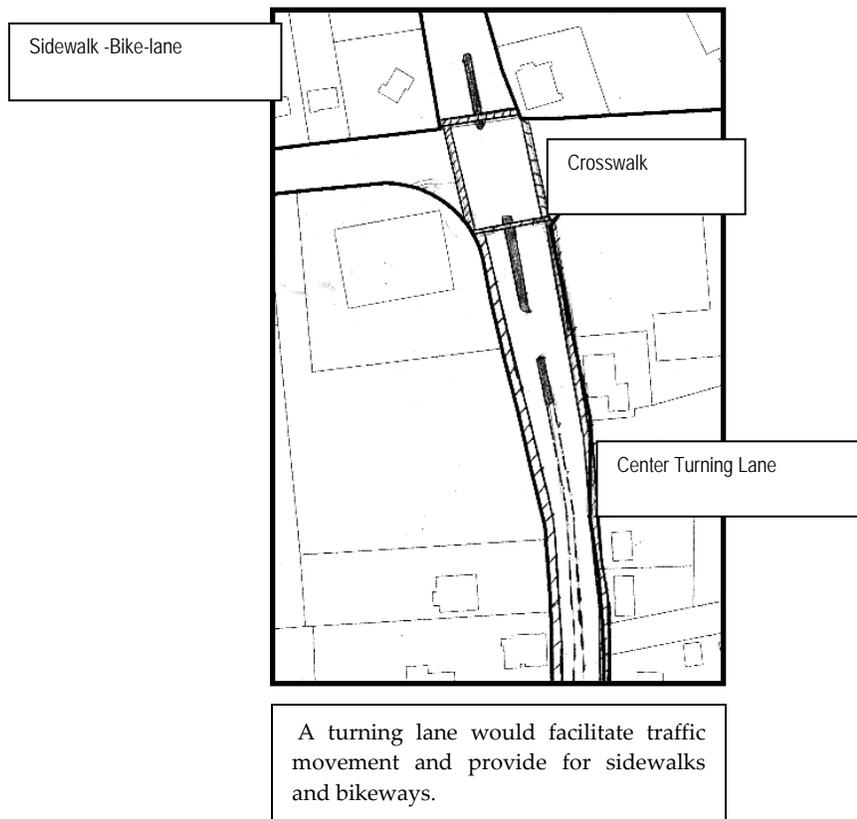
3. A right-turn lane should be installed from Route 161 onto Society Road. This lane could be established by adding to the current marking on Route 161 (see FIGURE 37).

FIGURE 37 - DELINEATION OF LANES - SOCIETY ROAD



- 4 Provide a center lane on Route 161 between Industrial Park Road and Route 1 by combining two of the existing four north-south travel lanes. This traffic access management technique will allow through traffic to continue moving while cars making left turns will be able to wait in the center lane for oncoming traffic to clear. This method may also reduce the number of traffic accidents occurring within this stretch of road and will increase the width of the shoulder for north-south bike lanes (see FIGURE 38).

**FIGURE 38 - TURNING LANE ON ROUTE 161**



5. Upgrade the Route 156/Black Point Road/East Pattagansett Road intersection to provide turning lanes and allow right turns on red where sightline is sufficient. Delineate crosswalks and install pedestrian crossing lights at this intersection.
6. Install pedestrian crossovers showing "Walk/Don't Walk" lights on Route 161 at its intersections with Roxbury Road, Society Road, Industrial Park Road, King Arthur Drive and Route 1. This will not only improve pedestrian safety, but will enhance the use of the sidewalk currently being built for Route 161.
7. Further expand the pedestrian street crossings at the intersections of Route 161 with Main Street in Niantic and with Route 1 in Flanders by repaving both intersections with bricks or simulated pavers. This will both increase the safety of pedestrians crossing at these intersections and establish these intersections as the village centers for Niantic and Flanders.
8. Provide a traffic light at the confluence of West Main Street (Route 156), Giants Neck Road and Bridebrook Road. Traffic can be controlled by a trip switch at times of high volume and flow on Main Street will not be interrupted during times of low volume traffic.
9. Upgrade the intersection of Route 156 and Roxbury Road by adding a left turn lane on Route 156 going east, providing better lighting of the intersection and clearing obstructions to provide a better line of sight. These changes are important due to the increased traffic that could occur because of potential changes within the school system.

10. Route 156, which serves as an east/west through route, continues to see growth in traffic, especially since the installation of the new Niantic River Bridge. It is recommended two areas of Route 156 within East Lyme be changed to handle the traffic increase; namely, to reconstruct the road from Route 161 to the Niantic River Bridge and to realign and widen the road near Fairhaven Road.
11. The Town should clarify that projected improvements to Interstate 95 should be prioritized to ensure that substandard exit and entrance ramps are improved.

### **8.3 TOWN ROADS**

Approximately 104 miles of road are maintained by the Town. The Town should conduct an engineering study to identify specific problem areas of congestion and safety and identify the related cost of improvements. One consideration of this study could be to determine whether or not it is feasible to use any of the current Town roads in establishing a new north-south arterial road in the central or western portions of the Town. Increased traffic volume on Route 161 could make establishing such an arterial a necessity in the not too distant future. The recommendations for Town roads are as follows:

- Upgrade Whistletown Road from Scott Road to the intersection with Grassy Hill Road.
- Other Town roads which will require improvements can be identified as follows:
- Realign and widen Society Road north of I-95. (Could be accomplished during the reconfiguration of I-95 at Exit 74)
- Realign and widen Lovers Lane from Dean Road to Route 1.

- Realign and widen Dean Road from West Society Road to Route 1.
- Realign and widen Holmes Road west of Upper Walnut Hill Road.
- Realign and widen Scott Road from Upper Pattagansett Road to Route 1.

#### 8.4 ROUTE 11

Presently Route 11 ends at Route 82 in Salem. Since the early 1980s, alternatives for the continuation of Route 11 to connect with I-95 or I-395 (or both) have been investigated. Alternatives have ranged from no extension to a full-service I-95/I-395/Route 11 interchange in East Lyme or Waterford. During the intervening years, politics, costs and environmental problems have resulted in no actual action to extend Route 11.

In 1997, the construction of a Route 11 extension was reinstated as a potential new State highway and alternatives proposed in the 1980s are again being reviewed. These alternatives based on a June 1998 map by Maquire Associates include the following (see FIGURE 39):

- No building of an extension to Route 11.
- Widening of Routes 82 & 85 from the current end of Route 11 to I-395.
- Construction using one of the following alternatives are shown.
  - **92 PD** - 1992 PD alignment is the original designed route starting at terminus of the existing Route 11 to Interstate 95.
  - **Alternative E** - A modified version of 92PD with a 66' median; four lanes or two lanes, depending on the environmental impacts.

- **Alternative F** - A more westerly alignment of the 92 PD route. This route would travel westerly through East Lyme, intersecting Grassy Hill Road and Route 161, continue through the Catholic Church and rejoin the original 92PD route just below the Montville-East Lyme-Waterford border.
  
- **Alternative G** - Another westerly alignment to 92PD again intersecting Grassy Hill Road passing behind Cardinal Road, running behind the Catholic Church property to rejoin the original 92PD route just below the Montville-East Lyme-Waterford border.
  
- **Alternate H** - Partially build two or four lanes from terminus of existing Route 11 to the intersection with Route 161 or Route 85 just below Chesterfield.



While it is too early in the process to fully recommend the final location of the Route 11 extension, it is not premature to state that Alternatives F and G will cause significant impact to the Town of East Lyme and will cause irreparable harm to valuable existing residential and secular property. In addition, the existing steep topography on the eastern border of the Town and the confluence of two major streams within the construction limits of these route alternatives would cause extensive engineering to minimize environmental damage.

An important factor in recommending any of the remaining alternatives is construction of an interchange at Route 161. Both the beneficial and negative effects of a northern entrance into East Lyme from the expressway must be fully examined for impacts on traffic, increased residential construction, future improvements to local roads and the Town economy. The primary recommendation is that East Lyme be aware of and involved in the planning and decisions for the extension of Route 11.

## **8.5 PARKING**

Adequate parking is a necessary adjunct to virtually any form of developed land use. A sufficient amount of off-street parking, in the proper locations and configuration, is necessary in commercial, industrial and other high-use areas to relieve roadway congestion and provide convenient access to customers and employees. In smaller communities, such as East Lyme, where publicly-operated parking is generally not a necessity the responsibility for parking falls upon the land owner and is enforced through controls contained in the Zoning Regulations.

Parking is of particular concern in the downtown Niantic commercial districts and in the Flanders four corners commercial area. This is due to the dense concentration of business uses requiring convenient access and the degree of traffic congestion caused in part by the movement of vehicles in and out of on-street and off-street parking spaces. Parking space in East Lyme takes many forms. First, there are large lots open to customers of several medium or small retail centers. Second, there are small lots which are clearly reserved for patrons of businesses on the same lot. Third, there are many areas of vacant land used for parking that are adjacent to or near the businesses being patronized. Finally, there is on-street or curb parking.

Zoning Regulations control parking requirements. On the basis of past surveys (Niantic Parking Survey - SCCOG, East Lyme Planning Department, & Yale Report) it appears that overall capacity is sufficient to meet current and future parking needs (see FIGURE 40), however, there is an issue of access and visibility. Many people seeking parking places fail to locate them in the time necessary to make their shopping trip efficient. Aggravating the issue of parking is access, egress and inter-lot circulation problems. These problems cause confusion, which leads to an impression of inadequate parking space. The current problems are due to the evolution of parking lot construction over the years without an overall comprehensive plan for Niantic or Flanders.

FIGURE 40 - PARKING AREAS IN NIANTIC



Highlighted parking areas in Niantic Central Business District.

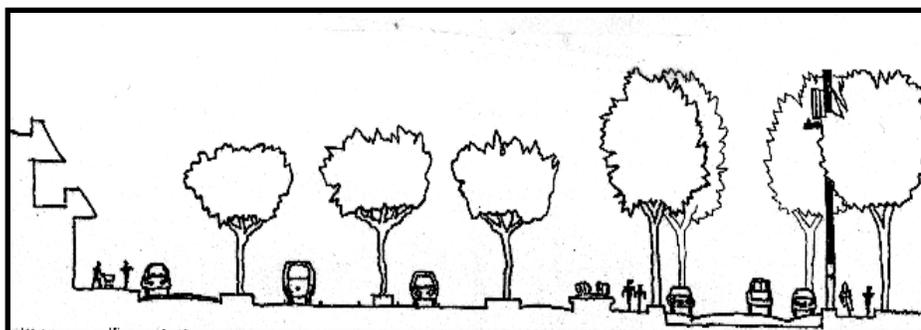
The current Zoning Regulations do provide for enough off-street parking for the land use permitted and do not require extensive changes at this time. There are several recommendations which will improve parking in East Lyme and provide for easier traffic flow on the main streets. They are as follows:

1. Establish a parking plan for the Town to include all current Town regulations, standards, maintenance requirements, regulation of curb cuts, updated signage and marking requirements for parking lots including directions to lots, approved changes and future improvements. All Town Commissions, Departments, etc. should have copies of this plan and factor it into any projects they are undertaking.
2. Current on-street parking areas, on all high-use streets of the Town, should be striped to show specific parking spaces. This will provide for more efficient use of available curb space, especially in the Main Street, Hope Street, Grand Street and Pennsylvania Avenue curb parking areas.
3. Increase on-street parking capacity in the Methodist Street area by the use of 45-degree angle parking alongside the railroad spur. The section of the street with angle parking should be restricted to one-way traffic northbound and Methodist Street itself should be restricted to one-way south between Hope Street and the split.
4. Review the possibilities of purchasing or leasing additional land for parking in both Niantic and Flanders. Areas for immediate consideration are the Railroad property between Pennsylvania Avenue and Methodist Street and the Dousis/Cone property on Hope Street.

5. Formalize the existing driveway connections between Main Street and State Road into one uniform alley to enhance parking access. Relocate to the alley the entrances to adjoining parking lots, thus eliminating curb cuts on main streets. Landscape the alley with trees and a sidewalk to distinguish it from adjoining parking lots and make it pedestrian friendly. Also, open an alley from Main Street to Grand Street, located mid-block between Washington Avenue and York Avenue, helping to stave off the need for expanding parking lots along Main Street.
6. Where possible, exit driveways connecting parking lots with Routes 156 and 161 should allow only right turns in order to reduce left turns across lines of traffic.
7. The right-of-way extending through the middle of the block from Main Street to Hope Street behind the IGA store, should be improved, by moving a utility pole with proper signage and marking. This right-of-way could serve as a main route of access to and egress from most of the businesses in this block. Using Hope Street as the main exit from this right-of-way would alleviate traffic on Main Street and Pennsylvania Avenue.
8. Encourage the establishment of guidelines by the Town, commercial owners and residential entities for shared parking facilities.

9. Promote the use of permeable lot paving materials that will reduce surface water runoff into the municipal waste water treatment system. Best management practices for roads and parking areas should be examined to include minimized use of curbing where appropriate, minimized disturbance when building new or improving existing roads, minimizing impervious surfaces in new roads and parking areas, regular sweeping of parking areas and roadways and routine catch basin maintenance.
  
10. Upgrade the appearance of parking lots and hence the Town's image by screening lots from the street with low landscaping or fences, planting shade trees at intervals along the lot perimeters and in medians (keeps lots and the surrounding buildings cooler in the summer) and providing safe and well-marked and lighted pedestrian paths within large lots. In new or greatly changed developments, place the parking lots behind the accompanying buildings (see FIGURE 41).

FIGURE 41 - CROSS-SECTION OF PENNSYLVANIA AVENUE



Cross-section of Pennsylvania Avenue from Supermarket on the left to Bank on the right. The dimensions given here illustrate modifications available to the right-of-way to promote traffic calming, increased parking and areas for pedestrians.

## 8.6 SIDEWALKS

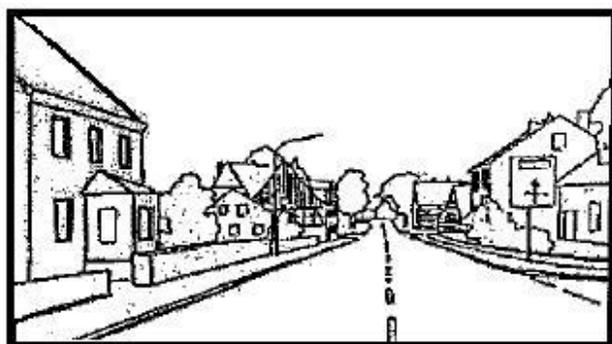
Sidewalks and walkways serve the useful purpose of safely providing pedestrian access to schools, shopping areas and other commercial activities. Within commercial areas, sidewalks stimulate business and improve vehicular traffic flow. Sidewalks are needed to provide for the safety of children who must walk to and from school and after school hours to and from stores and recreational facilities. Sidewalks also provide for the safety of the elderly who use walking as a mode of recreation and transportation. Current regulations require developers to construct sidewalks for new developments. The Town recently adopted a capital improvement plan to construct a sidewalk along Route 161 from Flanders to Niantic.

The following are recommended changes in the Town's sidewalk policies:

1. Establish guidelines for the construction of new and extension of existing sidewalks in the Town of East Lyme. This system should contain regulations for materials to be used in sidewalks, differentiation between sidewalk and street material, consistency of sidewalks across curb cuts, spacing and marking of street crosswalks, adequate and pedestrian-scaled walk lighting and size and location of walks.
2. An ordinance must be established which specifies the responsibility for maintenance of sidewalks within the Town.

3. Enhance the Town's streetscape and make sidewalks pedestrian friendly by planting trees, landscaping and providing street furniture. Encourage the use of small clusters of mobile seasonal outdoor tables and chairs in front of or adjacent to restaurants and cafes. Install a limited amount of permanent outdoor seating in areas between buildings or along walkways to parking lots. Where it is possible, use low retaining walls or fencing as seating areas instead of benches since walls and fences don't look conspicuously empty when not in use (see FIGURE 42 and
4. FIGURE 43).

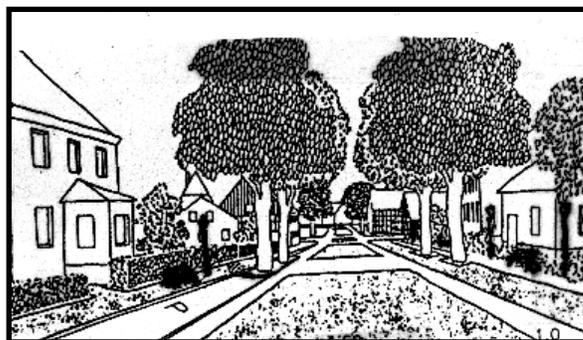
FIGURE 42 - RENDERING TYPICAL STREET RIGHT-OF-WAY



Depiction of a typical street right-of-way; gives the perception of a long, open roadway, which will likely result in increased speed.

FIGURE 43 - RENDERING STREET RIGHT-OF-WAY WITH ENHANCED STREETScape

Installation of street trees, crosswalks and same street right-of-way limits the driver's perspective to the neighborhood elements.



5. Require sidewalks and greenways in potential development areas.
6. Install a recreation trail in Niantic through the use of public properties and excess land on state property or rail lines.
7. Integrate the shopping centers in the Town's two villages with the walking public by linking retail buildings into the sidewalk system. Pave these sidewalks with material distinguishable from street and parking lot surfaces (see Figure in Appendix C, page 69).
8. Provide for an alternate recreational trail as a direct connection between the Flanders schools and the Community Center by constructing a trail/bike path, from the Flanders School through the cemetery road north of I-95, tunnel under I-95 and along Industrial Park Road to the Society Road complex containing the Community Center, the Smith-Harris House, the Middle School and Lillie B. Haynes. This would provide for safe travel between these schools and recreational areas without traversing Route 161 and should promote the use of the recreational facilities located at each end of the path (see Figure in Appendix C, page 189).
9. A capital funding plan should be enacted each year using state and local funds in cooperation with new development activities for enhanced sidewalks with landscaping and crosswalks where possible in the following areas:
  - New walks on the south side of Main Street from Haigh Street to Black Point Road.

- Reconstruct sidewalks and median with enhanced streetscaping on Main Street in Niantic from the intersection with Smith Street to the intersection with West Pattagansett Rd.
- Construct and reconstruct sidewalks and median with enhanced streetscaping on Route 1 and Route 161 in Flanders Center from the intersection of Route 1 with Upper Pattagansett Road to the village area terminus at the south entrance of the IGA Plaza and on Route 161 from its intersection with the high school driveway to the Interstate 95 overpass.
- The north side of Main Street from East Pattagansett Road to Park Place should allow a continuous walk.
- Extend sidewalks north on Route 161 to the high school and west on Route 1 to Upper Pattagansett Road, or even further to the Post Office. For pedestrians, user-controlled crossings (i.e., push button walk signals) should be installed at the corners with additional controlled crossings at the high school on Route 161 and near the Flanders Elementary School on Route 1. Other sidewalks should be added, as necessary, to make the Flanders Village area more pedestrian friendly.
- Sidewalks on Society Road should run from Route 161 to the Community Center, Smith-Harris House and two schools.
- Sidewalks should be installed in other areas of Town as dictated by safety concerns, i.e., where children walk to school, to connect schools with playfield areas and to connect between retail establishments within the villages.

## 8.6 CYCLING

Cycling is an avocation of people of all ages. It is used for short rides to school and work or for recreation. According to the Federal Highway Administration, "It is Federal transportation policy to promote increased use of bicycling, to accommodate bicycle and pedestrian needs in designing transportation facilities for urban and suburban areas, and to increase pedestrian safety."

When a road improvement is planned that has or will have substantial local traffic traveling between residential subdivisions, shopping facilities, employment centers, schools and municipal facilities, a bikeway and/or walkway should be incorporated in the improvement design and constructed at the same time as the other improvements. The Southeastern Connecticut Council of Governments has proposed various roads in southeastern Connecticut as recreational bike routes and some of these routes are in East Lyme (see FIGURE 34) and should be considered in future Town plans. Bicycles enable people to travel when they do not have access to a car. Bicycles also eliminate air pollution and traffic congestion caused by automobiles and provide healthy exercise for those who use them. Accommodations for bicycles may also enhance the visit for tourists in the area. To encourage the use of bicycles around Town and provide for their safe parking, the following is recommended:

1. The Town should provide racks for bicycles at strategic points around Town. These strategic points should be established as necessary during 8-24 reviews. The cost is minor and should be funded by the Town and donations from commercial entities.

2. The Town should develop long-range plans to accommodate cyclists with recreational bike routes as shown on the map; classes or brochures for both cyclists and motorists should be provided on the subject of roadway etiquette. Funding could be assisted by the local bike stores and cycling organizations. The Town should provide for unique, readable signs for designated bike routes throughout East Lyme.
  
3. In conjunction with SEAT's plan to purchase new buses, the Town's SEAT representative should strongly recommend adding bike racks on the front of the new buses. The racks are well used and encourage commuting. Bike racks would be useful on buses coming to East Lyme as only a few stops are made within the Town.
  
4. Consideration should be given, in response to the Federal Highway Administration's policy of promoting increased use of bicycling, to developing bikeways in conjunction with other improvement projects in the following areas:
  - Along the alternate sidewalk route from the Flanders school and proposed swimming pool to the schools and Community Center off Society Road.
  
  - Along the proposed Dodge Pond recreational trail.
  
  - Development of the old logging trail on the east side of Route 161 as a recreational area.

## 8.7 PUBLIC TRANSPORTATION

### 8.7.1 Bus Service

Currently, public transportation service in East Lyme is provided by buses operated by Southeast Area Transit (SEAT). SEAT currently operates a fleet of 25 buses which run from about 6 AM through 7 PM on weekdays with some curtailed service on Saturday and no service on Sundays. SEAT provides two types of service: Local service consists of high service routes to urban centers within the region: New London, Norwich and Groton. Corridor service links the participating SEAT towns together with inter-municipal routes along the coastline and up the Thames River.

East Lyme is part of the corridor service which includes Groton, New London and Niantic. Buses make six runs to Niantic during the course of a weekday. The buses come into East Lyme through Flanders Four Corners, down Route 161 to Main Street, then some runs stop at the CT Correctional Institute. All runs leave Niantic heading east over the Niantic River Bridge. No Saturday service is available.

Currently, SEAT is proposing doubling the public bus services with 65 new buses, new stops and round-the-clock services. This would allow the region to capture the growing tourist market by offering frequent bus routes to key attractions from motels and large parking lots. Expansion of the bus system will also help alleviate the traffic problems expected in the area. This expansion should benefit residents, businesses and visitors alike.

State and federal funding will be necessary for an expansion of this size. Efforts are being made through the state legislature and the state's representatives in Congress to obtain grants for the estimated \$32.8 million needed for this expansion.

Within the Town, demand response transportation for the citizens of East Lyme who are 60 years of age and older is provided through the Nicholas Parahus Senior Center. One of the vehicles is equipped with a wheelchair lift providing transportation to seniors who have disabilities. The Center operates with two vehicles which run a combined 59.5 hours per week. The total mileage for the two vehicles is approximately 2000 miles per month. For the past three years, the Senior Center vehicles have averaged greater than 4,600 passenger trips per year.

Recommended improvements to bus service within East Lyme is as follows:

1. The Town should support an expanded public transportation service (from shuttle service to large SEAT buses per demand) to provide mobility to those population groups without the use of personal transportation, to accommodate tourists visiting the area, to promote local business activity and to reduce the level of in-town and regional auto traffic. Attractive bus shelters should be placed at convenient locations on the primary routes.
2. The Town should, through membership on SEAT, lobby for a mini-SEAT terminal at Exit 74 off I-95 in the current plans for SEAT expansion. The Town representative should also encourage the expansion of SEAT services to East Lyme.
3. The Senior Center vehicles were purchased in 1986 and 1991 and their age is becoming apparent, as greater maintenance costs are incurred each year. The Town should be making plans for the replacement of these vehicles. Participants in the Senior Center should consider running money-making activities so they may make a contribution toward the funding of new vehicles.

4. As another alternative, a trolley or van system (handicapped accessible bus) could be provided on a circular route through Town (Route 161 to Route 156 to North Bridebrook Road to Route 1 and back to Route 161). This concept could be done to compliment and make SEAT service more efficient.

### **8.7.2 Rail Service**

In southeastern Connecticut, north-south rail freight service is provided by the Central New England Railroad and the Providence and Worcester Railroad. Operating east-west passenger service is provided along Long Island Sound by AMTRAK with stops at New London, Mystic and Westerly, RI. Given the historical demands for both passenger and freight services, the region has the potential to be well served by the rail system as a result of the proximity of the rail lines to southeastern Connecticut.

The addition of Shoreline East Service in 1996 was important to the rail services available within the region. The prospect of improved rail service as part of AMTRAK's electrification program, at the same time that travel demand is increasing from gaming and tourism destinations, provides a unique opportunity for the region to help redirect tourist access to the region from exclusively car, to both rail and car access. Every opportunity to promote this service should be pursued with vigorous lobbying occurring for a train stop in the Niantic Central Business District, as well as Rocky Neck Beach.

Proposals for new light rail, monorail and magnetic levitation systems are all being considered for the area, but no commitment can be made until the completion of an environmental study. The Town should be aware of the actions in this area and become involved in any project that would be advantageous to East Lyme.

1. Town government should press the proper political, technical and financial organizations to establish a commuter rail station in downtown Niantic. This will enhance the Town's image as a residential and tourist area. It will more importantly provide for alternative intermodal travel link-ups for travelers to the region by combining the rail stop with shuttle service. Use of the old train depot should be encouraged with the cooperation of the existing owner of the building. The owner would benefit from the increased business next to a train stop and the Town would eliminate the need for acquisition or eminent domain.
2. The Town should be working with AMTRAK at this time to have rail underpasses and fences between the tracks and Town areas factored into rail changes required by the AMTRAK Electrification Program. Funding for these items should be applied for from High Speed Rail compensation funds and from ISTEA funds. The fencing between the rails and the streets, parking lots, beaches, etc., should not only provide for safety, but also be attractive and unique. The uniqueness should identify the Town to train passengers. The underpasses should be light and decorative and as inviting as possible.

### **8.7.3 Airports**

Southeastern Connecticut has a dozen private airports within its boundaries. The only public airport in the region is the state-owned Groton-New London Airport, whose primary role is that of an air carrier and general aviation airport. A master plan for this airport is now in the process of being updated. Again, the East Lyme government should be aware of this plan and ensure that other public transportation connections will service East Lyme.

#### 8.7.4 Signage and Markings

Many recommendations for signage and markings have been made in previous parts of this section, but there are several items that were not detailed or included as recommendations that are worthy to be considered:

1. The Town should press the State Department of Transportation to install signs along I-95 showing where fuel, food and lodging are available at exits in East Lyme. The signs should be definitive and show the names of the businesses that are offering the fuel, food and lodging.
2. The Town should encourage the State Department of Transportation to place additional signs on Interstate 95 to warn of the coming split onto the turnpike (I-395). These should be placed up to 1-1/2 miles ahead of the split to enable motorists to safely merge into the lane they want.
3. In conjunction with any project the Town undertakes to designate various roads as bike routes, the Town should install unique signs at various locations identifying these roads as such.
4. East Lyme should install throughout the Town signs indicating turn lanes. These signs should be far enough in advance of a turn to allow adequate distance for cars to merge safely into the turn lane before coming to the turn.

5. The I-95 underpass and bridge at Route 161 serves as the official "gateway" to East Lyme and are visible to everyone approaching the Town. To enhance this "gateway", a decorative upgrading of the underpass and bridge should be undertaken. Lighting, colorful painting or murals and decorative safety fencing should be provided.
  
6. The telephone poles which presently run on the east side of Route 161 create a rhythm and a pace as you travel the route from Flanders to Niantic. These poles, by painting them, can be used to enhance the "gateway" at I-95 and can emphasize the connection between Flanders and Niantic village centers. A possible color scheme would be to paint the bottom eight feet of each pole white and then add a two foot wide blue band at the top of the white suggesting the nautical, seaside nature of the Town.
  
7. Provide signs for attractive uniform directional signs for business districts, recreational areas and coastal access areas.

**CHAPTER 9: RECOMMENDATIONS & IMPLEMENTATION**

*Reserved For Future Use*