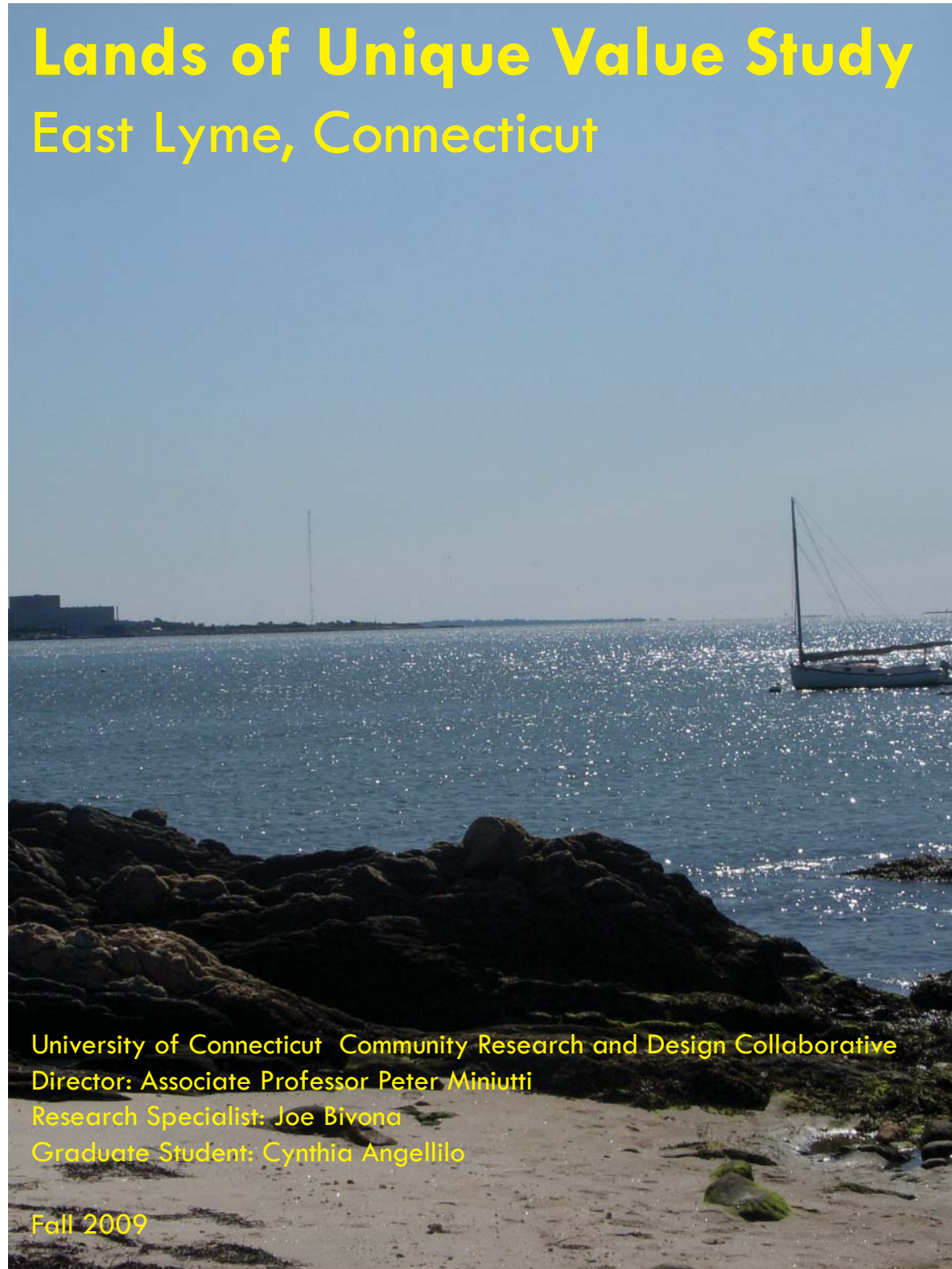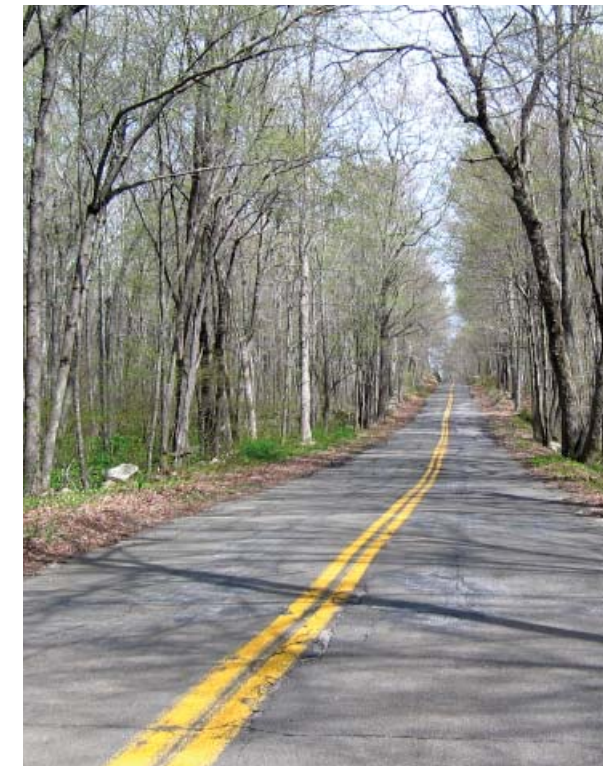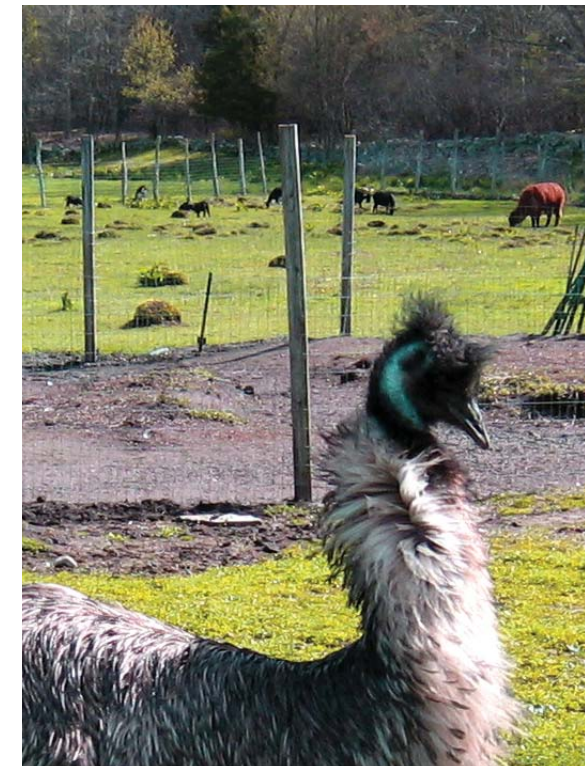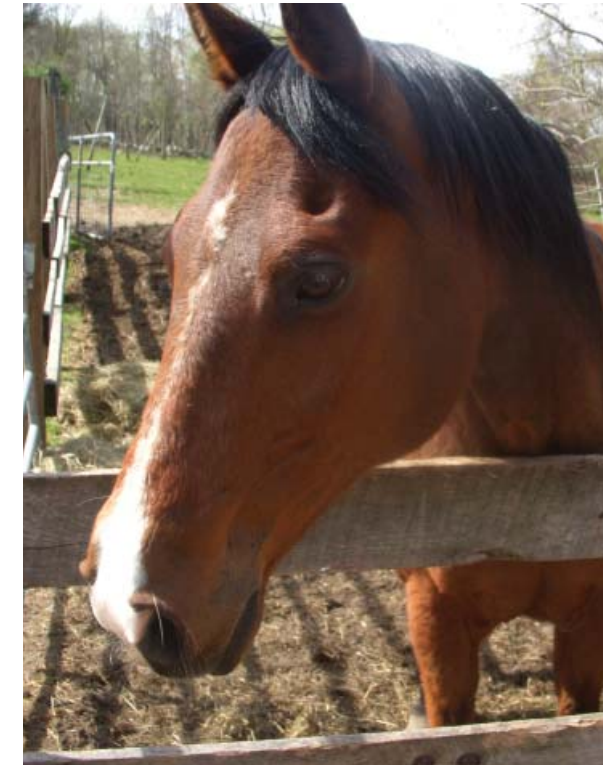# Lands of Unique Value Study
East Lyme, Connecticut

University of Connecticut Community Research and Design Collaborative
Director: Associate Professor Peter Miniutti
Research Specialist: Joe Bivona
Graduate Student: Cynthia Angellilo

Fall 2009

Team Members and Acknowledgements:

Primary Team:
University of Connecticut Community Research and Design Collaborative
Collaborative Director: Associate Professor Peter Miniutti
Research Specialist: Joe Bivona
Graduate Student: Cynthia Angellilo

East Lyme Town Planner:
Gary Goeschel

Project Sponsors:
Town of East Lyme - First Selectman Paul Formica
University of Connecticut - Department of Plant Science and Landscape Architecture
Department Head Mary Musgrave

East Lyme LUV Steering Committee
Chair Bob Bulmer (Zoning Commission)
Christianson, Mark (Commission for the Conservation of Natural Resources)
Kenny, Drew (Planning Commission alt.)
Formica, Paul (First Selectman)
Goeschel, Gary (Planning Director)
Mulholland, Bill (Zoning Official)
Peck, Norm (Zoning Commission)
Picarazzi, Lisa (Chair Planning Commission)
Zoller, David Water and Sewer Commission)

Special Consultants:
Associate Professor Norman Garrick (Transportation Engineering)
Assistant Professor Carol Atkinson-Palombo (Spatial Analysis)

The "Lands of Unique Value" methodology has been developed by
Associate Professor Peter Miniutti as part of his responsibility to the
Program of Landscape Architecture at the University of Connecticut.
Please contact Peter at: peter.miniutti@uconn.edu
with any suggestions, comments or concerns regarding this study.
Associate Professor Peter Miniutti, Director of the CRDC will
manage the study. Peter will be supported by graduate and
undergraduate students from UConn. This study is usually done as
a precursor to the state mandated Plan of Conservation and
Development. East Lyme's PC&D needs to be updated by 2010.
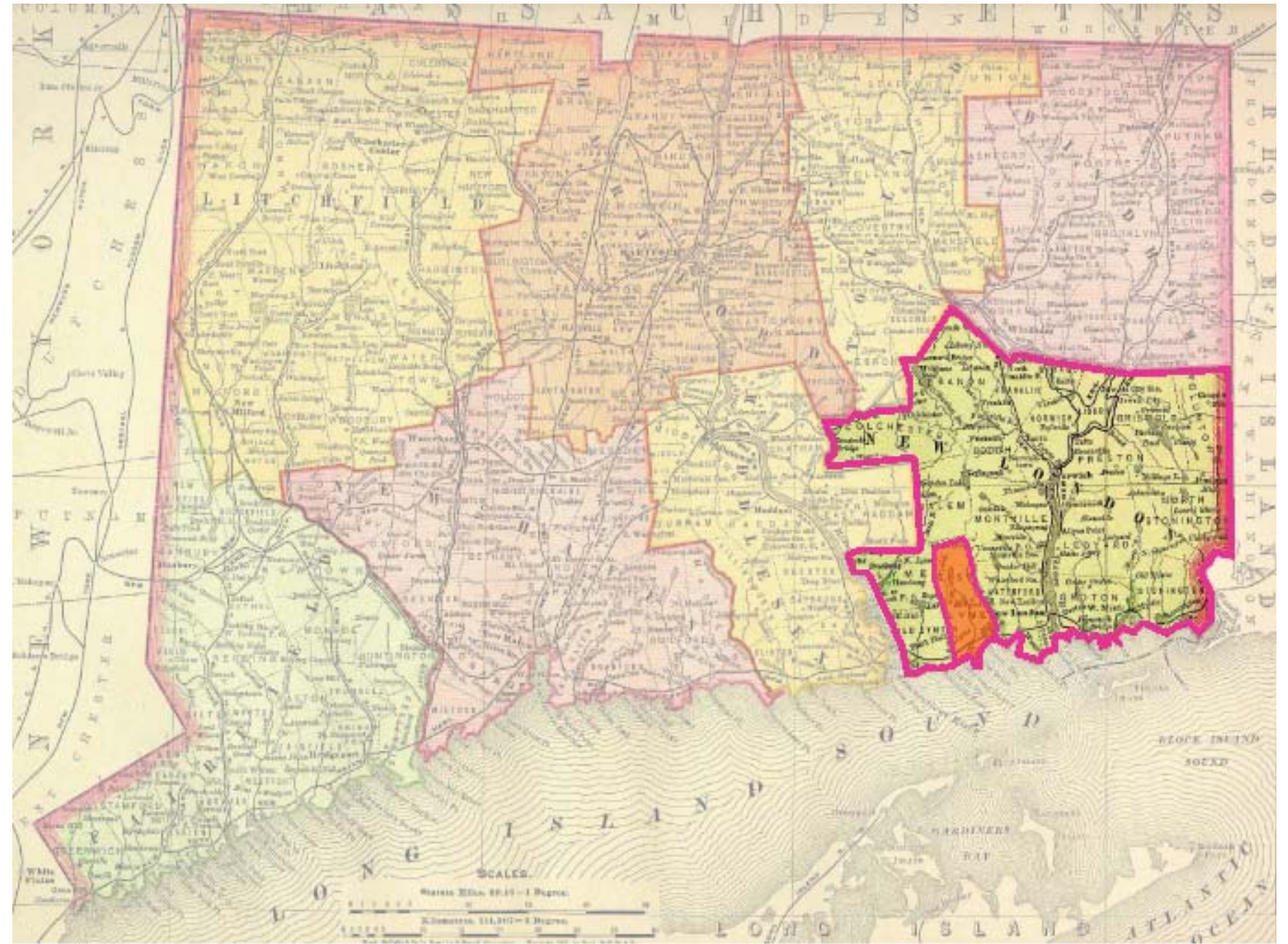
1856 Map of Connecticut with New London County and the Town of East Lyme highlighted.

A few words regarding UConn's Community Research and Design Collaborative.....
The CRDC mission is to be a regional leader in sustainable planning and design. We help municipalities plan and design affordable, equitable, and ecologically healthy environments. Our mission is accomplished by providing municipalities with objective, multi-disciplinary, state-of-the-art planning and design expertise. We promote and encourage academic-based collaborative research with an emphasis on "real world" projects as they apply to sustainable development.

We want to help you because UConn is a land grant university committed to serving the state. The land grant mission is a living, working reality that impacts communities at all points along the socioeconomic spectrum. Outreach is an essential component of a land-grant university. UConn recognizes, supports and encourages outreach through a wide variety of activities and programs, including service learning as an educational model. Service learning is:

> ... a method of teaching through which students apply their academic skills and knowledge to address real-life needs
> in their own communities. Service learning provides a compelling reason to learn, teaches the skills of civic participation
> and develops an ethic of service and civic responsibility. By solving real problems and addressing real needs, students
> learn to apply classroom learning to a real world context. At the same time, students provide valuable services to communities.

USGS Map. The Town of East Lyme is outlined in orange.

Contents:

Preface: Lands of Unique Value (LUV) Methodology

A Lands of Unique Value (LUV) Study is a comprehensive town-wide land use study facilitated by UConn's Community Research and Design Collaborative. The LUV methodology inventories and analyzes all existing town features (natural and cultural), then prepares a visionary plan of all proposed land uses. This inclusive, community based methodology determines the most logical and reasonable locations for future land uses, balancing conservation, preservation and sustainable development. The LUV methodology is a "pro-sensible development" attitude.

Environmental Protection Agency and Smart Growth

Says EPA:
Through smart growth approaches that enhance neighborhoods and involve local residents in development decisions, these communities are creating vibrant places to live, work, and play. The high quality of life in these communities makes them economically competitive, creates business opportunities, and improves the local tax base.

The LUV methodology supports and is in unison with the EPA's attitude about Smart Growth.

EPA's 10 Guidelines for Smart Growth:
Smart Development:
1. Mix land uses
2. Take advantage of compact building design
3. Create housing opportunities and choices for a range of household types, family size and incomes
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Re-invest in and strengthen existing communities & achieve more balanced regional development
7. Provide a variety of transportation choices

Conservation /Preservation:
8. Preserve open space, farmland, natural beauty, and critical environmental areas

Decision Making:
9. Make development decisions predictable, fair and cost-effective
10. Encourage citizen and stakeholder participation in development decisions

Photos of Steering Committee and Public Workshops.
The Steering Committee members include elected officials, staff and citizens of the town.
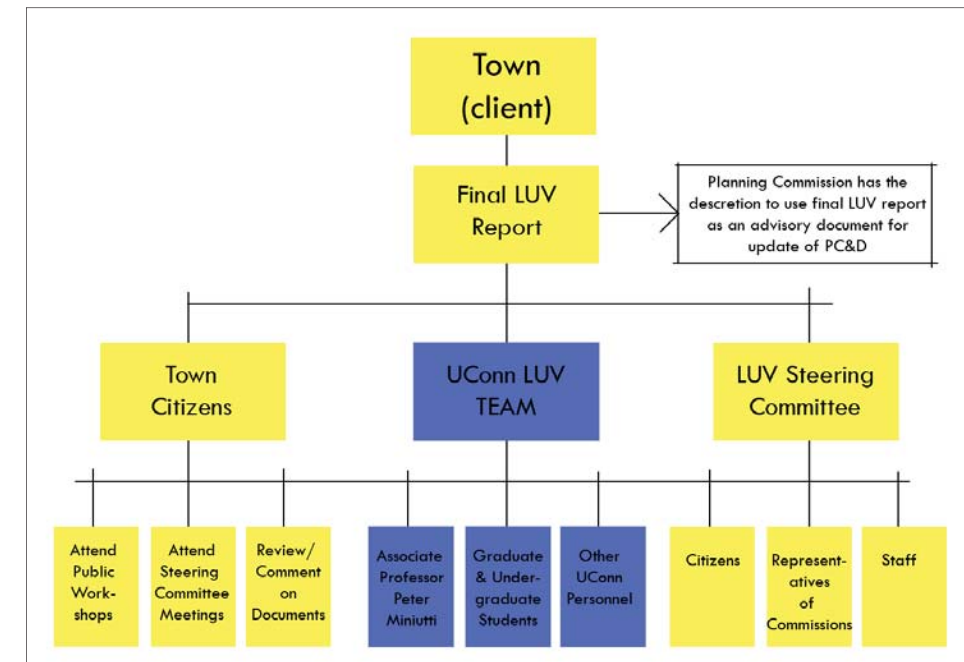
Overall Project Hierarchy. The UConn Team acts as a facilitator to help town's better understand the consequences of land use planning decisions.
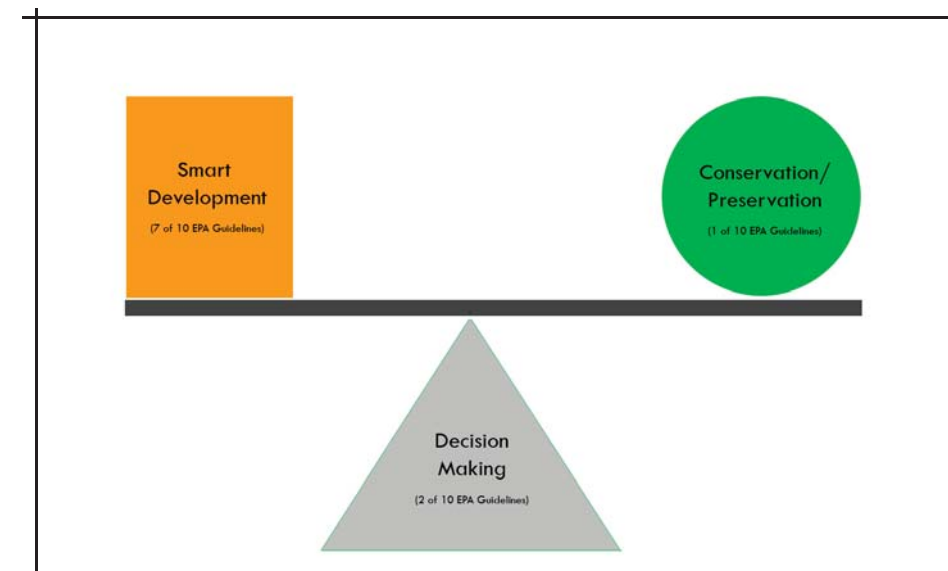
Diagram of EPA's 10 Guidelines for Smart Growth. This diagram shows the interrelatedness of protection of the environment and smart development.

Preface: LUV Methodology = Replicable Planning Process

The over-arching objective of this study is to demonstrate, by example, an innovative approach to local land-use planning, and at the same time provide both East Lyme and the Regional Planning Commission with information and tools to intelligently and pro-actively plan for smart growth in the future.

The "Lands of Unique Value" study for East Lyme is being conducted under contract with Associate Professor Peter Miniutti of University of Connecticut's Program of Landscape Architecture. This cooperative project, which includes a steering committee consisting of land use commission members, staff, elected officials and citizens will create and update an inventory of the town's natural, cultural, and visual features and provide recommendations for future land uses and associated regulatory revisions for land under municipal regulatory jurisdiction. The mapping information generated, which coordinates with the town's GIS mapping system will be an important data source for East Lyme's Plan of Conservation and Development, which is scheduled to be completed in 2010. It is also our expectation that the "Lands of Unique Value" vision will be incorporated into the town's Plan of Conservation and Development, zoning regulations, and into the region's Growth and Preservation Guide Plan. Local decision-makers will be provided with a flexible and accessible land management document to help guide decision-making on a daily basis.
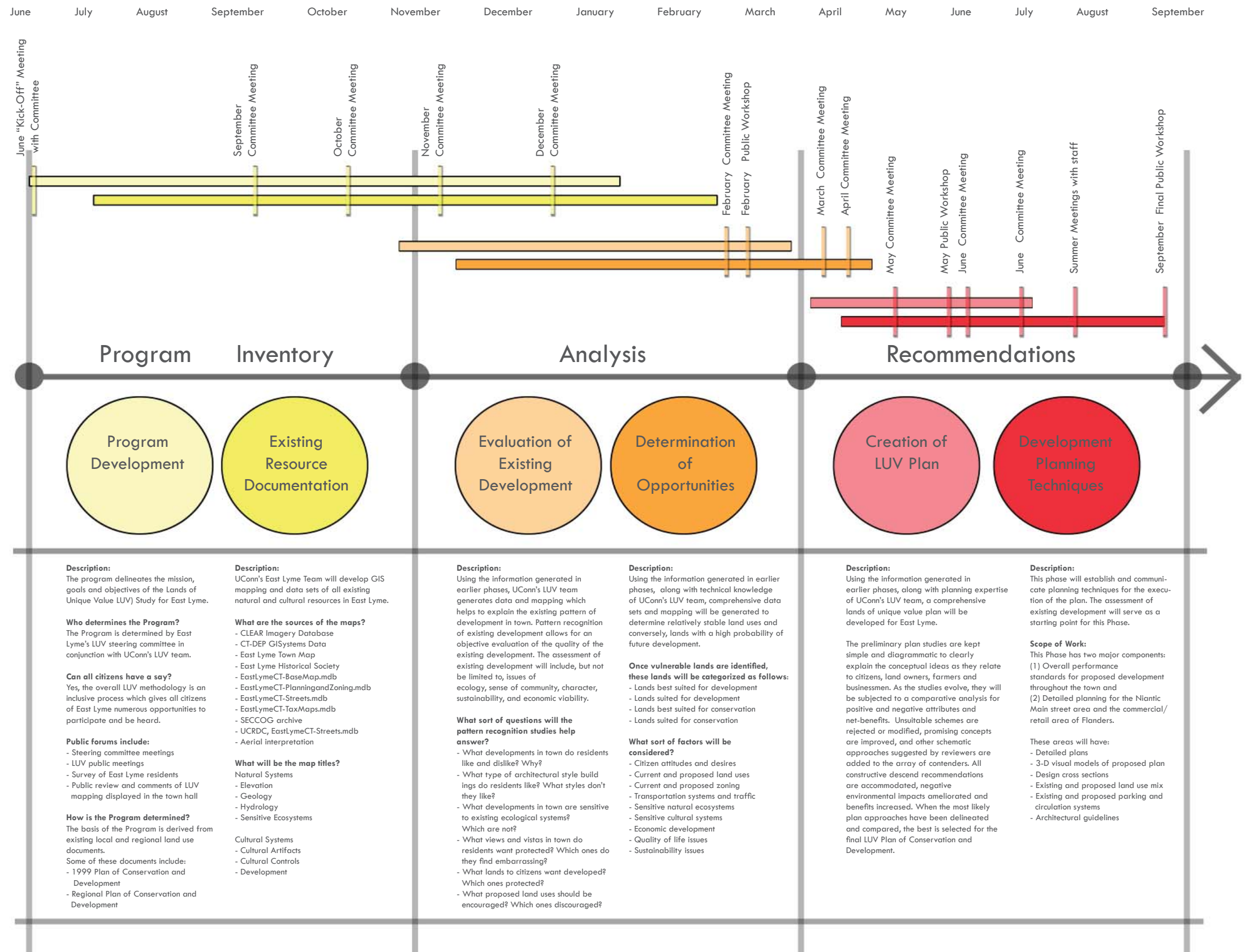
Timeline: June | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September

Meetings: June "Kick-Off" Meeting with Committee · September Committee Meeting · October Committee Meeting · November Committee Meeting · December Committee Meeting · February Committee Meeting · February Public Workshop · March Committee Meeting · April Committee Meeting · May Committee Meeting · May Public Workshop · June Committee Meeting · June Committee Meeting · Summer Meetings with staff · September Final Public Workshop

Program | Inventory

Program Development

Existing Resource Documentation

Analysis

Evaluation of Existing Development

Determination of Opportunities

Recommendations

Creation of LUV Plan

Development Planning Techniques

Description:
The program delineates the mission, goals and objectives of the Lands of Unique Value (LUV) Study for East Lyme.

Who determines the Program?
The Program is determined by East Lyme's LUV steering committee in conjunction with UConn's LUV team.

Can all citizens have a say?
Yes, the overall LUV methodology is an inclusive process which gives all citizens of East Lyme numerous opportunities to participate and be heard.

Public forums include:
- Steering committee meetings
- LUV public meetings
- Survey of East Lyme residents
- Public review and comments of LUV mapping displayed in the town hall

How is the Program determined?
The basis of the Program is derived from existing local and regional land use documents.
Some of these documents include:
- 1999 Plan of Conservation and Development
- Regional Plan of Conservation and Development

Description:
UConn's East Lyme Team will develop GIS mapping and data sets of all existing natural and cultural resources in East Lyme.

What are the sources of the maps?
- CLEAR Imagery Database
- CT-DEP GISystems Data
- East Lyme Town Map
- East Lyme Historical Society
- EastLymeCT-BaseMap.mdb
- EastLymeCT-PlanningandZoning.mdb
- EastLymeCT-Streets.mdb
- EastLymeCT-TaxMaps.mdb
- SECCOG archive
- UCRDC, EastLymeCT-Streets.mdb
- Aerial interpretation

What will be the map titles?
Natural Systems
- Elevation
- Geology
- Hydrology
- Sensitive Ecosystems

Cultural Systems
- Cultural Artifacts
- Cultural Controls
- Development

Description:
Using the information generated in earlier phases, UConn's LUV team generates data and mapping which helps to explain the existing pattern of development in town. Pattern recognition of existing development allows for an objective evaluation of the quality of the existing development. The assessment of existing development will include, but not be limited to, issues of ecology, sense of community, character, sustainability, and economic viability.

What sort of questions will the pattern recognition studies help answer?
- What developments in town do residents like and dislike? Why?
- What type of architectural style build ings do residents like? What styles don't they like?
- What developments in town are sensitive to existing ecological systems? Which are not?
- What views and vistas in town do residents want protected? Which do they find embarrassing?
- What lands to citizens want developed? Which ones protected?
- What proposed land uses should be encouraged? Which ones discouraged?

Description:
Using the information generated in earlier phases, along with technical knowledge of UConn's LUV team, comprehensive data sets and mapping will be generated to determine relatively stable land uses and conversely, lands with a high probability of future development.

Once vulnerable lands are identified, these lands will be categorized as follows:
- Lands best suited for development
- Lands suited for development
- Lands best suited for conservation
- Lands suited for conservation

What sort of factors will be considered?
- Citizen attitudes and desires
- Current and proposed land uses
- Current and proposed zoning
- Transportation systems and traffic
- Sensitive natural ecosystems
- Sensitive cultural systems
- Economic development
- Quality of life issues
- Sustainability issues

Description:
Using the information generated in earlier phases, along with planning expertise of UConn's LUV team, a comprehensive lands of unique value plan will be developed for East Lyme.

The preliminary plan studies are kept simple and diagrammatic to clearly explain the conceptual ideas as they relate to citizens, land owners, farmers and businessmen. As the studies evolve, they will be subjected to a comparative analysis for positive and negative attributes and net-benefits. Unsuitable schemes are rejected or modified, promising concepts are improved, and other schematic approaches suggested by reviewers are added to the array of contenders. All constructive descend recommendations are accommodated, negative environmental impacts ameliorated and benefits increased. When the most likely plan approaches have been delineated and compared, the best is selected for the final LUV Plan of Conservation and Development.

Description:
This phase will establish and communicate planning techniques for the execution of the plan. The assessment of existing development will serve as a starting point for this Phase.

Scope of Work:
This Phase has two major components:
(1) Overall performance standards for proposed development throughout the town and
(2) Detailed planning for the Niantic Main street area and the commercial/retail area of Flanders.

These areas will have:
- Detailed plans
- 3-D visual models of proposed plan
- Design cross sections
- Existing and proposed land use mix
- Existing and proposed parking and circulation systems
- Architectural guidelines

Diagram of UConn's Team Project Methodology.

Introduction: East Lyme's Vision, Mission, Goals and Objectives

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.

The vision of East Lyme is to ensure that changes enhance East Lyme's maritime and traditional New England character and seeks to carefully balance the need for economic development and land use with the preservation of natural, recreational, scenic, historic, cultural and natural, recreational resources.

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 protected for future generations.

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 C), 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" 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).

Introduction: Existing Neighborhoods East Lyme's #1 Resource

Existing Neighborhoods. The town of East Lyme is comprised of eight well-defined neighborhoods. The land north of Route 95, known as Flanders has three neighborhoods. The lands known as Niantic, which are south of Route 95 have 5 neighborhoods. The UConn LUV Team views the existing town neighborhoods and their unique features to be the town's most valuable assets.

Flanders: North
- Southern boundary defined by sudden change in density
- Runs along Northern part of Flanders Road
- Strong agricultural presence; rural character
- State forest
- Significant change in grade and high elevation
- Not as nearly as developed as Southeastern Flanders
- Limited land use diversity
- High elevation and significant grade change spectrum

Flanders: East
- Largely associated with Four Corners intersection
- Southern edge defined by highway
- More recently developed than Niantic
- Northern edge defined by golf course
- Associated with High School and commercial development
- Fairly low elevation
- Most land use diversity in Flanders

Flanders: West
- Higher elevation than Eastern Flanders
- Slightly more rugged Eastern Flanders
- Less diversity in land use (mostly residential)
- Southern border and access created by highway
- Boston Post Road acts as northern edge
- Vegetation is largely forested
- Agricultural presence

Niantic: East
- Higher elevation than Eastern Flanders
- Slightly more rugged Eastern Flanders
- Less diversity in land use (mostly residential)
- Southern border and access created by highway
- Boston Post Road acts as northern edge
- Vegetation is largely forested
- Agricultural presence (not as much as Northwestern Flanders)

Niantic: North
- Identity strongly linked to Gorton Pond and Oswegatchie Hills
- Northern boundary formed by sudden change in land use and development pattern
- Associated with Flanders Corner
- Runs along northern part of Rt. 161 in Niantic
- Terrain slightly more rugged than southern Niantic
- Land use is residential with pockets of community resources
- Vegetation is slightly more woody than Central Niantic

Niantic: West
- Northern edge and entrance formed by highway
- Associated with Rocky Neck, correctional facility, parks, etc
- Proximity to Niantic Bay, beaches, and railroad
- Slightly more wooded than Central Niantic and less
- Reasonable land use diversity
- Extremely dense development
- Runs along western stem of Main Street
- Fairly flat terrain

Niantic: Central
- Proximity and views to Niantic Bay and River
- Land Use Diversity (Mixed-Use & retail)
- Epicenter formed by the intersection of Route 161 and Main Street
- Terrain is fairly flat
- Vegetation is largely comprised of beach/lowland type species
- Associated with railroad and drawbridge
- Maritime vernacular

Niantic: South
- Strong connection to Niantic Bay and beaches
- Railroad and sudden change in land use act as northern edge
- Largely residential with maritime vernacular
- Vegetation is mostly beach-like with woodland in interior
- Development not as recent
- Very dense development

Introduction: Challenges = Existing Sprawl Development

Sprawl: 1) Spreading of a city and its suburbs over rural land at the fringe of an urban area. 2) Excessive spatial growth characterized by low-density auto-dependent development and fragmented land use patterns, which separate residential uses from other land uses. Sprawl and relies heavily on automobile transportation to connect the separate uses. 3) Development far beyond a region's historic core.

Sustainable land use planning is needed at local, national and global levels. Natural disasters have decimated cities like New Orleans and Phuket. Although the damage was exacted in a matter of hours; these heavily populated areas were made vulnerable by decades of poor land use decisions. Poor land use decisions are also negatively affecting the health, safety and welfare of the citizens of Connecticut and East Lyme. Our highways are getting more congested because our average per-capita driving rate is climbing by almost 500 miles each year. Eighty percent of the state's 1.6 million workers commute alone. Air and water pollution continues unabated threatening water supplies, aquifers and delivery systems. According to a 2004 Rand Corp. study of 38 metropolitan areas, sprawl is partially responsible for obesity, health problems and social isolation, with many elderly suburban dwellers unable to drive and ready to move wherever they can find

services and amenities within walking distance, but finding these options limited. We have lost nearly 50,000 acres, or 12 percent of our farmland between 1997 and 2002, which is the highest nationwide. Still "a desirable place to live" despite all these problems, Connecticut will squander its advantages "if sprawl continues unabated," the Hartford Courant editorial warns, calling state leaders, lawmakers, local officials and residents to action. Lawmakers have finally produced an anti-sprawl bill and a farmland preservation bill to divert growth from environmentally fragile areas and spur it near regional urban centers and major transportation corridors. "It's not a full blown smart-growth bill," said American Planning Association state chapter vice president Donald Poland about the anti-sprawl bill, "but I think it's a big first step in Connecticut," where one of the main problems is "a lack of state planning."
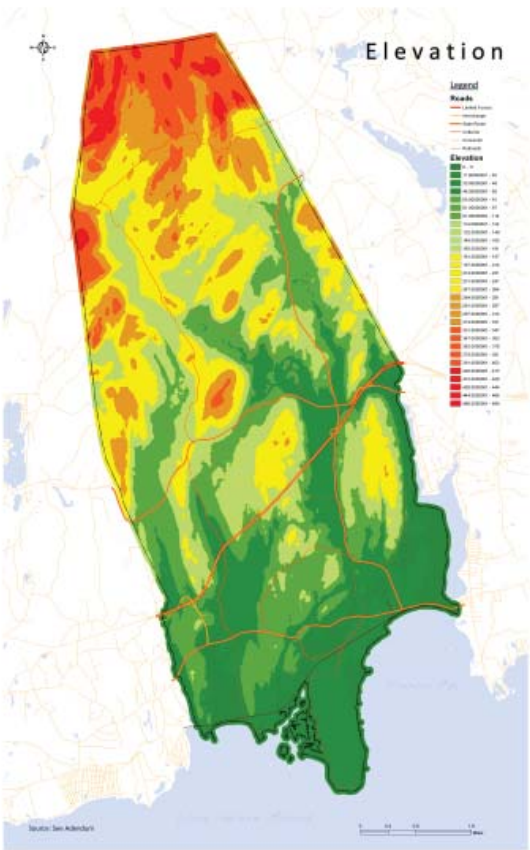
Elevation Map of East Lyme. The higher elevations are to the north and the south of town is at sea level.

Soils Map. The majority of soils associated with aquifers are shown occupying the lower elevations in town.
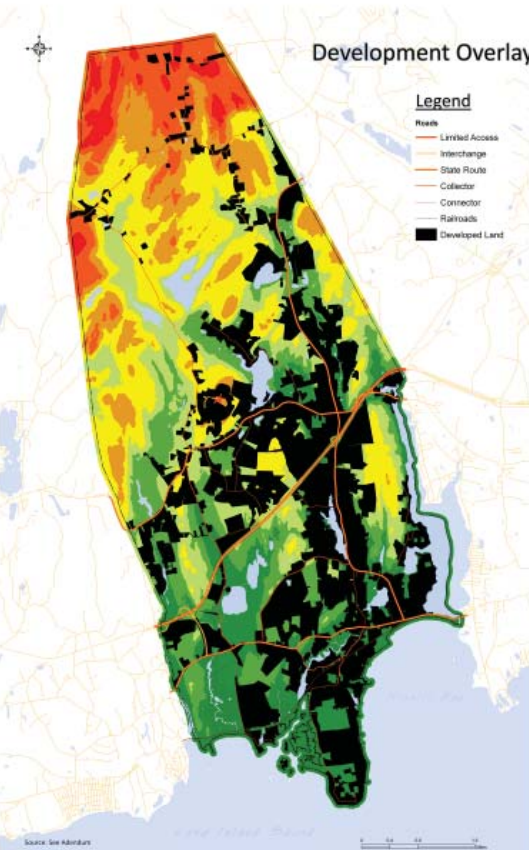
Existing Development (in black). The majority of development is located in the lower elevations and on top of the vulnerable soils. The majority of land with development potential is in the higher northern elevations were the predominant existing land use is farming.

Photo Comparison: East Lyme Architecture and Land uses

The "Before" photographs show mixed-use buildings of at least two stories in height built in a New England style. The buildings have front porches which engage the public realm of the street and encourages social interaction.

By contrast, the "After" photographs show single-use, single story buildings with no meaningful relationship with the street. In fact, the buildings seem to be mistrustful of the street and take on a hostile, brutish demeanor.

Ice Cream in East Lyme
Before Sprawl   After Sprawl 2009

Town Hall in East Lyme
Before Sprawl   After Sprawl 2009

Main Street in East Lyme
Before Sprawl   After Sprawl 2009
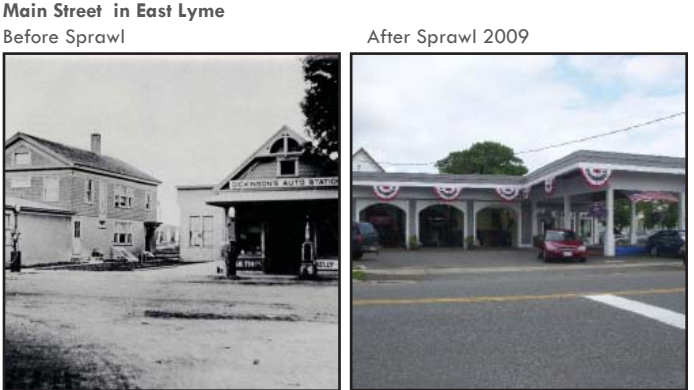
Introduction: Challenges = Potential Future Sprawl Development

Development Overlay

Future Development (in gray). This map shows the pattern of future development based on exisitng planning and zoning regulations. See additional information about the "Yield Plan".

East Lyme Zoning
Existing and Future Development

Existing and Future Development
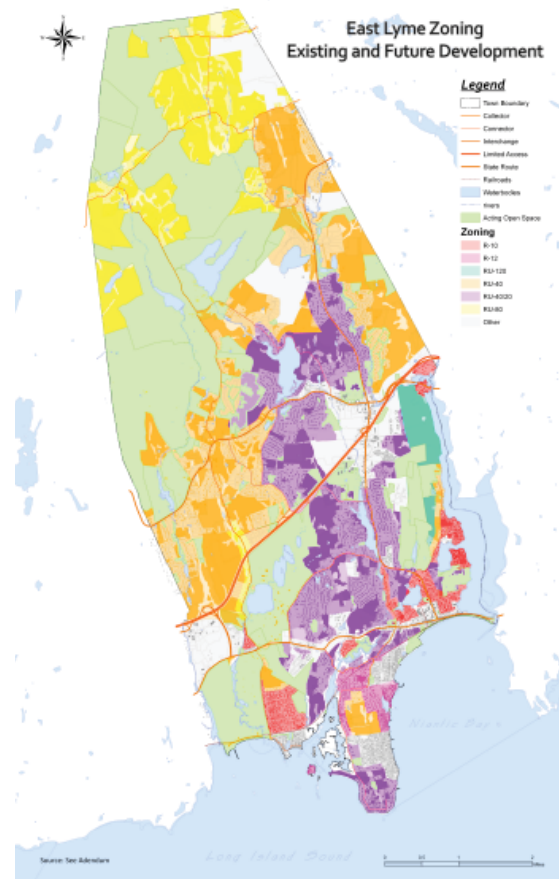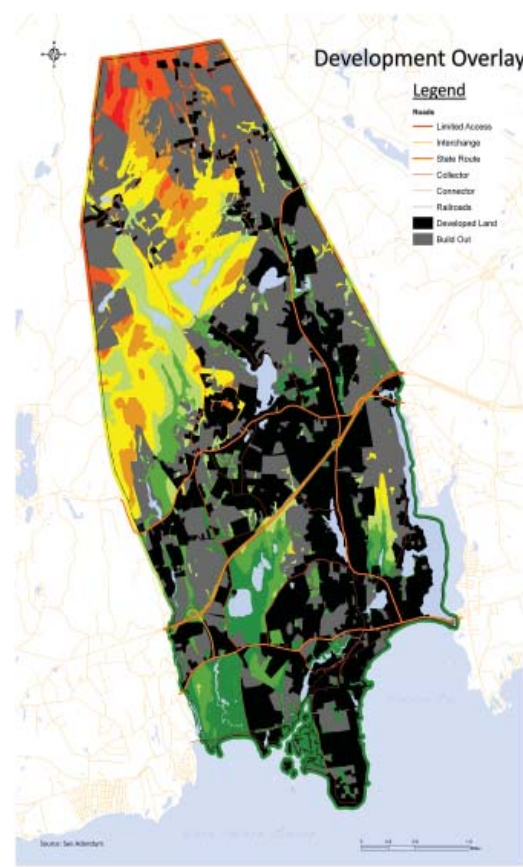
Yield Based on Existing Planning & Zoning

Zone	Existing Development		Potential Development	
	Acres	Structures	Acres	Structures
R-10	537	1972	32	48
R-12	219	554	17	17
RU-40/20	2376	3376	1027	770
RU-40	**1747**	1531	**2334**	1750
RU-80	**280**	360	**1696**	636
RU-120	**14**	7	**261**	65
Total	**5173**	**7800**	**5367**	**3286**

Future Development. The majority of lands with development potential are in Flanders where the existing zoning allows for larger lots (1 -3 acres). For sake of comparison, there are now 2,000 acres of larger lot subdivisions. There is a potential for an additional 4,000 acres of larger lot subdivisions. Now is the time to change development patterns to preserve East Lyme's natural and cultural resources

Photo Comparison: East Lyme Transportion and Town Planning

The "Before" photogrtaphs show multi-modal transportation systems which exhert a posyive influence on the day to day lives of residents, i.e. train station,tree lined Main Street and trolley stops.

By contrast, the "After" photographs show traospoprtation systems which connect along thier lenght and seperate across their width. Train tracks are fenced off. Roads are too wide to safely cross on foot.

Pennsylvania Avenue
Before Sprawl   After Sprawl 2009

Railroad adjacent to Niantic Bay
Before Sprawl   After Sprawl 2009

Intersection of Main Street and Penn Ave.
Before Sprawl   After Sprawl 2009

Chapter 1   Recommendations

The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired, in value. Conservation means development as much as it does protection.

Theodore Roosevelt

Our recommendations are organized into four categories: Future Development, Transportation Improvements, Future Open Space and Future Community Character.

Each of the four categories consists of a map/legend and a matrix showing the relationship between each recommendation and EPA's 10 Guidelines for Smart Development.

Map of Future Development Recommendations

Methodology:
Step 1: Identify potentially developable land.
Step 2: Identify existing land uses and patterns of development.
Step 3: Evaluate constraints of undeveloped land.
Step 4: Evaluate opportunities of undeveloped land.
Step 5: Determine which sites have the best suitability for its corresponding land type.

Town Objectives:
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 quality of life for East Lyme residents. 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 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. East Lyme should continue to provide for multi-family housing to meet need for a variety of housing types at affordable cost. Support agriculture as an important economic activity as a means to help insure a more sustainable food and resource supply and as a critical component of the traditional landscape.

Map of Future Transportation Recommendations

Methodology:
Step 1: Identify constraints for existing and potential modes of transportation.
Step 2: Identify opportunities for existing and potential modes of transportation.
Step 3: Assess existing nodes, intersections, and gateways.
Step 4: Determine best location for transportations hubs
Step 5: Define key pedestrian zones and implement techniques accordingly

Town Objectives:
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. 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.

Map of Future Open Space Recommendations

Methodology:
Step 1.) Locate undeveloped and partially developed parcels as potential open space designation areas
Step 2.) Mapping Sequence
    a. Map natural features conducive to open space designation due to legal protection and constraints to construction.
    b. Map high points, aquifers and farm soils as valuable geologic resources. Include any other features important to the town identity which may help inform open space allocation.
Step 3.) Examine systems found within the parcel and how they impact the surrounding areas
Step 4.) Categorize open space designations to reflect relative importance to the town

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. The town should 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. The Town should continue to support the preservation and establishment of public access to East Lyme's shoreline.

Map of Future Community Character Recommendations

Methodology:
Step 1: Collect photographic inventory for the entire town
Step 2: Determine the factors that make districts unique
Step 3: Begin to identify districts based on proximity
Step 4: Modify these identifications based on the natural and cultural indicators of the area

Town Objectives:

To maintain the traditional New England character of the community and enhance the village identities of East Lyme. The town should maintain the unique character and personality of both Niantic and Flanders villages through the development of village area plans. 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.
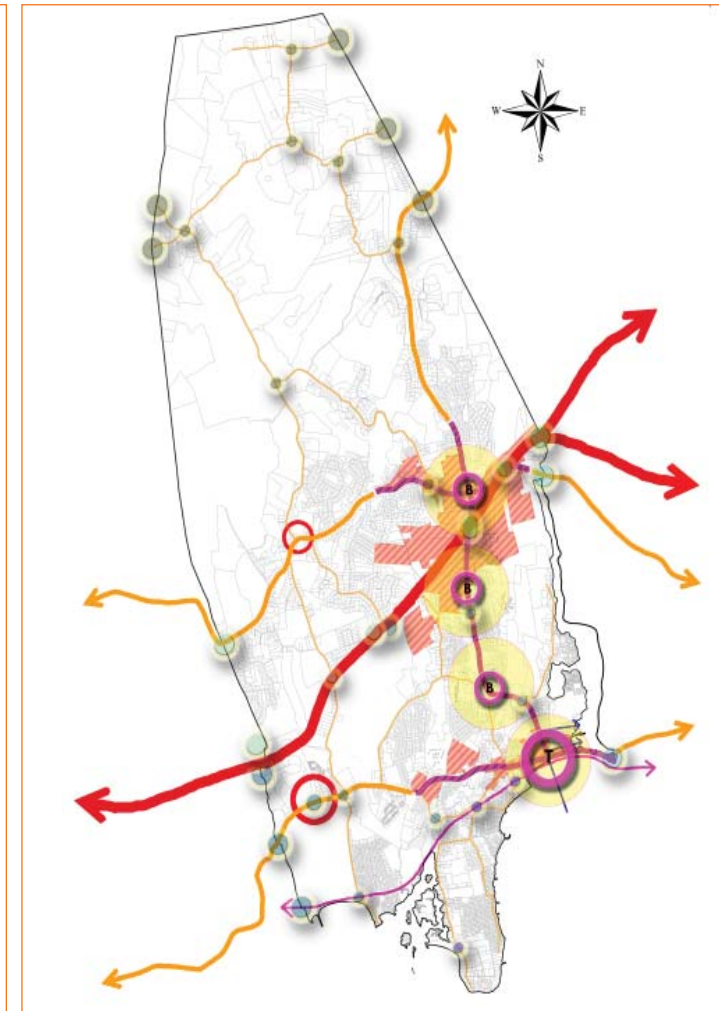
Recommendations for
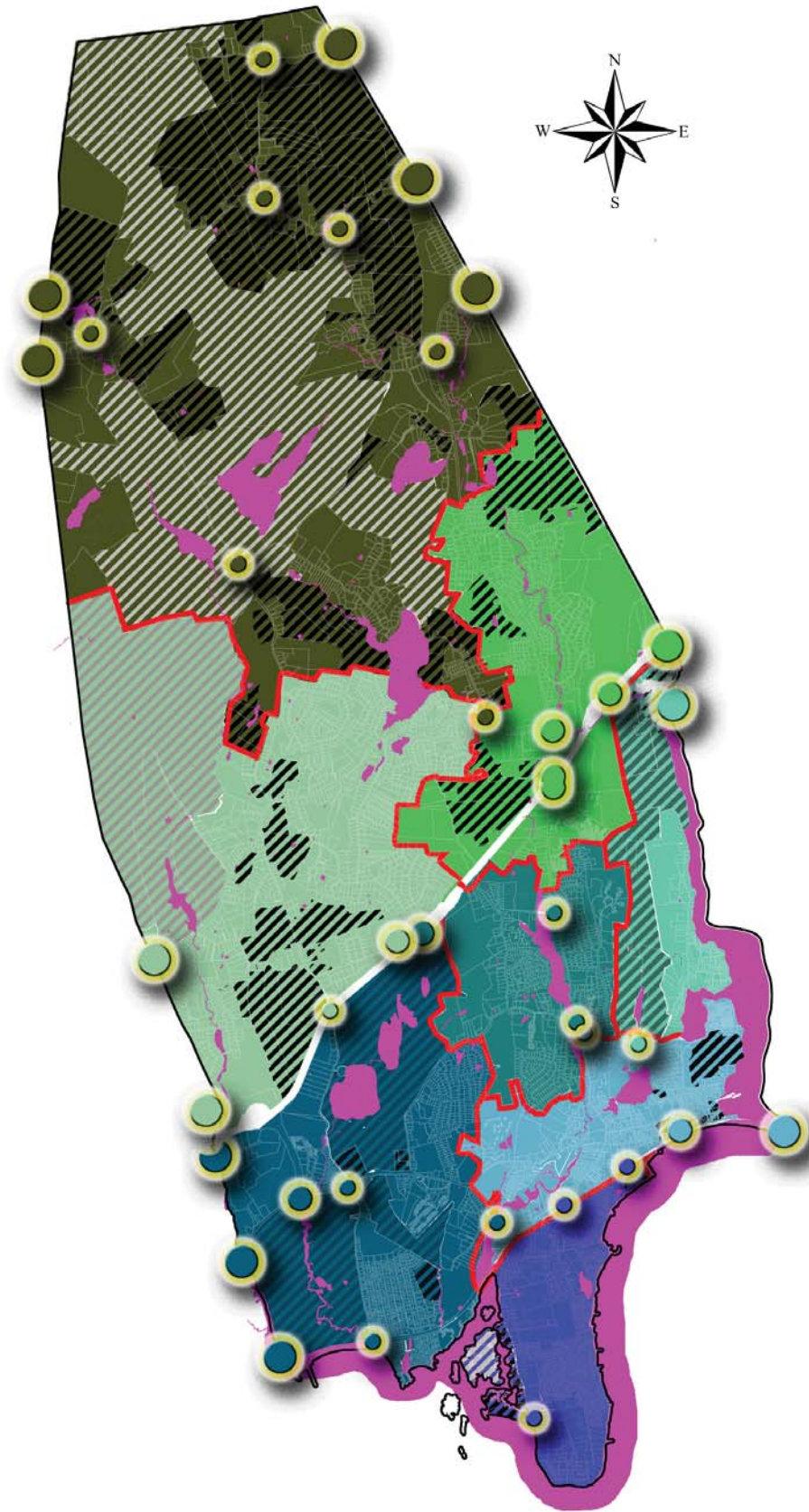Future Community Character
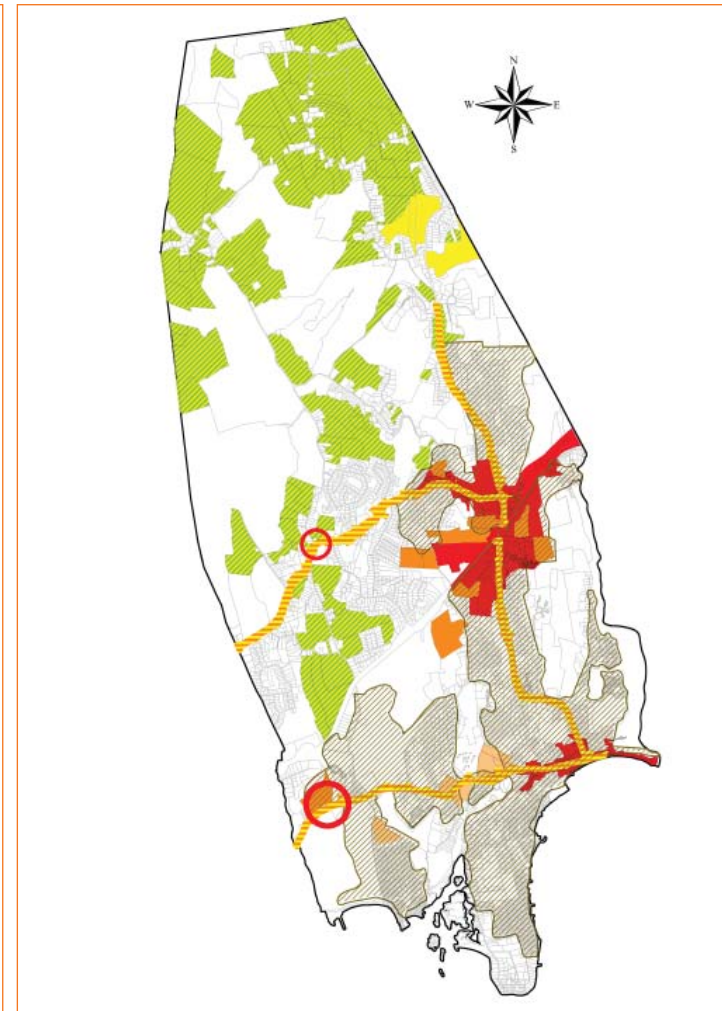
Recommendations for
Future Development

Recommendations for
Transportation Improvements

Recommendations for
Future Open Space

Legend

- Significant Natural Amenity
- Significant Cultural Amenity
- Other Lands

Recommendations / EPA's Guidelines for Smart Growth / Comments

#	Recommendations	Mix Land Uses	Compact Building Design	Range of Housing	Walkable Neighborhoods	Strong Sense of Place	Direct Development Existing	Transportation Choices	Preservation	Decisions Predictable Fair	Encourage Collaboration	Comments
1	**Flanders north.** Preserve rural character. Celebrate farming land use					X			X			Key words: Pro-active Protection. See the following; Future Development Map #7, 8, 10; Future Transportation Map # 6; Future Open Space Map # 4, 10
2	**Flanders east.** Utilize Smart Growth @ 4 corners & conservation subdivisions	X	X	X	X	X	X	X	(light)			Key word: Transformation. See the following; Future Development Map # 1, 3, 5, 6, 7, 9, 10; Future Transportation Map # 2, 5, 6, 7, 8; Future Open Space Map # 1, 2, 3, 4, 6, 10
3	**Flanders west.** Agricultural lands should be revitalized & conservation subdivisions	(light)			X	X	X	X	X			Key words: Revitalize /Transform. See the following; Future Development Map # 4, 6, 7, 9, 10; Future Transportation Map # 6, 7, 8; Future Open Space Map # 1, 2, 3, 4, 6, 10
4	**Niantic east.** Continue protection of Oswegatchie Hills	X	X	X	X	X	X	X	X			Key word: Enhance. See the following; Future Development Map # 1, 3, 5, 6, 7, 9, 10; Future Transportation Map # 2, 5, 6, 7, 8; Future Open Space Map # 4, 10
5	**Niantic north.** Key area for multi-modal transportation. Celebrate Groton Pond					X	X	X				Key word: Connections. See the following; Future Development Map # 6, 9, 10; Future Transportation Map # 1, 2, 7, 8; Future Open Space Map # 3, 4, 10
6	**Niantic west.** Create stronger identity with mixed use node					X	X	X				Key word: Protection. See the following; Future Development Map # 4, 5, 6, 9, 10; Future Transportation Map # 1, 2, 5, 6, 7, 8; Future Open Space Map # 1, 4, 10
7	**Niantic central.** Unify waterfront with business district	X	X	X	X	X	X	X	X			Key words: Unify / Connect. See the following; Future Development Map # 1, 2, 5, 6, 9, 10; Future Transportation Map # 1, 2, 3, 4, 5, 6, 7, 8; Future Open Space Map # 1, 4, 10
8	**Niantic south.** Maintain existing character					X	X	X	(light)			Key word: Maintain. See the following; Future Development Map # 1, 2, 5, 6, 9, 10; Future Transportation Map # 7; Future Open Space Map # 1

Lands of Unique Value Methodology is predicated on the basis of fair and predictable decision making within a collaborative environment.

Chapter 1 Recommendations for Future Development

EPA's Guidelines for Smart Growth

Legend	#	Recommendations	Mix Land Uses	Compact Building Design	Range of Housing	Walkable Neighborhoods	Strong Sense of Place	Direct Development Existing	Transportation Choices	Preservation	Decisions Predictable Fair / Encourage Collaboration	Comments
N F (red)	1	Historic Villages of Niantic and Flanders Promote mixed use, multi-modal development.	■	■	■	■	■	■	■	▢	*(yellow band: Lands of Unique Value Methodology is predicted on the basis of fair and predictable decision making within a collaborative environment.)*	Encourage a range of mixed land uses to happen in commercial zones and along state/collector roads. Take advantage of existing infrastructure by adoptively reusing buildings and sites especially within existing commercial zones. Development in existing neighborhoods also represents an approach to growth that can be more cost-effective, and improves the quality of life for its residents. By encouraging development in existing communities, communities benefit from a stronger tax base, closer proximity of a range of jobs and services, increased efficiency of already developed land and infrastructure.
F / N (red/orange)	2	Transition from strip development to mixed-uses in Flanders.	■	■	■	■	■	■	■			
N (red)	3	Strengthen Main St. by celebrating proximity to the Sound. Expand and improve visual access to the coast.	■	■	■	■	■	■	■	▢		Although Main Street is in close proximity to the Sound, a number of land use factors visually and physiologically separate Main Street activities from the Sound. Proper planning and design can mitigate these constraints and help connect Main Street and Niantic Bay.
(tan)	4	Lands with limited development potential due to natural and cultural contraints.	■	■	■	■	■	■	■			Although these lands have limited development potential due to various constraints, proper mixed use development are encouraged for these parcels.
(circle)	5	Consider development of two new mixed use developments.	■	■	▢	▢	■	■	▢			East Lyme's existing zoning allows for retail/commercial activities in only about 3% of the town. With this in mind, considerations need to be made for future mixed use areas once the existing retail/commercial areas have been "maxed" out.
(hatched)	6	Lands with sewer service. Focus higher density within sewer district.	▢	■	▢	■	▢	■	▢	▢		Public sewer and water provide opportunities for higher density smart growth while protecting lands which are more vulnerable to development.
(striped yellow/green)	7	Home-based Businesses. Promote along state roads.	■	▢			■	■				One specific aspect of the mixed use concept that is catching on is the "live/work unit." Live/work units are designed for both residential and commercial uses, often with the owners conducting business on the first floor while living upstairs.
(striped green)	8	Agricultural Lands in Northern Flanders should be zoned agriculture.						■	■	■		Agricultural lands are technically commercial and as such should be preserved and enhanced. Residential development in Northern Flanders should be allowed only by special permit. Primary zone should be agricultural.
(yellow)	9	Agricultural hub for sale of Connecticut grown products.	■	▢				■	■	■		These lands provide an opportunity to create a "hub" for locally grown and development products.
(orange)	10	Conservation subdivisions to be mandatory for future residential subdivisions.		■	■	■	■		■			Most new residential development should be conservation subdivisions and should comply with Open Space Master Plan.

Chapter 1 Recommendations for Transportation Improvements

Legend	Recommendations	EPA's Guidelines for Smart Growth										Lands of Unique Value Methodology is predicted on the basis of fair and predictable decision making within a collaborative environment.	Comments
		Mix Land Uses	Compact Building Design	Range of Housing	Walkable Neighborhoods	Strong Sense of Place	Direct Development Existing	Transportation Choices	Preservation	Decisions Predictable Fair	Encourage Collaboration		
1	Promote multi-modal forms of transportation: **Create safe sidewalk and bike lane systems.**				■	■	■	■					Promote and develop an integrated, multi-modal transportation system that offers safe and attractive choices among modes including pedestrian walkways, bikeways, public transportation, roadways, railways, and boat travel.
2	Promote multi-modal forms of transportation: **Enhance coastal access to boat transportation.**				■	■	■						
3	Promote multi-modal forms of transportation: **Lobby for a rail stop @ south end of Pennsylvania Avenue.**	■	■		■	■	■	■					Recommended rail service and investments would connect the region's major activity centers, serve congested corridors, and provide opportunities to influence land use and development patterns.
4	Promote multi-modal forms of transportation: **Provide fixed stops.**				■			■					New circulator service would provide increased and flexible travel options within major activity centers.
5	Expand parking opportunities by adhering to standards for "Smart Growth".	■	■		■								Strongly encourage shared-use car parking for land uses where peak parking demand occurs at different times of the day, reducing the total number of spaces required. Promote parking and development that encourage multiple destinations within an area to be connected by pedestrian trips
6	Enhance critical gateways into the town.					■							"Gateways" function like "front doors" to the Town of East Lyme as well as each neighborhood. Having welcoming gestures at these areas help to create a positive, optimistic image for both residents and visitors.
7	Coordinate road standards for local residential roads with conservation subdivision initiative.				■	■	■	■					Adopt connectivity index standards within the subdivision regulations to promote greater connectivity of the City's street network.
8	Create "Complete Streets".				■	■		■					Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street
9	Incorporate sustainable non-point drainage solutions where applicable.								■				There are many ways to incorporate innovative storm water management strategies and low impact development (LID) into local town regulations. See NEMO website.
10	Institute "Context sensitive" design approach.				■	■	■		■				Adopt Context Sensitive Solution practices to determine the most appropriate transportation improvements to minimize environmental impacts and serve adjacent and future land uses within a multi-modal network

Chapter 1 Recommendations for Future Open Space

EPA's Guidelines for Smart Growth

Legend	Recommendations	Mix Land Uses	Compact Building Design	Range of Housing	Walkable Neighborhoods	Strong Sense of Place	Direct Development Existing	Transportation Choices	Preservation	Decisions Predictable Fair	Encourage Collaboration	Comments
(pink)	**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 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.
(lavender)	**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 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.
(teal)	**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 limitations and resource conservation opportunities makes over 50% of these parcels valuable open space.
(green)	**4** **Potential Open Space: Type 4** Conservation Opportunities					■			■			**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.
OH	**5** Continue protection of Oswegatchie Hills					■			■			**Protection of Oswegatchie Hills.** East Lyme's commitment to the preservation of Oswegatchie Hills has been made clear throughout the years. This commitment should become official, as the hills provide natural habitats, riparian buffer zones, and eco-corridors, in addition to a multitude of cultural benefits.
LB	**6** Protect Latimer Brook Watershed					■			■			**Protection of the Latimer Brook Watershed.** The southern portion of Latimer Brook flows directly into the Niantic River and Long Island Sound. Protecting the riparian buffer is essential to the health of the system. This need is exacerbated by the steep slopes down to the water channels, giving stormwater runoff little to no infiltration zone.
HP	**7** Protect high points					■			■			**Protect High Points.** High Points provide unique plant/animal habitats as well as contributing to town identity. Views of and from high points define much of Flanders and are valued by the citizens of East Lyme as important cultural resources.
(orange)	**8** Maintain open space adjacent to water bodies					■			■			**Maintain Riparian Buffers along Waterbodies and Waterflows** The filtration of surface water runoff before it enters the hydrology system is vital to the health of the environment. This is true in all towns, but especially so in East Lyme due to its proximity to the ocean, and intense water consumption during the summer months.
(orange)	**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 community green space and ground water recharge areas becomes highly valuable.
(orange)	**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.

Lands of Unique Value Methodology is predicted on the basis of fair and predictable decision making within a collaborative environment.

Chapter 2 Inventory and Analysis - Quantitative

"To manage growth and ensure sound development within a given locality it is essential that each community, city, and/ or region have a clear understanding of existing conditions and what they might better be in the future."

John Ormsbee Simonds

Purpose

The inventory is one aspect of familiarizing oneself with the existing conditions of the community. It involves collection of detailed information regarding town systems, as well as a more generalized look at the lands adjacent to the town. These systems, both natural and cultural are fundamental to the health and personality of the town; health in the natural systems provide attractive environment, health in the cultural systems provide a vibrant town identity. As long as valued cultural and environmental features of these systems remain unidentified and unmapped, they are vulnerable to development. William H. Whyte verbalized what many planners have realized for over a century, "...developers seem always to name their subdivisions after precisely those attractive features they have destroyed..." (Arendt, 1994) However, once a town has identified and mapped the features most important to its natural and cultural health, those areas can be maintained and encouraged. This does not negate development, merely directs it to enhance valued aspects of town, instead of building right over them.

This detailed inventory series of the town's natural and cultural resources must be compiled in a legible-to-the-layperson format. This provides much needed familiarity with the physical layout of the town allowing for a fully informed land use plan (Lynch and Hack, 1984) as well as making the LUV process transparent and accessible to the public. To ensure a dependable land use plan with citizen support, data must be accurate and reliable. The tools used to compile the inventory will affect how the data is collected and compared to determine accuracy. Geographic Information Systems allow for a structured format to be created; data maps can be organized, overlaid, compared, and edited as necessary. This organization of inventory information is essential for communicating inventory content to town citizens.

What specific data is needed for the inventory varies from town to town. However the systems which need to be studied in order to provide a holistic understanding of the town are universal. The town itself can be divided into two interconnected systems; natural and cultural. Natural systems are simply the natural environment created by landform, flora, and fauna (valleys, forests, wetlands, etc.). Cultural systems are those created by humans as they interact with the natural systems and each other (road networks, land uses, etc.) Together they encapsulate every element of the town's physical elements.

The two system categories, natural and cultural, can be subdivided into several more specific content areas:

NATURAL
o   Land Form
o   Hydrology
o   Geology
o   Ecosystems

CULTURAL
o   Existing development
o   Cultural Controls
o   Cultural Artifacts

These represent the fundamental systems that inform how and where land uses are located. Each highlights important aspects of the town; features which should be protected, and patterns which should be encouraged or discouraged.

Methodology

APPROACH:

The most efficient and legible manner to convey the inventory data is via a mapping sequence. Each subcategory of the natural and cultural resource data sets has been mapped separately, and systematically overlaid for the analysis phase. To begin the process the UCRDC team began discussing data sources with the East Lyme Town Hall staff. Simultaneously the team searched other data sources available at the state level from CT DEP (Connecticut Department of Environmental Protection), NAIP (National Agriculture Imagery Program), and CLEAR (Center for Land Use Education and Research).

TOOLS:

The UCRDC team compiled the inventory maps in Arc Geographic Information Systems (ArcGIS), using geodatabase organization.

GATHERING DATA:

East Lyme had contracted an engineering firm (Tighe and Bond) to create GISystem data sets for the town which included most of the information that the UCRDC team needed. In this case, the data was not easily located due to recent changes in administration; however town officials directly involved in the LUV study sent along what they had as they found it, eventually resulting in a comprehensive set of information.

There were however, gaps in the mapping. To fill in the missing pieces, UCRDC team members met with local experts to go review specific issues. To determine the location of historic cemeteries for instance, a local historian was consulted and guided a tour of the town's cemeteries. A more complex issue came to light in the northern portion of town. This section of town is characterized by agricultural land uses, but those uses had not been fully mapped. As an important cultural characteristic, it would have been short-sighted to overlook this aspect of land use. In order to properly represent farming in the inventory maps, the UCRDC team met with a pair of knowledgeable local farmers to gather as much information as possible regarding the whereabouts of working farms. The two locals spoke with their community, dug into their own memories and consulted various sources, then met with team members, a map, and some markers. After the first sessions, the information was translated into GISystem maps, printed, and follow-up meetings scheduled to go over the results. Ultimately there it proved to be a fruitful endeavor which not only provided much needed information, but also led to a better understanding of the town.

PRESENTING DATA:

Each map is supplemented with a brief summary of the system it represents, a pie chart describing an interesting aspect of that system, as well as photographs from East Lyme demonstrating the its form. The map creates a visual reference of where the system is found throughout town, explores different facets of the system, and can highlight patterns. The supplemental imagery helps the reader to gain a broader understanding of the system, beyond location. The pie chart can highlight a particularly interesting or important aspect of the system that is not easily legible on the map. Similarly the photographs provide pertinent examples to exemplify the form of that system to the town.
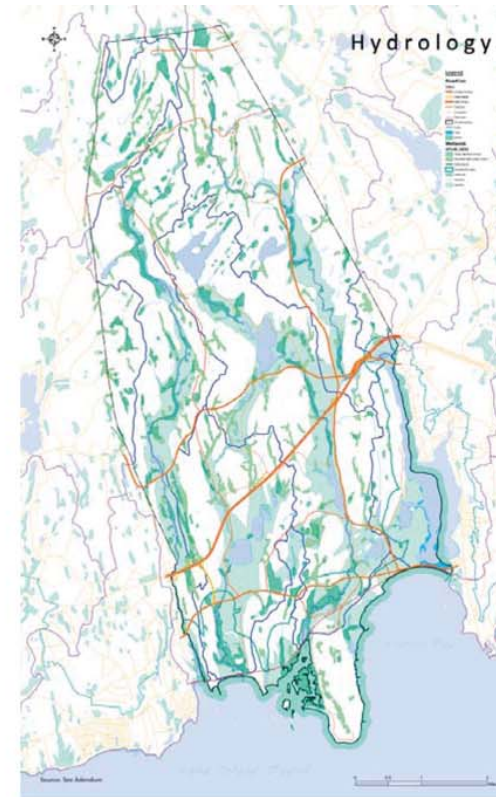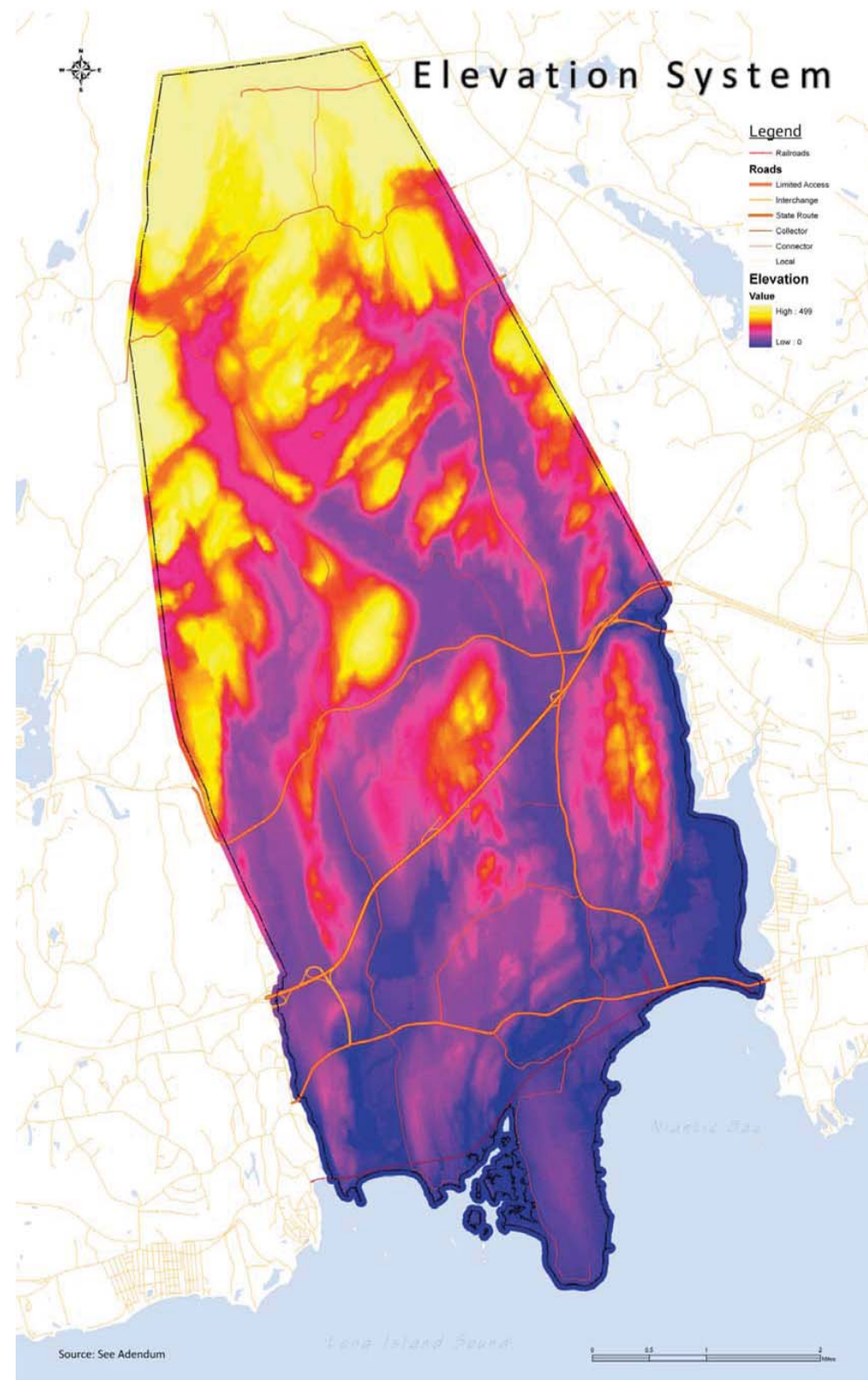
Application

Land Form describes the topography of the land, its steep slopes, high points, ridge lines, and other defining features. Hydrology adds dynamic to Land Form, showing rivers, wetlands, aquifers, and the multitude habitats created by the movement of water. Geology examines soils, some such as prime farm soils may need protection while others, such as sandy gravel could be good for construction purposes. (This brings up and example of why this information is so powerful when layered; sandy gravel may be good for construction, but if some of it is part of a stratified drift aquifer, it should be treated differently than other portions of that soil type.)

Works Cited
Arendt, Randall, 1994. Rural by Design. Chicago IL: American Planning Association.
Lynch, Kevin and Hack, Gary. 1984. Site Planning, 3rd Edition. United States: Maple-Vail, Inc.
Simonds, John Ormsbee and Starke, Barry W. 2006. Landscape Architecture: A Manual of Environmental Planning and Design, 4th Edition. New York: McGraw-Hill Company.

Elevation System

Hydrology

Geology

Ecosystems

Existing Development

Cultural Controls

Cultural Artifacts
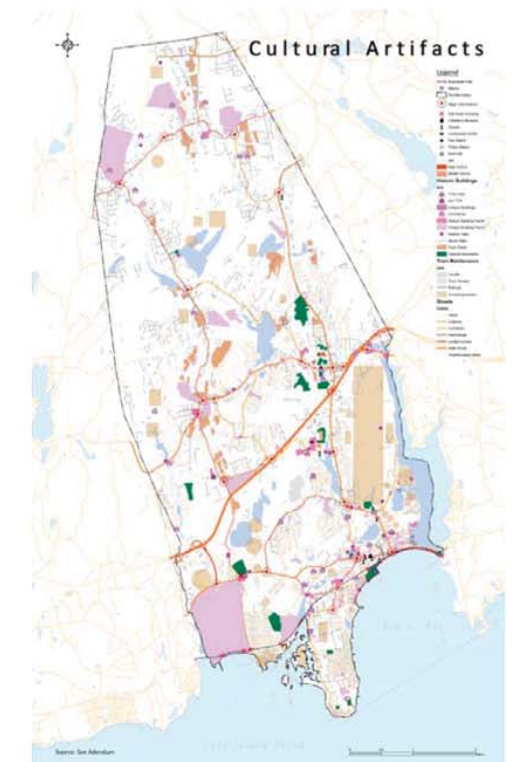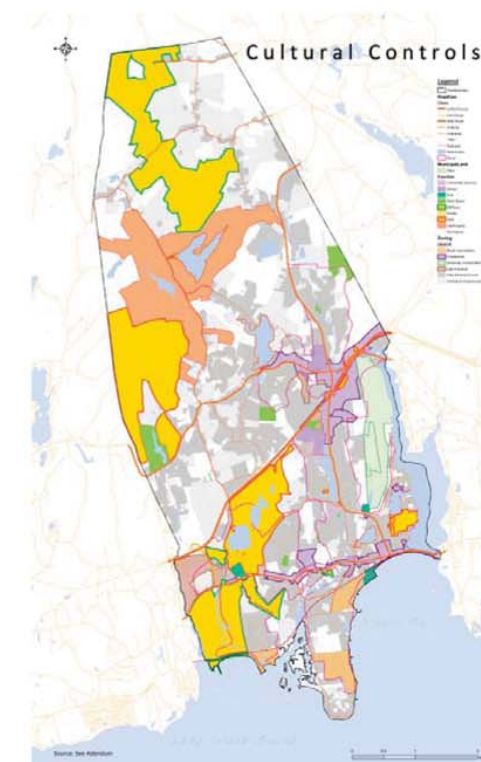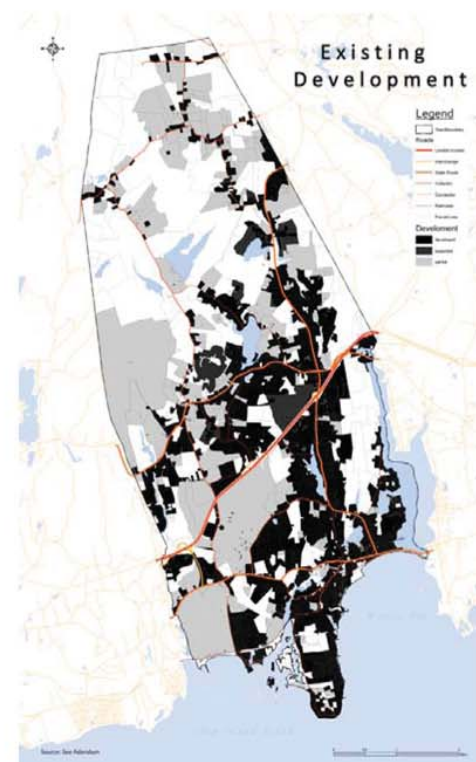
Land Form

Summary:

East Lyme can be generally identified as having three elevation zones; higher elevations (300'-499') being in the northern portion of town, mid-range elevations (160'-300') being in the central region of town, and low elevations (0'-160') being in the southern portion.

The diverse terrain of the town is the result of glacial geomorphology; glaciers shaped the land. Both Glaciofluvial Landforms (material deposited by direct glacial runoff) and Morainic Landforms (material deposited by the ice as it retreats), are present here. Much of the town is composed of till which was desposited by glacial lake sedimentation. The movement of the glacier, glacial deposition, and glacial runoff, led to the general North-South orientation of the hills, the areas of thick till, and the valleys of sand/gravel sedimentation.

Fast Facts:

Town acreage: 22,613

Minimum elevation: 0'
Maximum elevation: 499'

Elevation Range
Natural Breaks (Jenks) Method

220-499 ft
30%

0-100 ft
40%

100-220 ft
30%

Elevation System

Legend
Railroads
Roads
Limited Access
Interchange
State Route
Collector
Connector
Local
Elevation
Value
High : 499
Low : 0

Source: See Adendum

Topography System

Legend
Roads
Limited Access
Interchange
State Route
Collector

Source: See Adendum
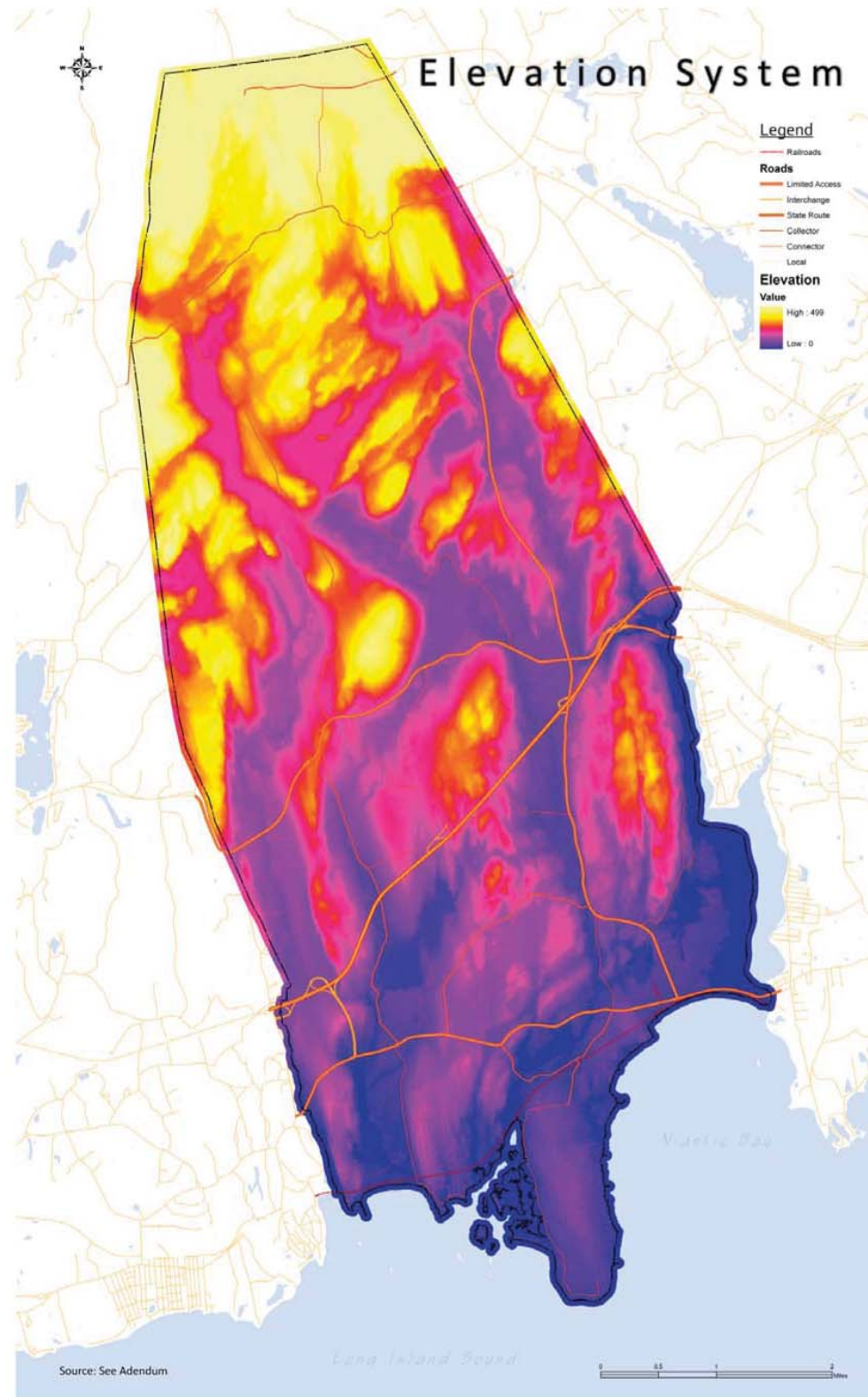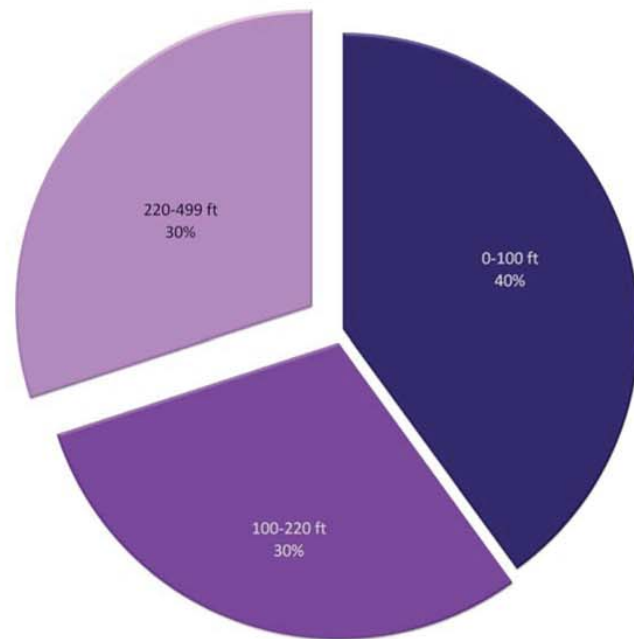
Chapter 2 Inventory and Analysis - Quantitative

Hydrology

Summary:
East Lyme's water flow is consistant from the northern portion of town (higher elevations), forming four main watersheds which terminate in the ocean.
Each watershed drains via a system of brooks and marshes which form rivers in the southern portion of town, flowing directly into the Long Island Sound and Niantic Bay.

Fast Facts:

Town acreage: 22,613

Significant Rivers: 5
Niantic River, Pattagansett River, Fourmile River, Lattimer Brook, Bride Brook

Significant Waterbodies: 8
    Long Island Sound, Niantic Bay,
    Darrow Pond, Dodge Pond, Groton Pond
    Bride Lake, Pattagansett Lake, Powers Lake,

25% of East Lyme land is classified as aquifer
16.7% of East Lyme is composed of wetlands

Wetland Composition

Open Water 30%

Upland Wetlands 45%

Non-specified Marsh 15%

Tidal Marsh 8%

Tidal Flats 2%

Hydrology

Source: See Adendum
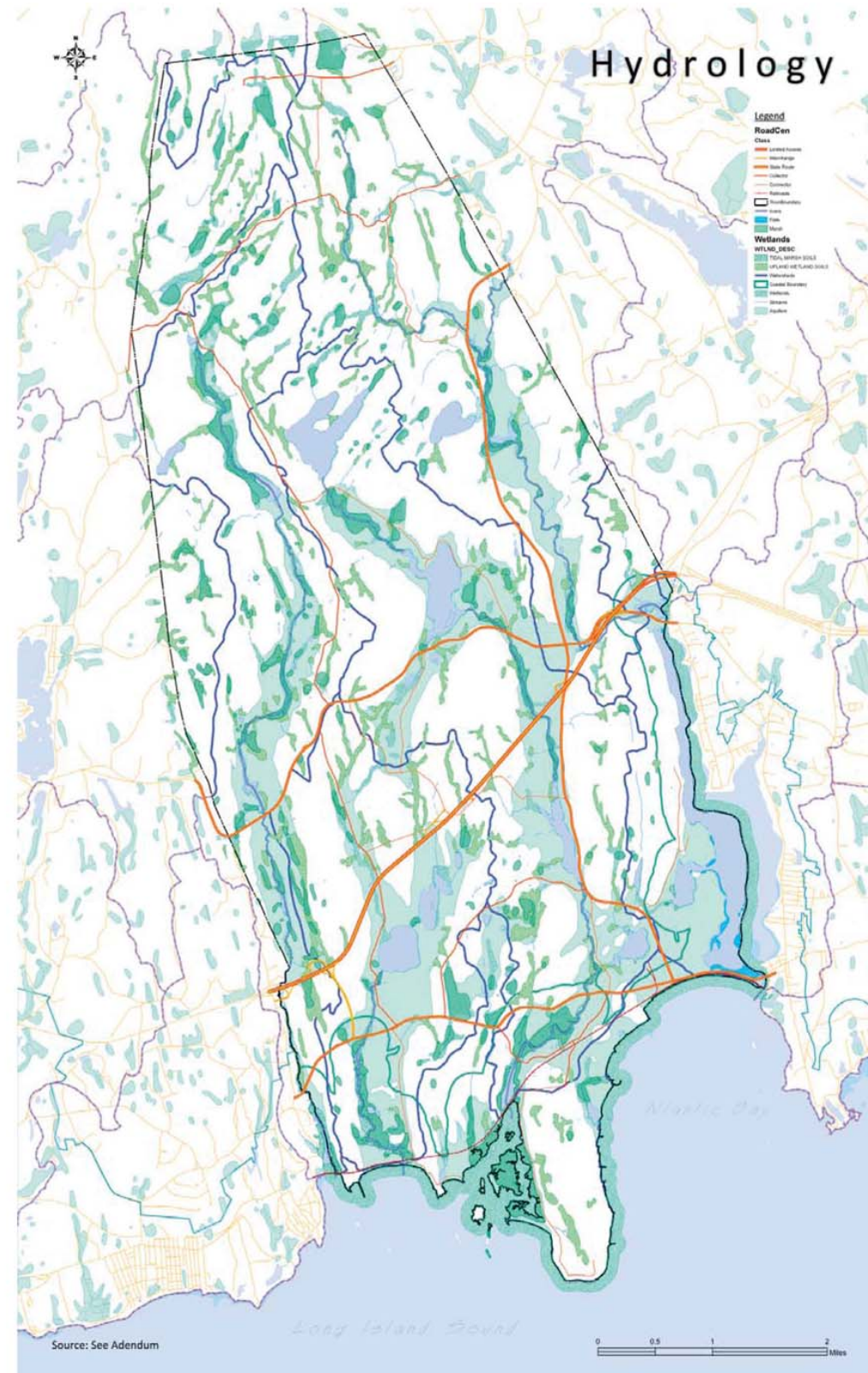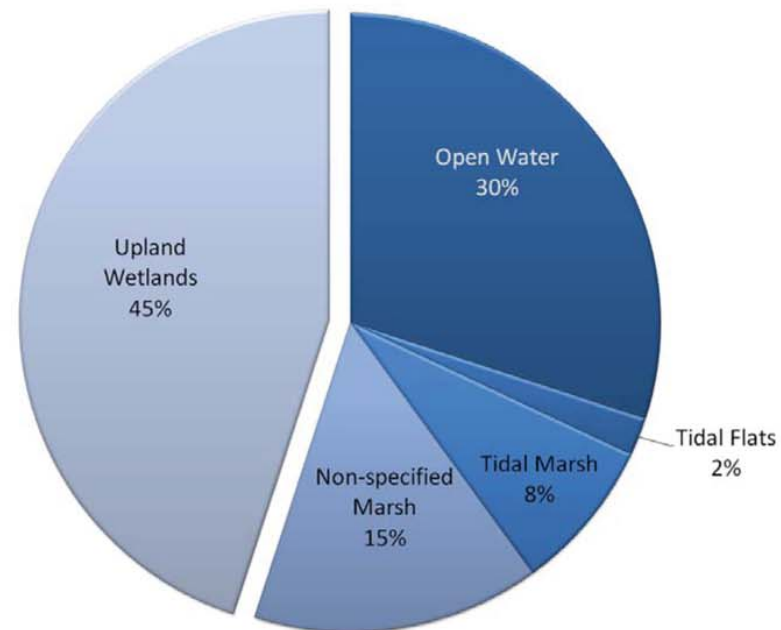
Fresh Water Resource, Groton Pond in East Lyme

Tidal Marsh in Southern East Lyme

View of Long Island Sound from East Lyme

Chapter 2 Inventory and Analysis - Quantitative

Geology

Summary:
East Lyme's farmland is located primarily in the sand and gravel valleys between till ridges. Some of this sand and gravel also function as aquifer, creating a strong correlation between the presence of farm soils and the location of aquifers or aquifer recharge areas.

Fast Facts:

Town acreage: 22,613

Primary Farmland: 3940 acres
Secondary Farmland: 1700 acres

Thick Till: 1384 acres
Thin Till: 322155 acres
Sand and Gravel: 4715 acres

Beach: 66 acres

Geological Elements

Pie chart: Thick Till 6%, Sand and Gravel 21%, Wetlands on Sand and Gravel 14%, Other 59%

Geology map

Source: See Adendum
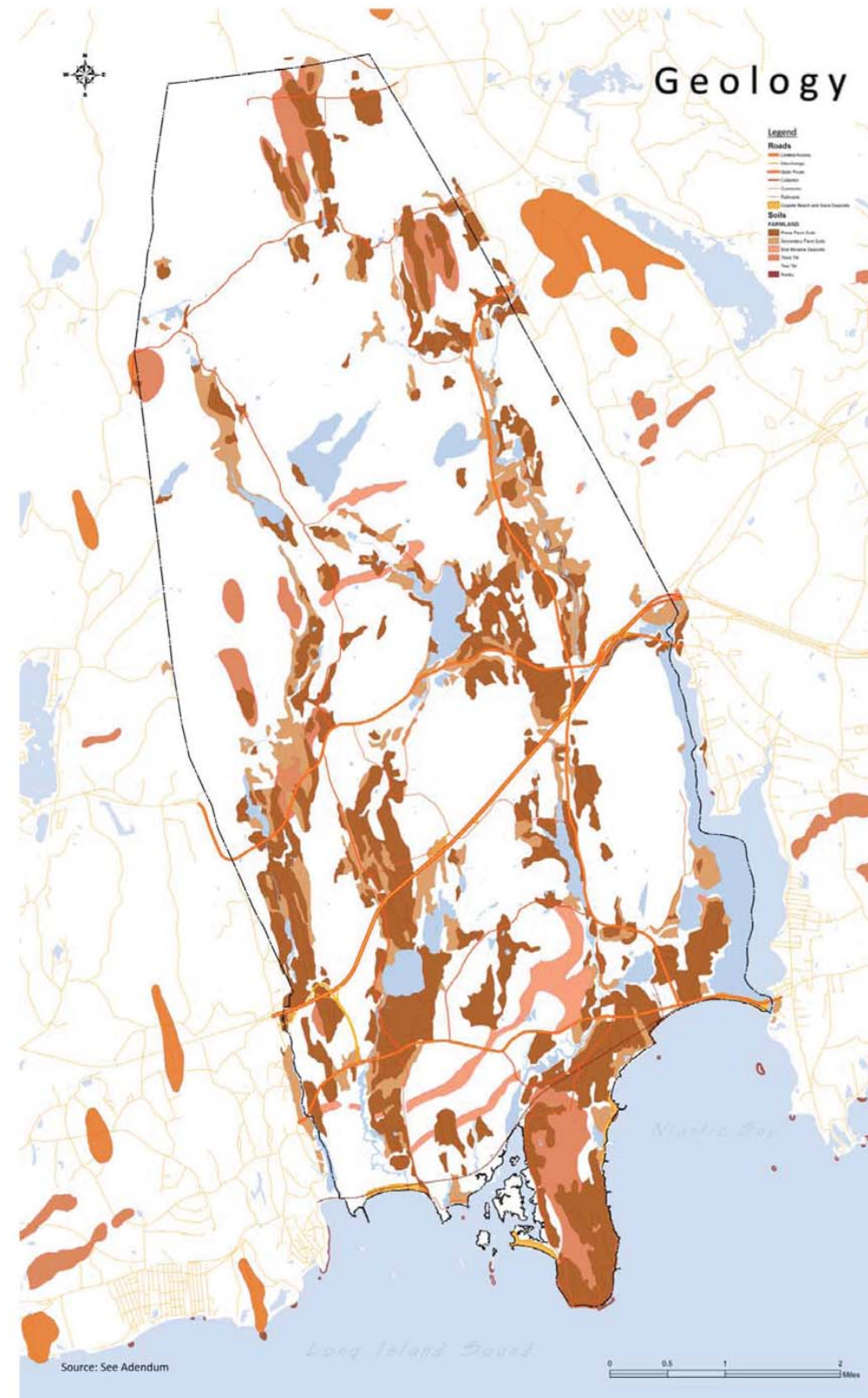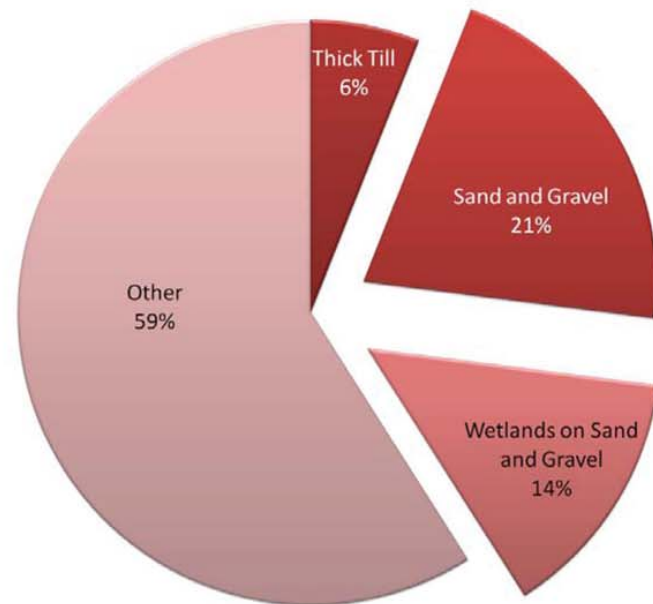
Rocky Slopes in Northern East Lyme

Rolling Fields, East Lyme

East Lyme Beaches Along Long Island Sound

Chapter 2 Inventory and Analysis - Quantitative

Ecosystems

Summary:

East Lyme's forests comprise almost half of the town's land cover. Large contiguous tracts are found in Flanders (the Northern portion of town), comprising 78% of the town's woodland. The Southern portion of town, Niantic, contains 22% of the town's woodland with smaller, fragmented tracts.

There are also over twenty designated Natural Diversity Database zones throughout town, indicating an active wildlife population. East Lyme's diverse habitats include meadows, large tracts of forest and abundant wetlands which likely provide many more animal habitats than are indicated by the Natural Diversity Database.

Fast Facts:

Town acreage: 22,613

East Lyme Wooded Land Cover: 10,980 acres (48% of town)

Forested Wetlands: 1,781 acres (16% of East Lyme Forests)

 Natural Diversity Zones: 3,968 acres (18% of town)

Size of Wooded Areas in East Lyme

Pie chart:
- More than 2000 — 39%
- 100-500 acres — 29%
- 500-1000 acres — 19%
- 50-100 acres — 5%
- 20-50 acres — 2%
- 10-20 acres — 3%
- Less than 10 acres — 3%

Ecosystems

Legend

Roads
Class
- Limited Access
- Interchange
- State Route
- Collector
- Connector
- Railroads
- Natural Diversity DB
- Wetlands
- Forests

Source: See Adendum
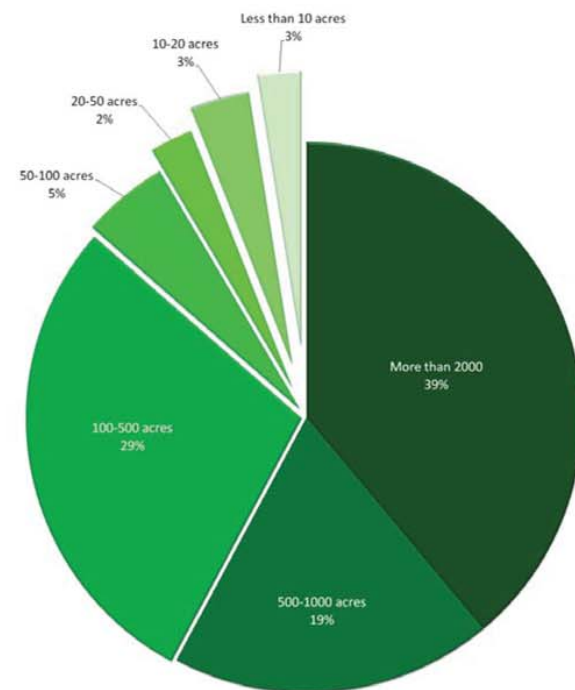
Marsh Along Niantic River, Golden Spur East Lyme

WoodedWetland in Northern East Lyme

Forested Areas, East Lyme

Chapter 2 Inventory and Analysis - Quantitative

Summary:
East Lyme has the rich history of a mill and retreat town economy. Dense development clustered near the coast while mills and agriculture flourished in the higher elevations.
Commercial and Residential development is increasing, further filling the valleys and not yet breaching the ridgelines..

Fast Facts:

Town acreage: 22,613

Developed Land: 6,680 acres
Expected (planned) Development: 570 acres
Partially Developed Lands: 5,486 acres
Undeveloped Land: 9,876 acres

Light industrial Development: 178 acres (1% of town)
Commercial Development: 790 acres (3.5% of town)
Residential Development: 5221 acres (23% of town)

Development Composition

- Light Industrial 3%
- Other 7%
- Commercial 12%
- Residential 78%

Existing Development

Legend

TownBoundary

Roads
Limited Access
Interchange
State Route
Collector
Connector
Railroads
ParcelLines

Development
developed
expected
partial

Source: See Adendum
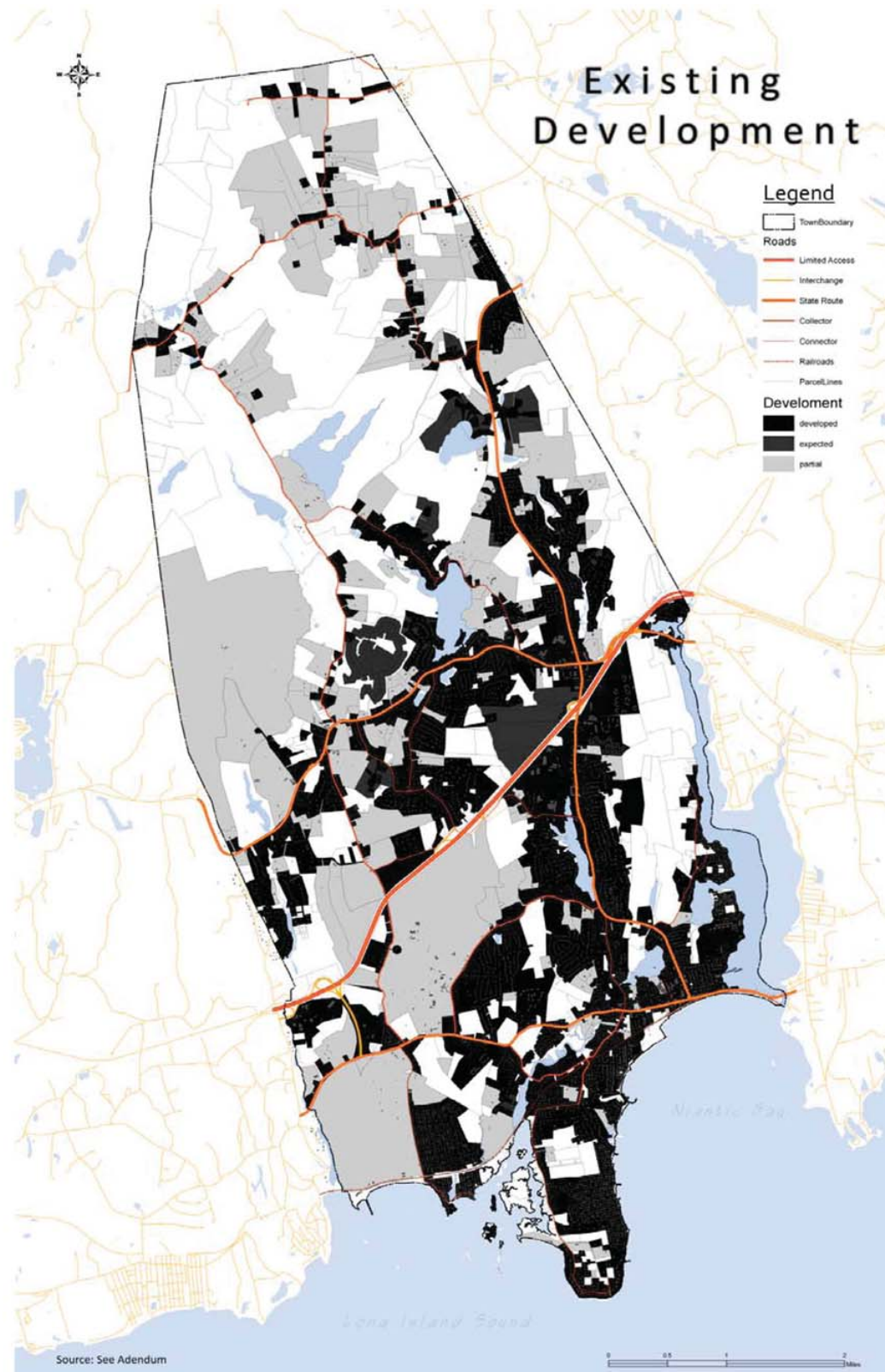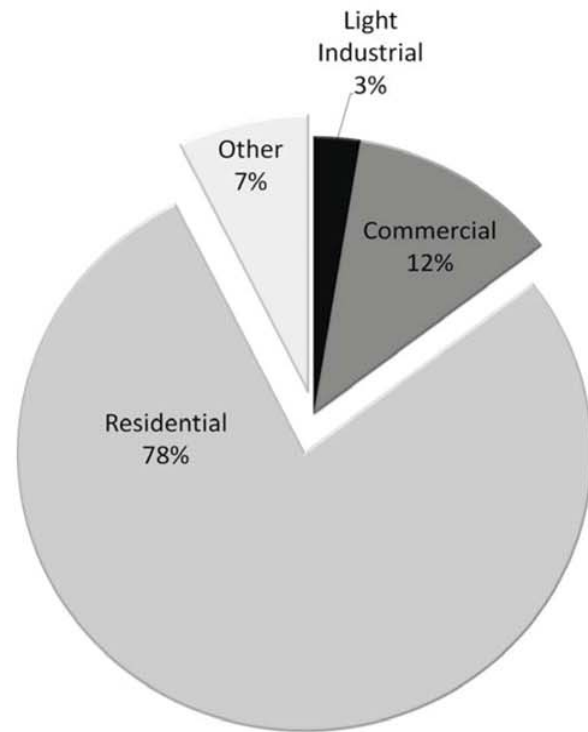
Commercial Development along Rt 161 in Flanders

Dense Residential Development in Niantic

Sprawl Development in Flanders

Rural Development in Flanders

Cultural Artifacts

Summary:

East Lyme's rich history and identity is made visible through its plethra of cultural artifacts. These historic (the Thomas Lee House) and contemporary (the Community Center) artifacts are found throughout the town, clustered around important nodes of varying density.

Fast Facts:

Town acreage: 22,613

Farm Fields: 420 acres (2% of East Lyme)

State Road Intersections: 7
Civic Buildings: 12
Churches: 6
Historic Buildings: 23
        pre-1700: 3
        1700-1800: 20
Historic Sites: 33

Land Use

Land Use pie chart:
- Farm Field 2%
- Recreational 1%
- Roads 4%
- Developed 33%
- Other 60%

Cultural Artifacts map with Legend
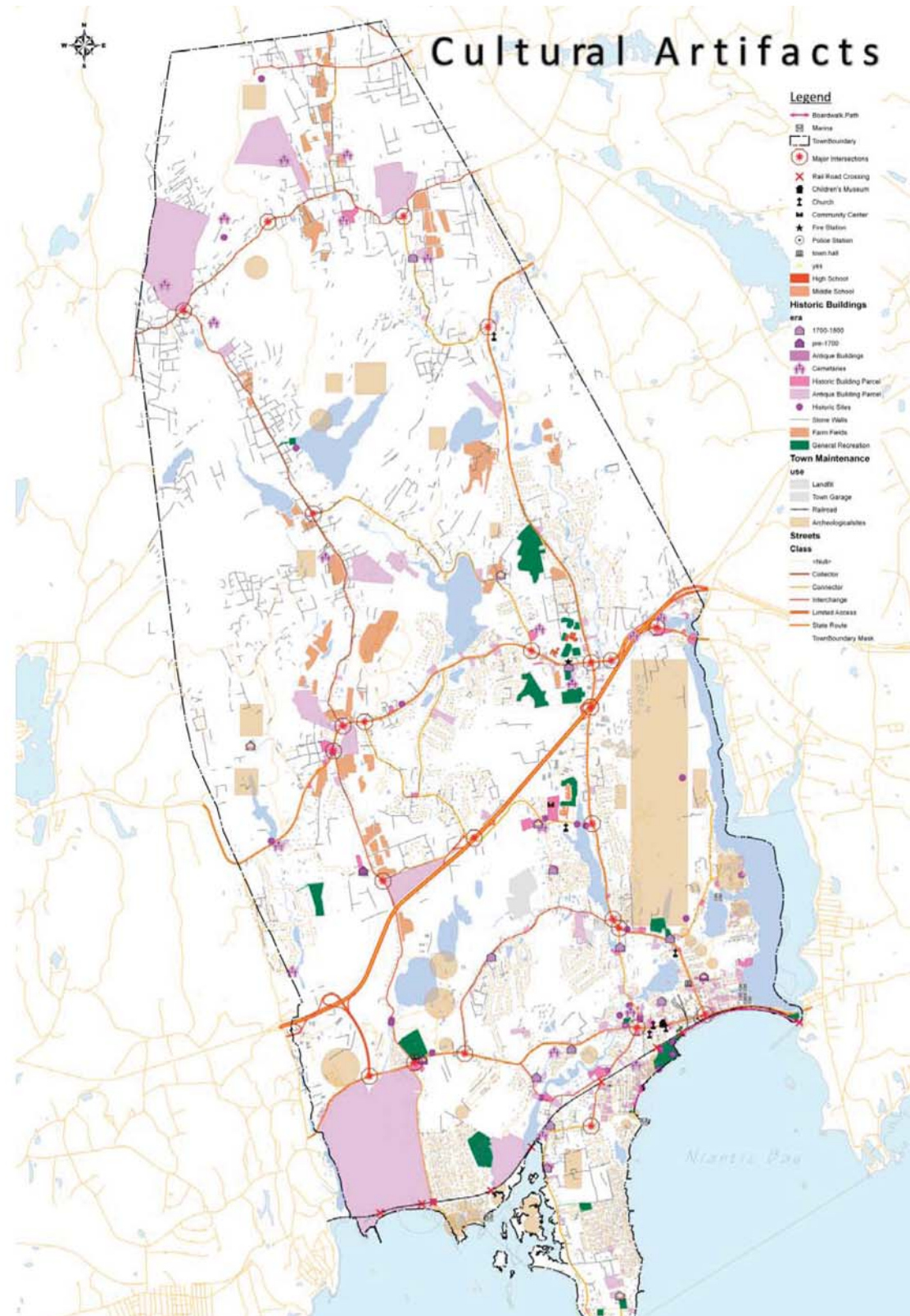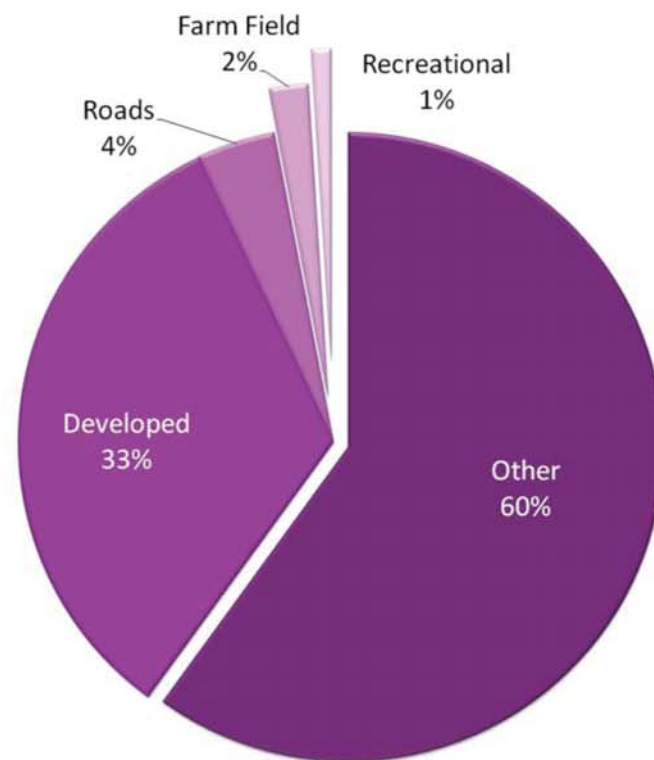
View of Long Island Sound from East Lyme

Railroad Underpass, Niantic Beach
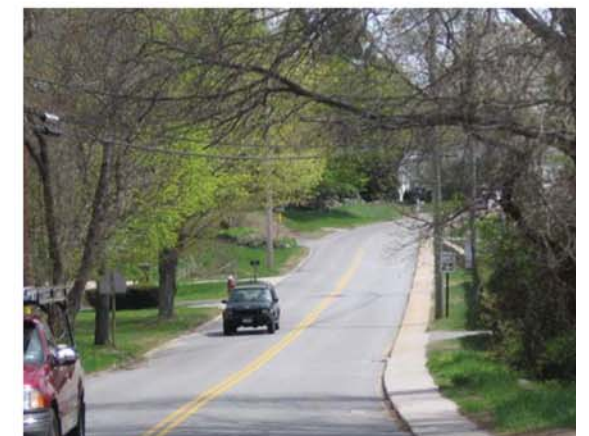
Chapter 2 Inventory and Analysis - Quantitative

Cultural Controls

Summary:

Much of the Northern portion of East Lyme is owned by by the State of Connecticut, Yale or other such organizations not subject to standard town zoning. Some state land is owned specifically by the DEP, such as the Niantic State Forest and Rocky Neck State Park, and therefore may be considered preserved open space dispite jurisdiction. Other state lands, and the Yale property maintain the possibility of development.

The town therefore has the opportunity to influence the type of development which is going to occur in areas not currently developed and not owned by outside entities such as the State of Connecticut or Yale.

Fast Facts:

Town acreage: 22,613

State Forest: 1931 acres
State Park: 680 acres
DEP Wildlife Area: 11 acres
Town Preserved Open Space: 564 acres

Restricted Lands

Pie chart segments:
- DEP 13%
  - Niantic State Forest: 8.5%
  - Rocky Neck State Park: 3%
  - Wildlife Areas: 1.5%
- State 6%
- Unknown 59%
- Private 10%
  - Yale Property
- Town Preserved 5%
  - Oswegatchie Hill Preserve: 2%
  - Parks and Recreation: 3%
- Business Zoned 7%
  - Commercial: 4%
  - Light Industrial: 1.5%
  - Beach Assoc.: 1.5%

Cultural Controls

Legend
TownBoundary
RoadCen
Class
- Limited Access
- Interchange
- State Route
- Collector
- Connector
- Local
- Railroads
- Waterbodies
- Sewer
MunicipalLand
- Other
Function
- Community Services
- School
- Park
- Open Space
- DEPland
- Private
- State
- YaleProperty
ParcelLines
Zoning
DESCR
- Beach Associations
- Commercial
- Greenway Conservation
- Light Industrial
- Fully Developed Land
- Partially Developed Land

Source: See Adendum

Land Owned by Private Organizations, Such as Beach Associations
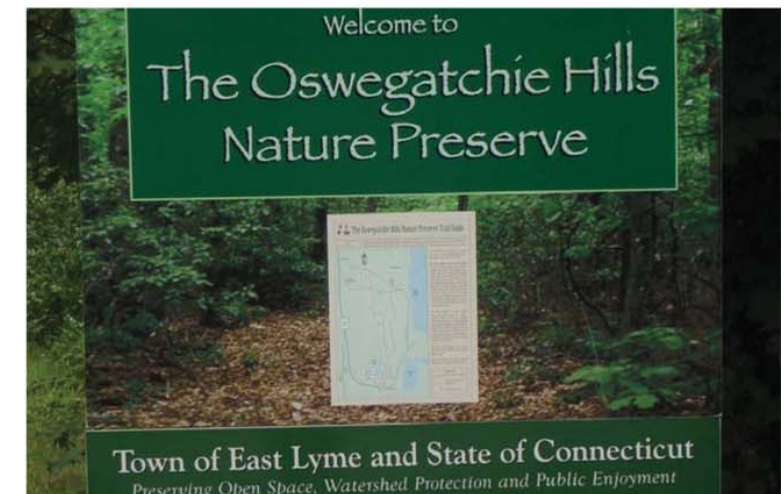
Nature Preserves Owned by State or Local Government

Infrastructure Such as the Railroad

Chapter 2 Inventory and Analysis - Quantitative

Size of Wooded Areas in East Lyme

- Less than 10 acres 3%
- 10-20 acres 3%
- 20-50 acres 2%
- 50-100 acres 5%
- More than 2000 39%
- 100-500 acres 29%
- 500-1000 acres 19%

Wetland Composition

- Open Water 30%
- Upland Wetlands 45%
- Non-specified Marsh 15%
- Tidal Marsh 8%
- Tidal Flats 2%

Geological Elements

- Thick Till 6%
- Sand and Gravel 21%
- Other 59%
- Wetlands on Sand and Gravel 14%

Restricted Lands

- DEP 13%
  - Niantic State Forest: 8.5%
  - Rocky Neck State Park: 3%
  - Wildlife Areas: 1.5%
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  - Yale Property
- Business Zoned 7%
  - Commercial: 4%
  - Light Industrial: 1.5%
  - Beach Assoc.: 1.5%

Development Composition

- Light Industrial 3%
- Other 7%
- Commercial 12%
- Residential 78%

Land Use

- Farm Field 2%
- Recreational 1%
- Roads 4%
- Developed 33%
- Other 60%

Chapter 2 Inventory and Analysis - Qualitative

"I think that a particle must have a separate reality independent of the measurements. That is an electron has spin, location and so forth even when it is not being measured. I like to think that the moon is there even if I am not looking at it."

Albert Einstein

Purpose:
Identifying the districts in the town of East Lyme serves two ends. First, it helps us to determine the existing character of a place. By doing so we can more readily foster unique attractive communities because we know what we like. Secondly, identification of districts is meant to provide citizens with a greater legibility of the town. By this, we mean the ease with which its parts can be recognized and can be organized into a coherent pattern. The process of way-finding is formed by the environmental image, the generalized mental picture of the exterior physical world that is held by an individual. (4)

These terms district and legibility were coined by Kevin Lynch. Lynch's most famous work, The Image of the City published in 1960, is the result of a five-year study on how users perceive and organize spatial information as they navigate through cities. The five elements that make a city include, paths, edges, nodes, districts, and landmarks. How do we define districts? According to Lynch, a district is a "Medium to large sections of the town, conceived of as having two-dimensional extent which the observer mentally enters inside of and which are recognizable has having some common identifying character" (Lynch,)

Identity is synonymous with what landscape architects call the "genius loci". In contemporary usage, "genius loci" usually refers to a location's distinctive atmosphere, or a "spirit of the place". The term was made famous by the poet Alexander Pope who wrote the following lines:

"Consult the genius of the place in all;/That tells the waters or to rise, or fall;/Now breaks, or now directs, th' intending lines;/Paints as you plant, and, as you work, designs."

This is the principle that landscape designs should always be adapted to the context in which they are located. Every place has a voice and when determining the extents of a district, we are looking for the extent of that voice. Districts have various kinds of boundaries. Some are hard, definite, precise. Other boundaries may be soft or uncertain. In the methodology section, we will discuss how district distinctions are made.

The image of a given reality may vary significantly between different observers. This depends largely on the user's personal experience and familiarity with the town as well as the scale in which the observation is made. For example, the town in its simplest form is the extent of the town boundary, the next scale would be separating the two villages based on the division caused by the highway. In order

to "This circularity of the interpretative process is a mutually qualifying interplay between our evolving sense of the whole and our retrospective understanding of its constituent parts."

Methodology:
The team began by driving and walking all around East Lyme without any past knowledge about the town. This allowed us to go in with fresh minds to navigate the town as first time visitors. This assignment also included an extensive collection of photographs to be assembled while navigating the town. The inventory enables the team to identify and analyze decisions to be made about that area (issues to be resolved in a specific area). After driving around and collecting the photographic inventory, we began making boundary distinctions between districts on an aerial map with parcel lines. The district map follows parcel lines. How do we separate the identity of one district from another? Through cultural and ecological indicators.

Cultural Indicators
Ecological Indicators
Land Use
Water Bodies
Parcel Building Size
Landforms
Materials/Vernacular
Elevation & Slope
Approx. Age of Development
Micro-climates
Streetscape
Vegetation Typology
Other Cultural Artifacts
Vegetation Density/Use

Districts are also based partially on distance and proximity. For instance, there could be two communities that are very similar in terms of the cultural and ecological indicators present, but they may have some physical separation. Though the two are similar, they

have different contextual needs and would be treated differently based on their location. The opposite could also be in true. Two places can be very close together but may exhibit entirely different visual qualities thus creating a psychological sort of separation.

A preliminary district map was then presented to the POCD Steering Committee and was later reviewed by the East Lyme citizens in the first Public Workshop. Attendees were asked the very same question which we sought to answer at the on-start: Where is here? The results of the workshop were found to be in sync with the work conducted by URCDC. Revisions and alterations were made to a few districts which were later approved by the steering committee and the public at the following workshop

Conclusion:
The town is composed of three major sections as noted at the first public workshop. Citizens summarized this accordingly: The northern section (associated with farms), the southern section (associated with the beach), and then everything in the middle. Our map goes into a little more detail and breaks the town of East Lyme into 8 identifiable districts: Northern Flanders, Western Flanders, Southern Flanders "(four corners), Northern Niantic, Eastern Niantic, Central Niantic, Southern Niantic, and Western Niantic.

Chapter 2 Inventory and Analysis - Qualitative

Existing Neighborhoods. The town of East Lyme is comprised of eight well-defined neighborhoods. The land north of Route 95, known as Flanders has three neighborhoods. The lands known as Niantic, which are south of Route 95 have 5 neighborhoods. The UConn LUV Team views the existing town neighborhoods and their unique features to be the town's most valuable assets.

Flanders: North
Southern boundary defined by sudden change in density
Runs along Northern part of Flanders Road
Strong agricultural presence; rural character
State forest
Significant change in grade and high elevation
Not as nearly as developed as Southeastern Flanders
Limited land use diversity
High elevation and significant grade change spectrum

Flanders: East
Largely associated with Four Corners intersection
Southern edge defined by highway
More recently developed than Niantic
Northern edge defined by golf course
Associated with High School and commercial development
Fairly low elevation
Most land use diversity in Flanders

Flanders: West
Higher elevation than Eastern Flanders
Slightly more rugged Eastern Flanders
Less diversity in land use (mostly residential)
Southern border and access created by highway
Boston Post Road acts as northern edge
Vegetation is largely forested
Agricultural presence

Niantic: East
Higher elevation than Eastern Flanders
Slightly more rugged Eastern Flanders
Less diversity in land use (mostly residential)
Southern border and access created by highway
Boston Post Road acts as northern edge
Vegetation is largely forested
Agricultural presence (not as much as Northwestern Flanders)

Niantic: North
Identity strongly linked to Gorton Pond and Oswegatchie Hills
Northern boundary formed by sudden change in land use and development pattern
Associated with Flanders Corner
Runs along northern part of Rt. 161 in Niantic
Terrain slightly more rugged than southern Niantic
Land use is residential with pockets of community resources
Vegetation is slightly more woody than Central Niantic

Niantic: West
Northern edge and entrance formed by highway
Associated with Rocky Neck, correctional facility, parks, etc
Proximity to Niantic Bay, beaches, and railroad
Slightly more wooded than Central Niantic and less
Reasonable land use diversity
Extremely dense development
Runs along western stem of Main Street
Fairly flat terrain

Niantic: Central
Proximity and views to Niantic Bay and River
Land Use Diversity (Mixed-Use & retail)
Epicenter formed by the intersection of Route 161 and Main Street
Terrain is fairly flat
Vegetation is largely comprised of beach/lowland type species
Associated with railroad and drawbridge
Maritime vernacular

Niantic: South
Strong connection to Niantic Bay and beaches
Railroad and sudden change in land use act as northern edge
Largely residential with maritime vernacular
Vegetation is mostly beach-like with woodland in interior
Development not as recent
Very dense development

Flanders - North

Southern boundary defined by sudden change in density and development pattern

Runs along Northern part of Flanders Road

Strong agricultural presence; rural character

State forest

Significant change in grade and high elevation

Not as nearly as developed as Southeastern Flanders

Limited land use diversity

High elevation and significant grade change spectrum
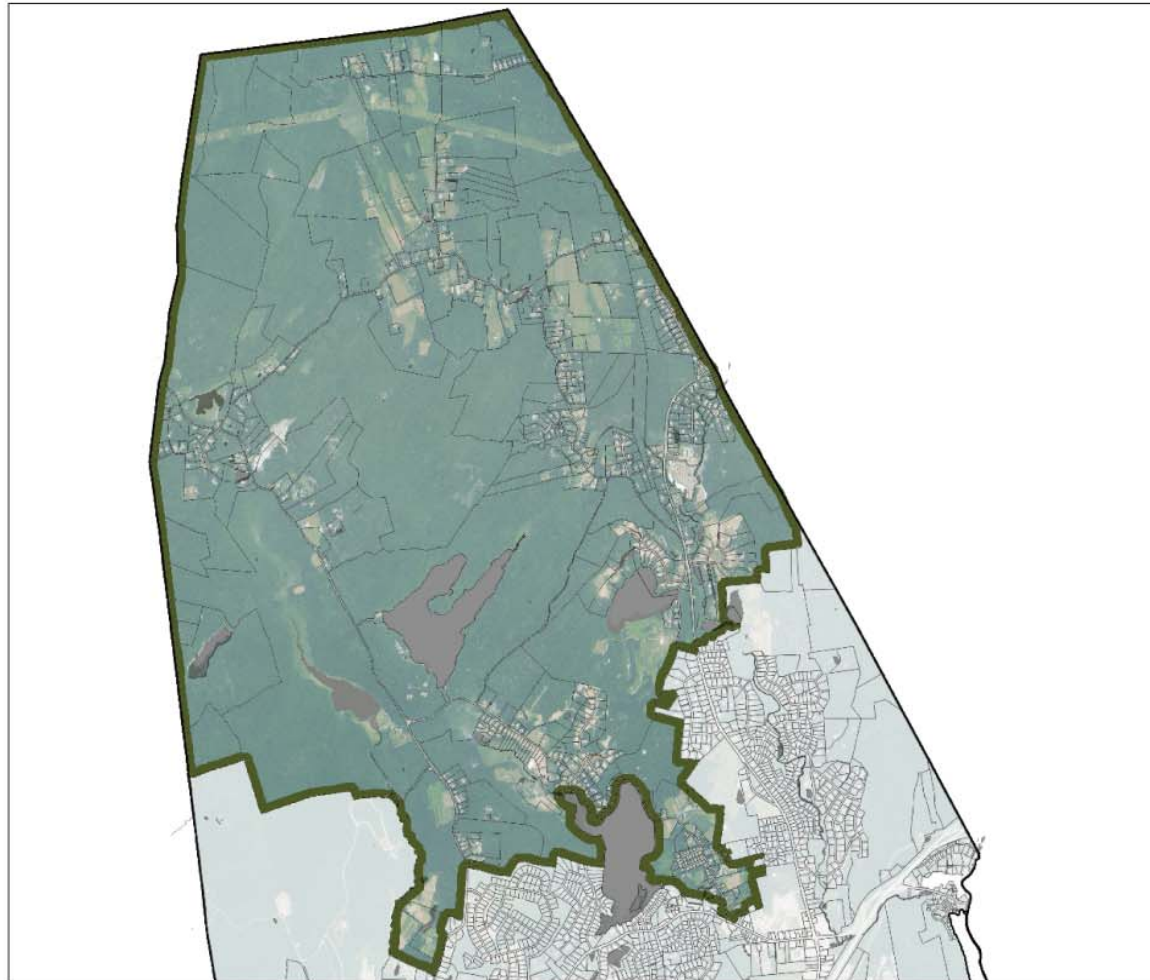
Land Cover & Land Use
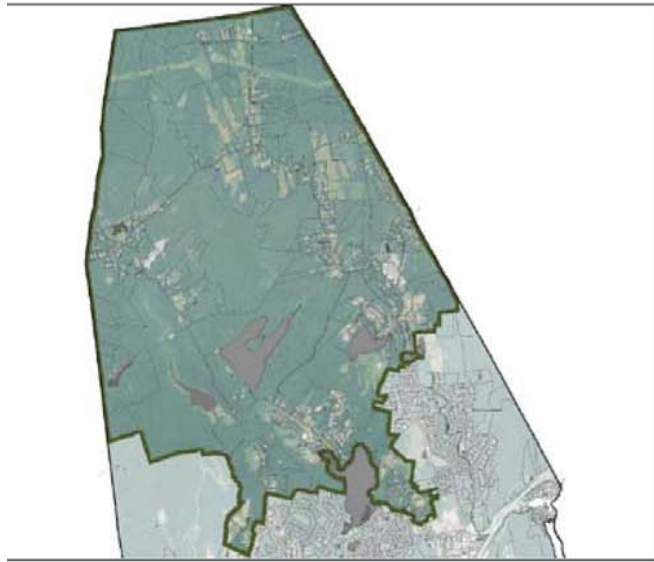
Character Contributors
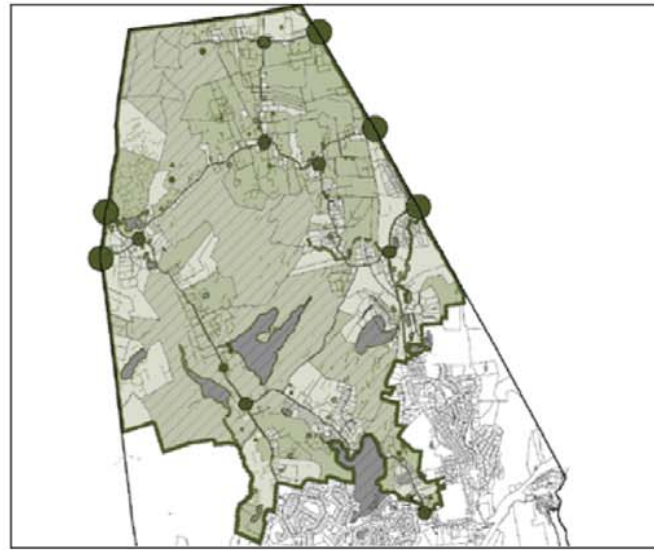
Developed vs. Undeveloped Land
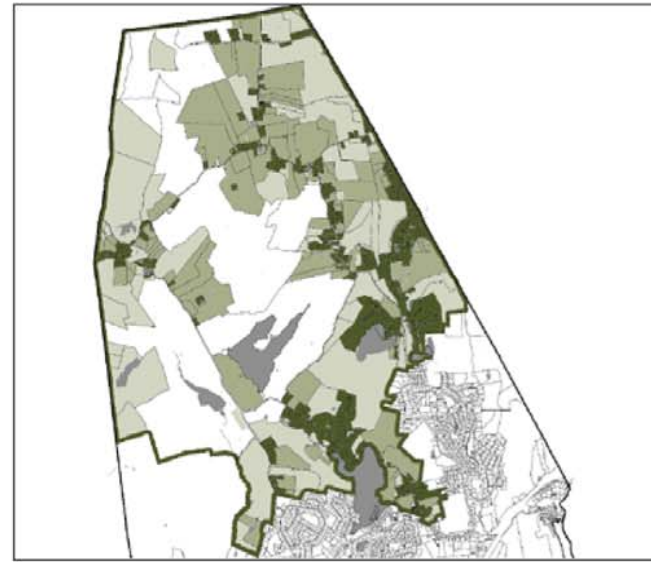
Elevation & Landform
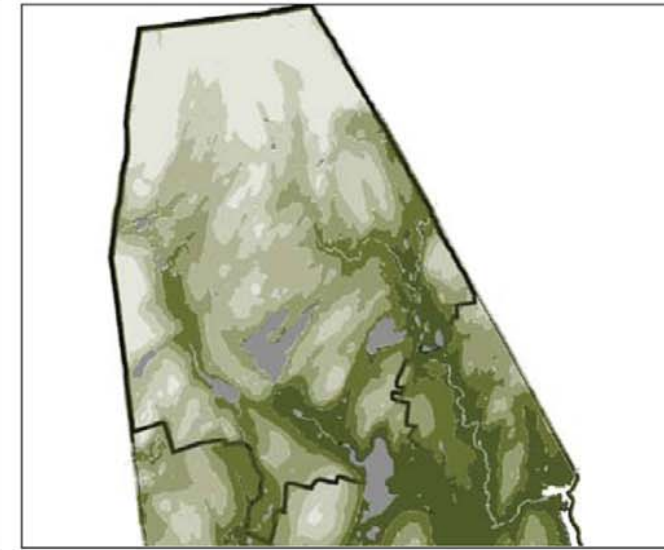
Composed of two transect zones:
Farming, and Rural. Immediately adjacent to Protected Lands

Notes:
- Preserve rural character
- Residential developments should require a special permit Agriculture
- Maintain narrow windy roads
- Encourage conservation subdivisions in areas appropriate for residential development.
- Continue to promote cluster residential development as a means of creating permanent open space, preserving environmentally sensitive areas and encouraging creative subdivision design. Comply with the Open Space Masterplan.
- Discourage development along roads; allow farm fields to be visible to visitors
- Continue protection of vital ecologocial resources
- Hathaway property
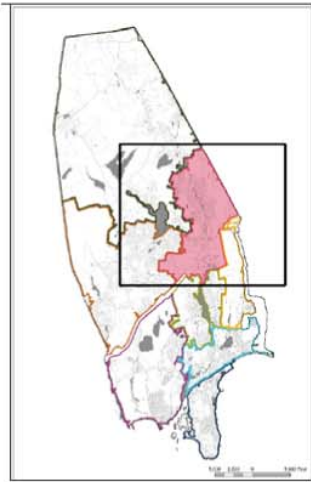
Flanders - East

Largely associated with Four Corners intersection
Southern edge defined by highway
More recently developed than Niantic
Northern edge defined by golf course
Associated with High School and adjacent commercial development
Fairly low elevation
Most land use diversity in Flanders
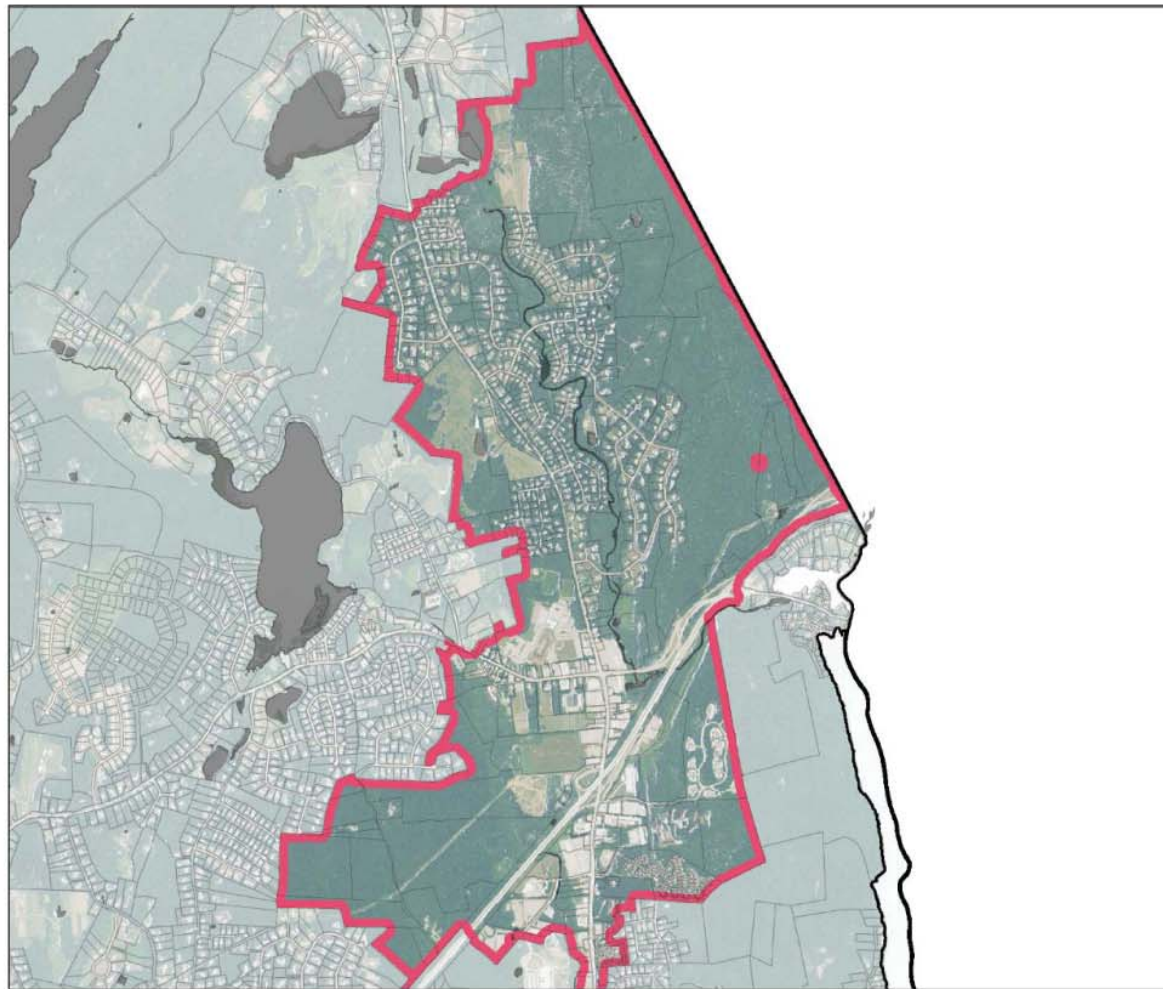
Land Cover & Land Use
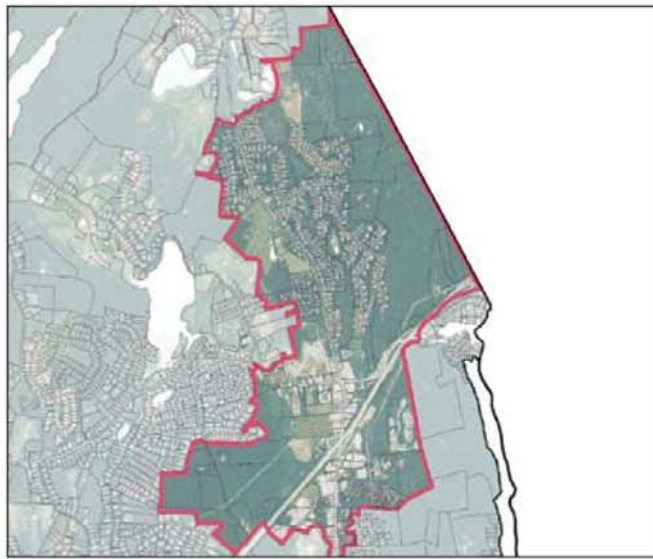
Character Contributors
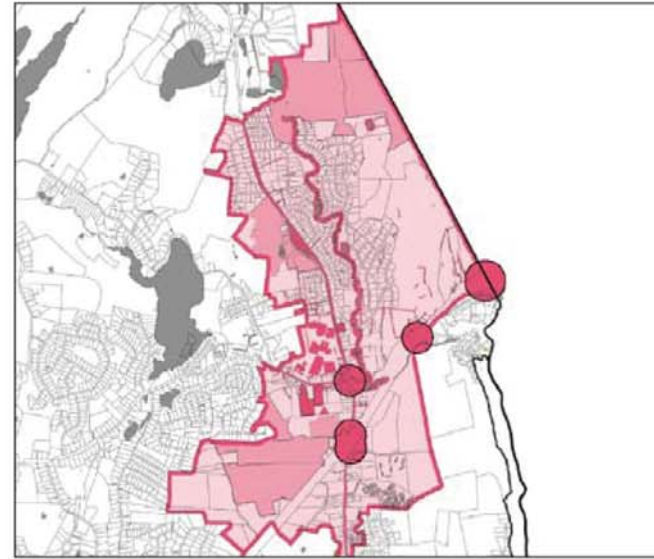
Developed vs. Undeveloped Land
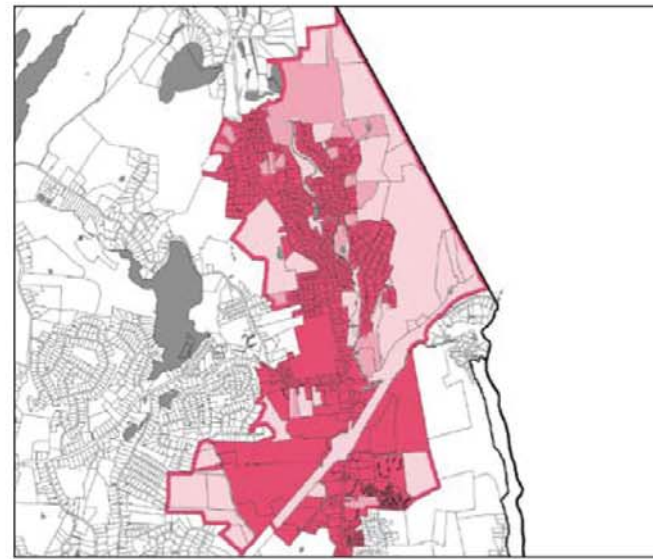
Elevation & Landform
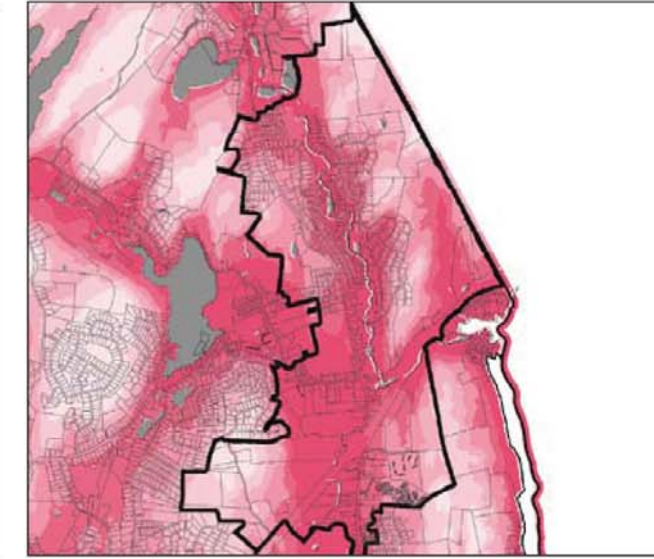
Composed of two transect zones:
Flanders Commercial and Low Density Residential

Notes:

- To quote from the Yale Urban Workshop Report: Its location is that of a central place, but does not appear as a town center for an upscale residential community."

- Control commercial strip development by eliminating strip zoning where possible.

- 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.

- Exert greater control over commercial development by application of standards for building design, parking and circulation, landscaping and buffers, and signs. (97)

- Consider a historic preservation area in Flanders Village to be located at the intersection of Church Lane and Route 1. 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.

- Upgrade the visual quality of the area through the installation of sidewalks, street trees and planters, grass median strips and identifiable crosswalks.

- 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.

- Encourage conservation subdivisions in areas appropriate for residential development

- 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.
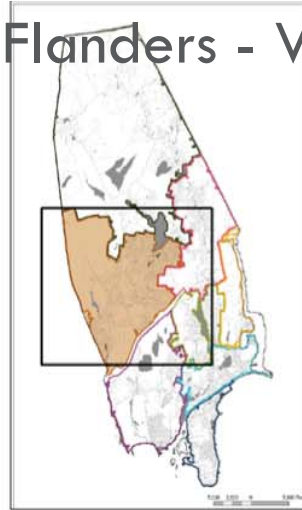
Flanders - West

Higher elevation than Eastern Flanders
Slightly more rugged Eastern Flanders
Less diversity in land use (mostly residential)
Southern border and access created by highway
Boston Post Road acts as northern edge
Vegetation is largely forested
Agricultural presence (not as much as Northwestern Flanders)

Land Cover & Land Use

Character Contributors

Developed vs. Undeveloped Land

Elevation & Landform
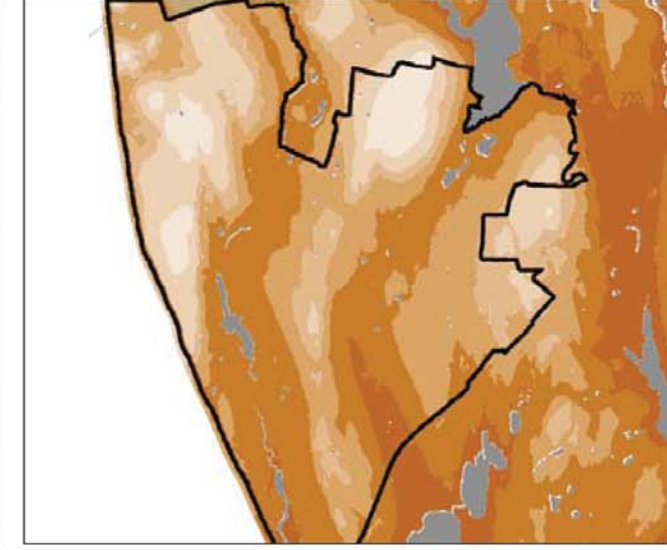
**Composed of two transect zones:**
Low Density Residential with remnants of Agricultural Lands

Notes:
- Agricultural lands should be revitalized and should contribute character to the residential zone
    - Area on Bridebrook just north of highway would be a beautiful gateway/view or Flanders.
    - Intersections of Bridebrook Rd. and Boston Post Road has potential to be an agricultural/commercial node
- Specific lands should be zoned for agricultural uses (Refer to Future Development Map)
- Encourage conservation subdivisions in areas appropriate for residential development
- 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.

- Protect remaining high points
- Preserve agricultural relics
- Incentive-based zoning should encourage property owners build in an architectural vernacular which compliments historic structures nearby
- 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.
- Local roads should be no more than 24 feet wide
    - 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.
    - Narrow driving lanes to encourage automobiles to drive slowly and/or install street trees to provide the illusion of narrower travel lanes.

Chapter 2 Inventory and Analysis - Qualitative

Niantic - East
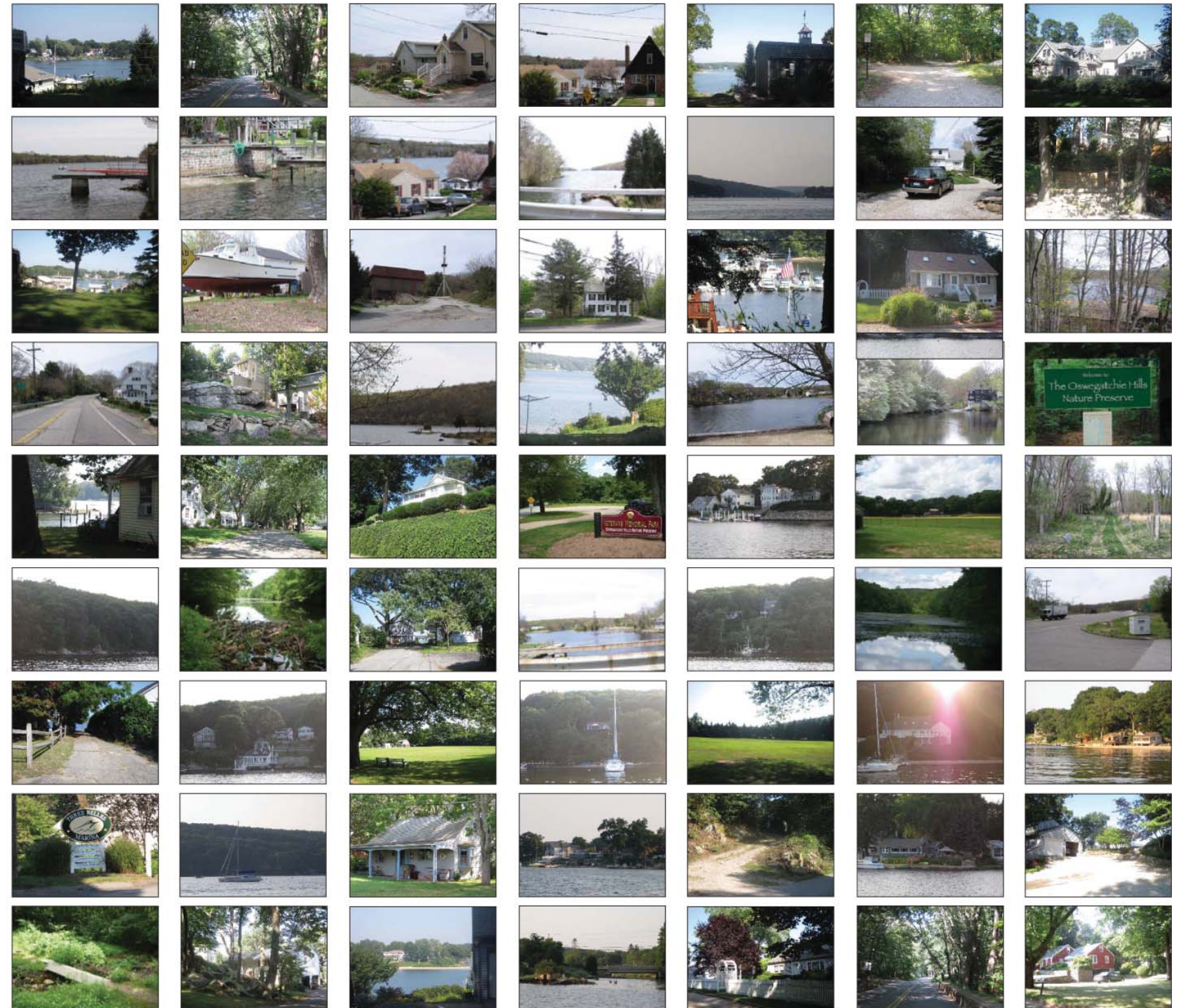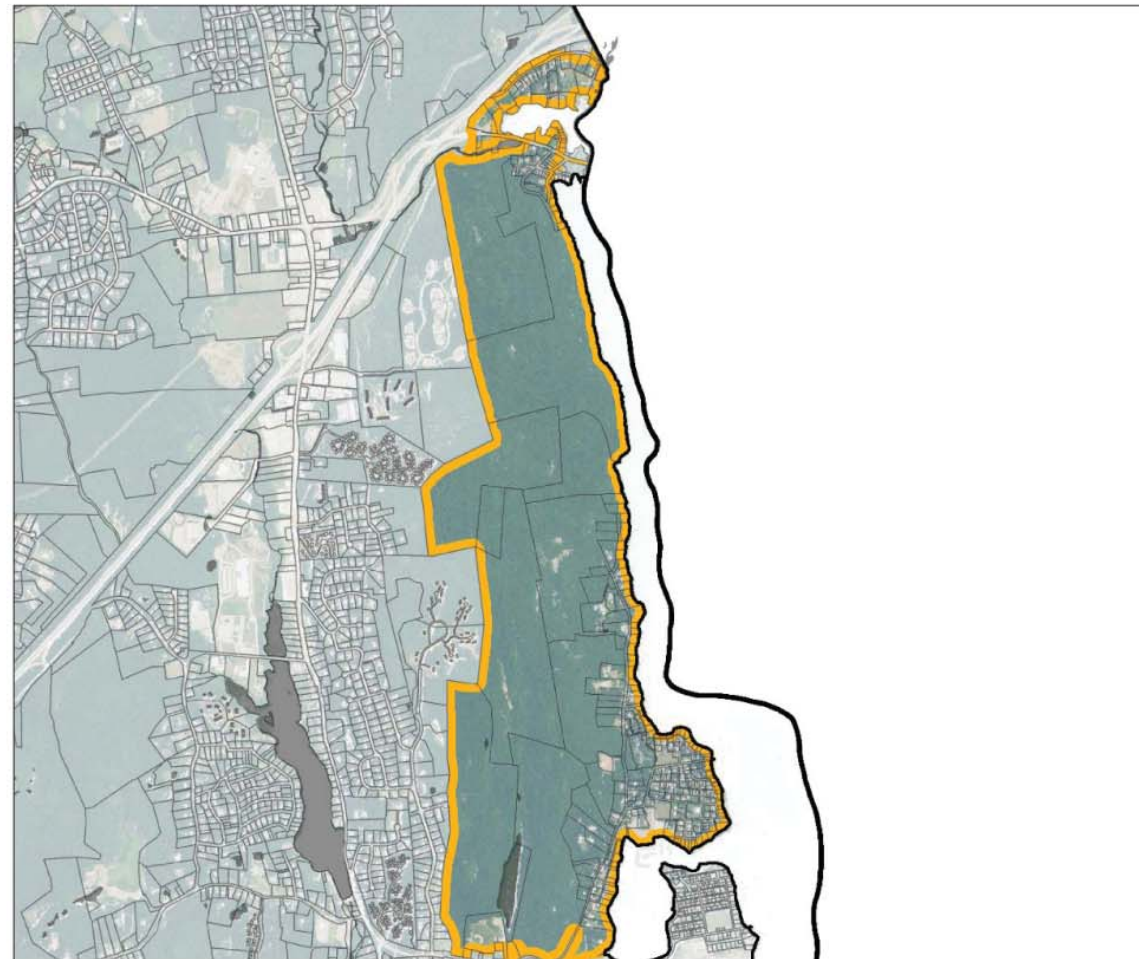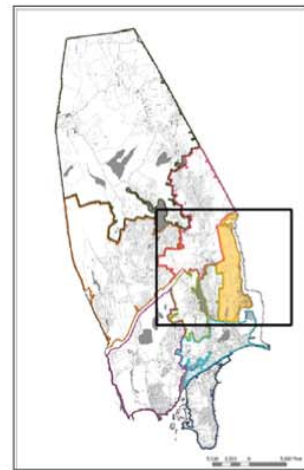
Land Cover & Land Use
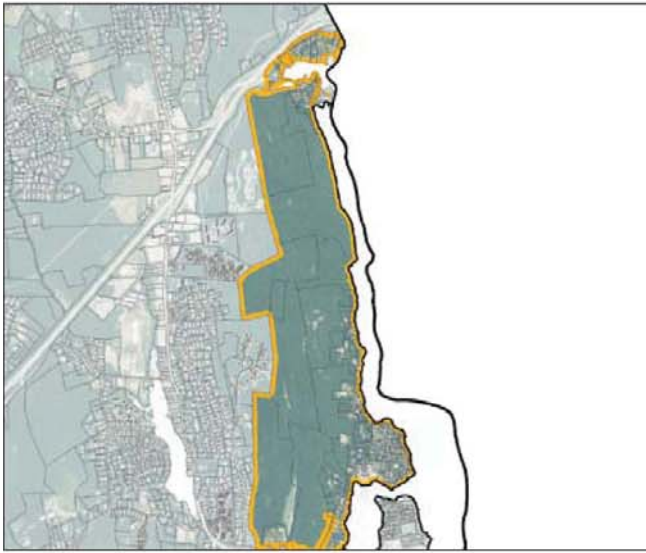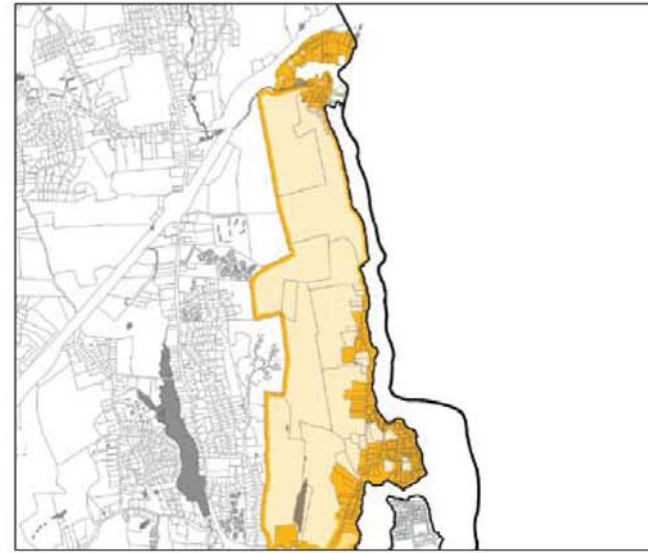
Character Contributors

Developed vs. Undeveloped Land

Elevation & Landform

Composed of two transect zones:
Medium and High Density Residential Immediately adjacent to Protected Lands

Notes:
- Continue protection of Oswegatchie Hills
- Preserve existing character
    - Old mills and houses along river
- Highway gateway
    Lulu's and highway ramps
- Memorial Park could have a stronger presence

Chapter 2 Inventory and Analysis - Qualitative

Niantic - North
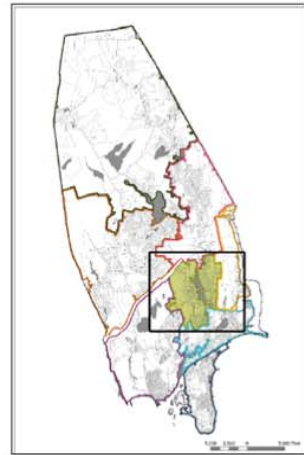
Identity strongly linked to Gorton Pond and Oswegatchie Hills
Northern boundary formed by sudden change in land use and development pattern
Associated with Flanders Corner (cemetery, schools, library, museum etc)
Runs along northern part of Rt. 161 in Niantic
Terrain slightly more rugged than southern Niantic
Land use is largely residential with pockets of community resources
Vegetation is slightly more woody than Central Niantic
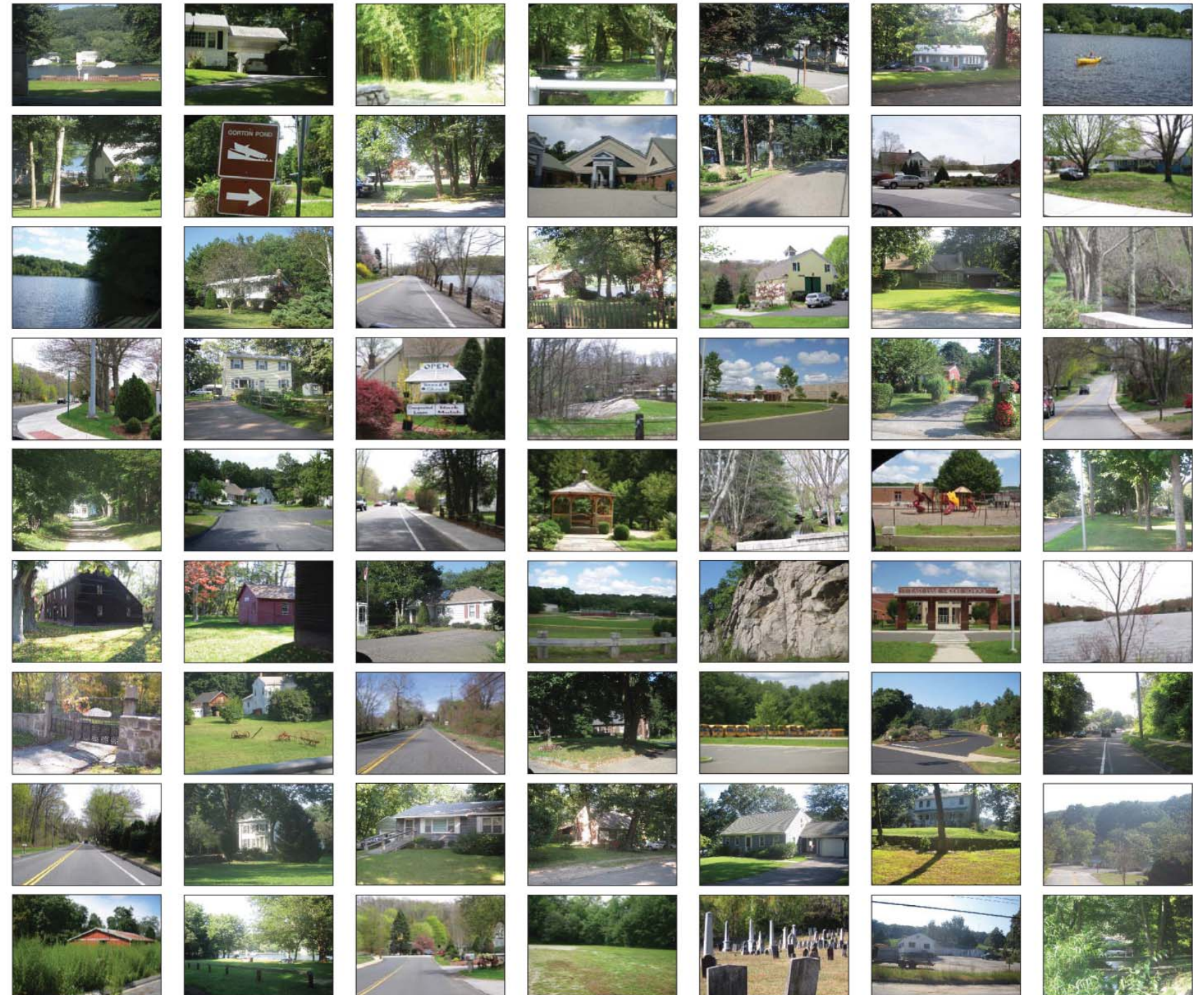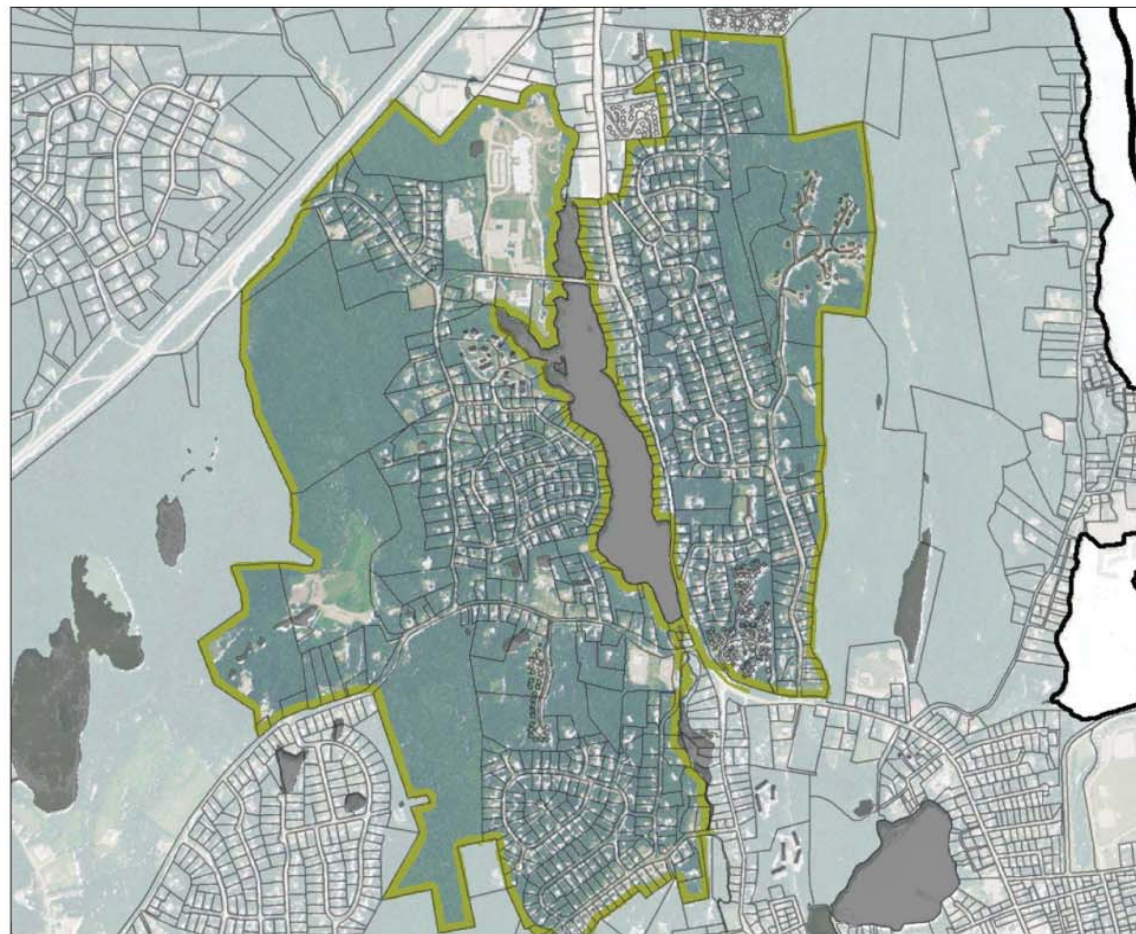
Land Cover & Land Use

Character Contributors

Developed vs. Undeveloped Land
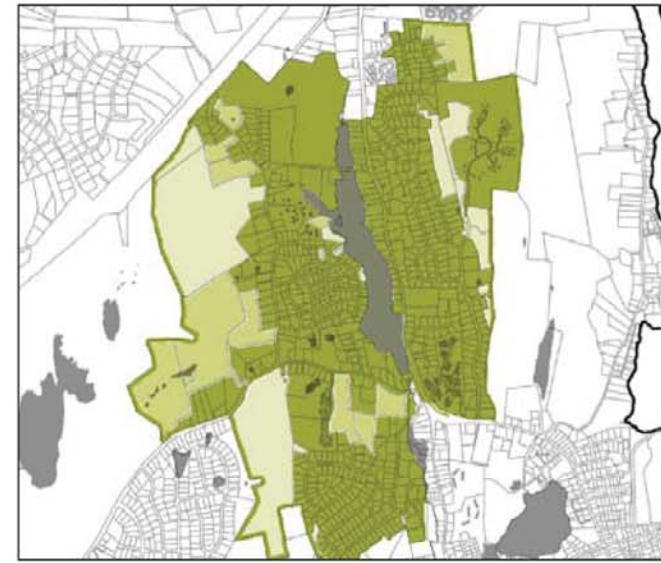
Elevation & Landform
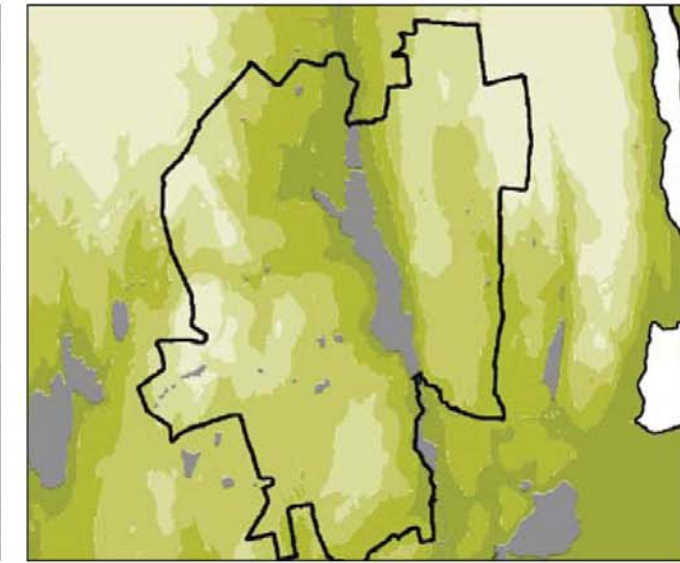
Composed of one transect zone:
Medium Density Residential

Notes:
- Focus development along state and collector roads
- Encourage mixed uses such as in-law apartments and in-home offices especially on Route 161 south of Society Road
- Improve walkability
    - Sidewalks on Society Road should run from Route 161 to the Community Center, Smith-Harris House and two schools.
- Make use of existing trails that surround the area
- Celebrate Gorton Pond
- Boardwalk along Gorton Pond provides access to water and increases connectivity
- Maintain Gorton Pond access point on southwest side
- Encourage multi-modal transportation
- Area of 161 north of Society and south of the highway is extremely susceptible to al least one transportation stop. (i.e shuttle, bus, trolley) Routing would happen along 161 and WSR.
- Enhance corridor that links the two commercial centers
- 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 en-hance the "gateway" at I-95 and can emphasize the connection between Flanders and Niantic vil-lage 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 na-ture of the Town.
- Town garage site should be improved and/or reused
- Consider site along society road for mixed-use and/or high density development (refer to future development map)

Chapter 2 Inventory and Analysis - Qualitative

Niantic - West
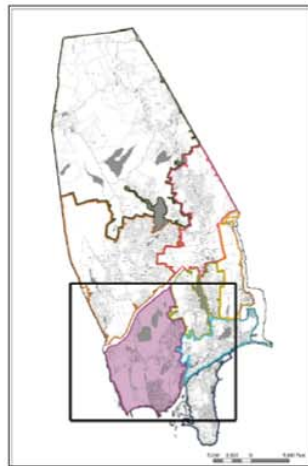
Northern edge and entrance formed by highway
Associated with Rocky Neck, correctional facility, parks, etc
Proximity to Niantic Bay, beaches, and railroad
Slightly more wooded than Central Niantic and less
Reasonable land use diversity
Extremely denses development
Runs along western stem of Main Street
Fairly flat terrain
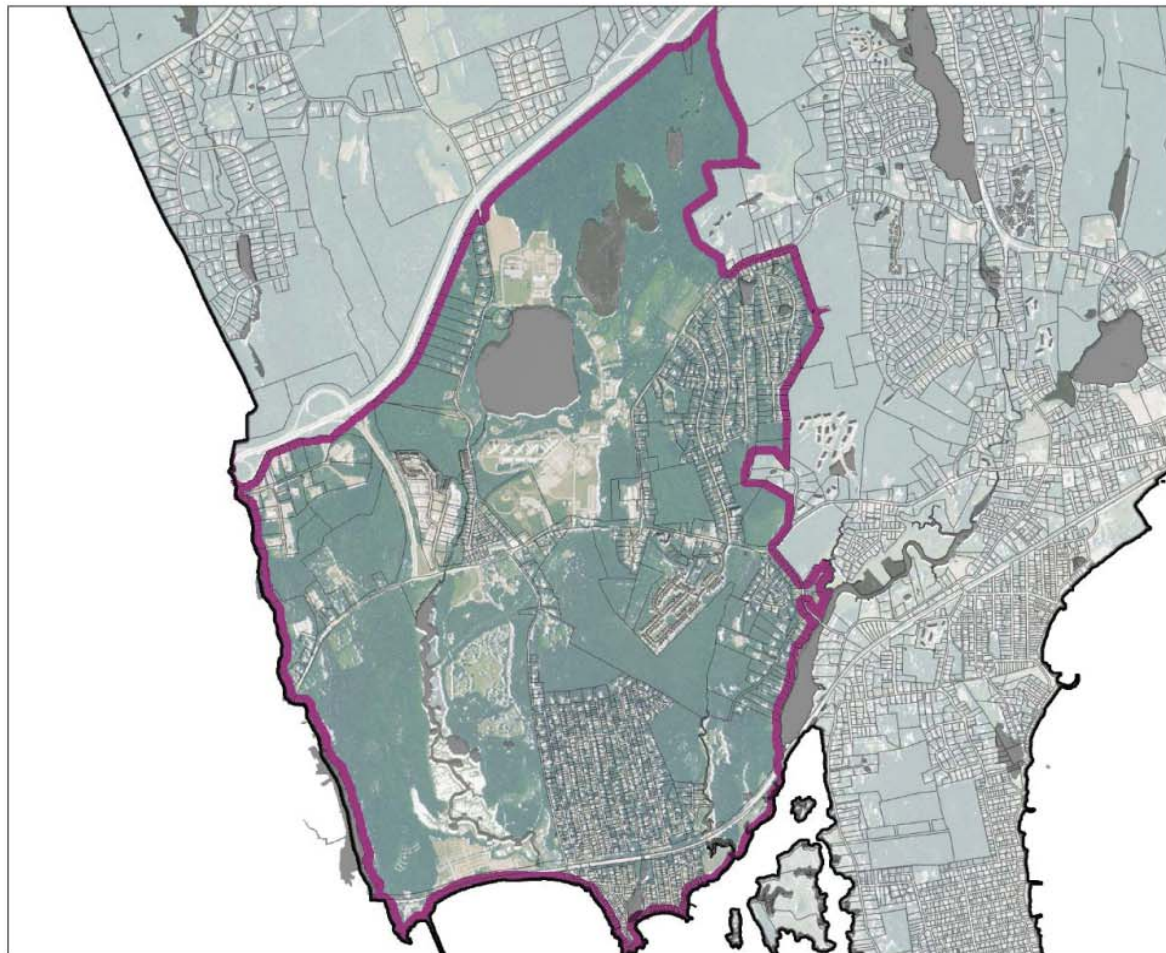
## Land Cover & Land Use
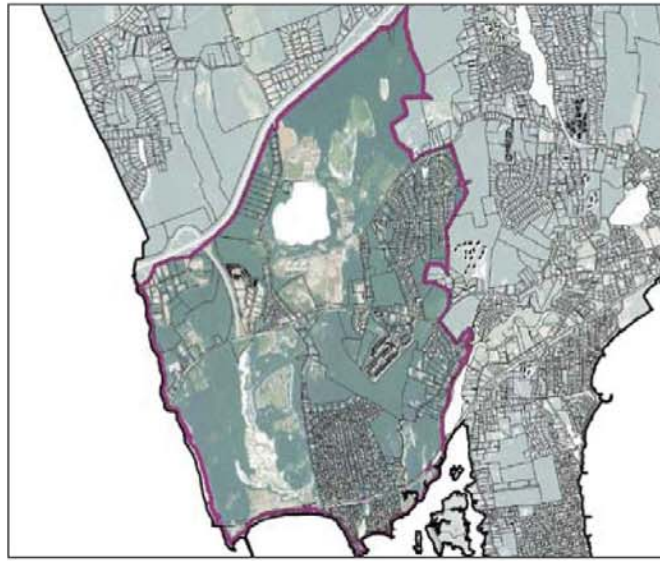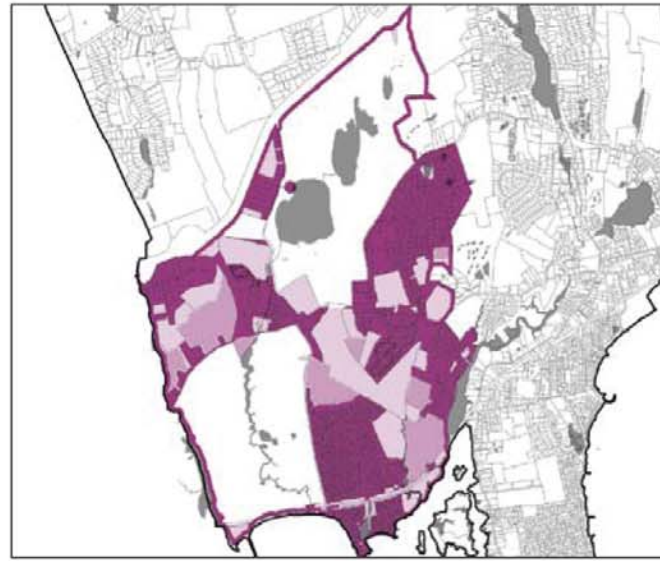
Character Contributors

Developed vs. Undeveloped Land

Elevation & Landform
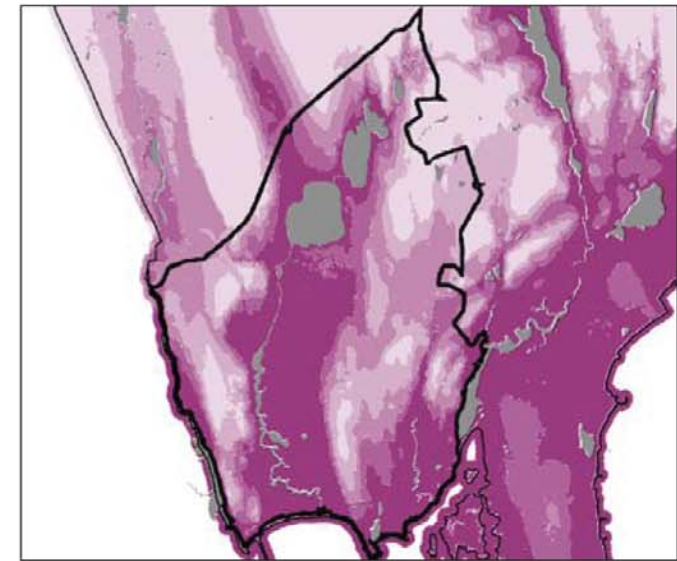
Composed of two transect zones:
Medium and High Density Residential Immediately adjacent to Protected Lands

Notes:
- Focus development along West Main St.
    - The strip commercial zoning of West Main Street between Huntley Court and Roxbury Road
      should be eliminated.
- Improve western gateway to town
- Preserve nautical character
- Model future development after existing patterns in Giant's Neck
- Improve light industrial zones
- New commercial buildings should be located close to the road with parking to side or the rear of
the lot.
- New commercial center
- Light Industrial sites have not worked out well...relate more to agriculture
prison site has ag land rented out ....we encourage this

Niantic - Central
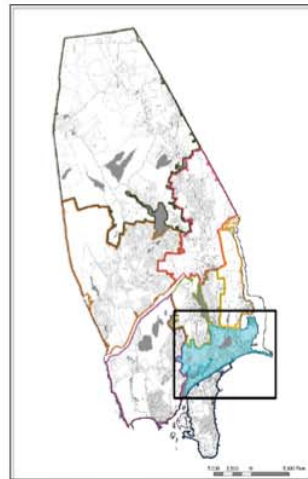
Proximity and views to Niantic Bay and River (marinas, board
    walk, and beaches)
Land Use Diversity (Mixed-Use & retail)
Epicenter formed by the intersection of Route 161 and Main
Street
Terrain is fairly flat
Vegetation is largely comprised of beach/lowland type species
Associated with railroad and drawbridge

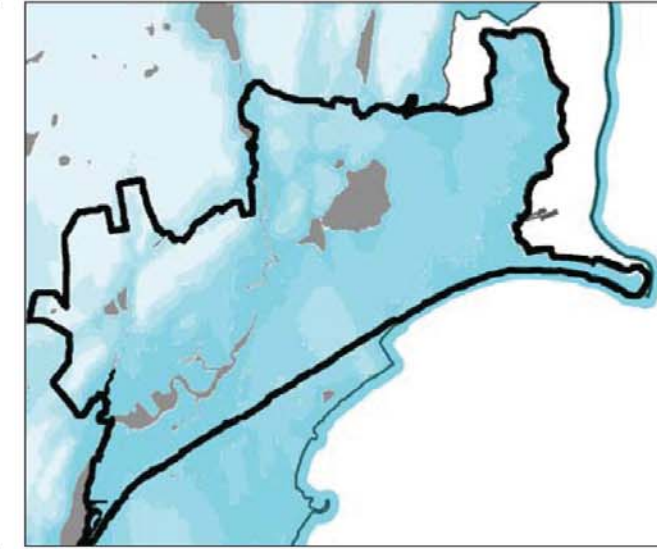Maritime vernacular
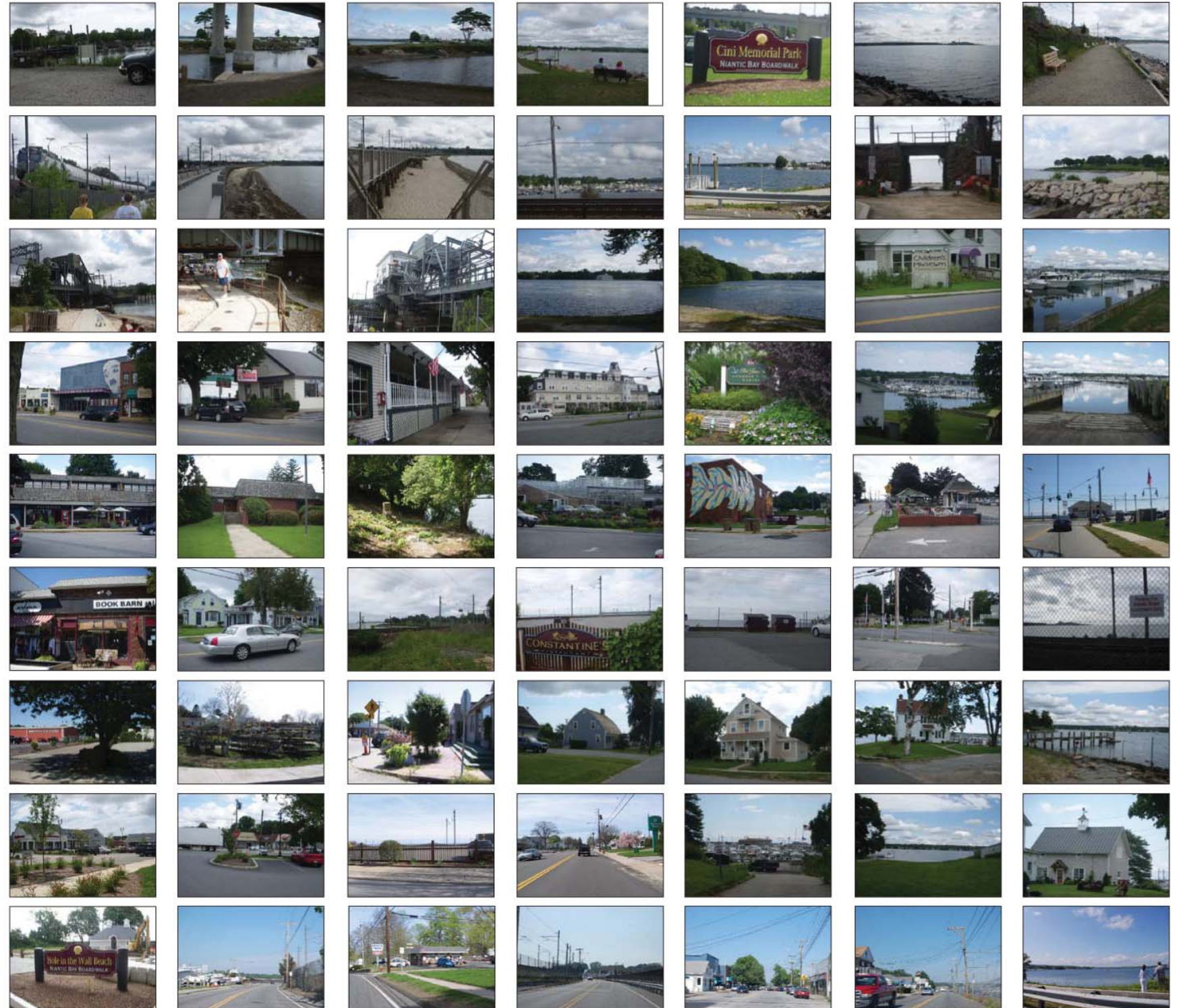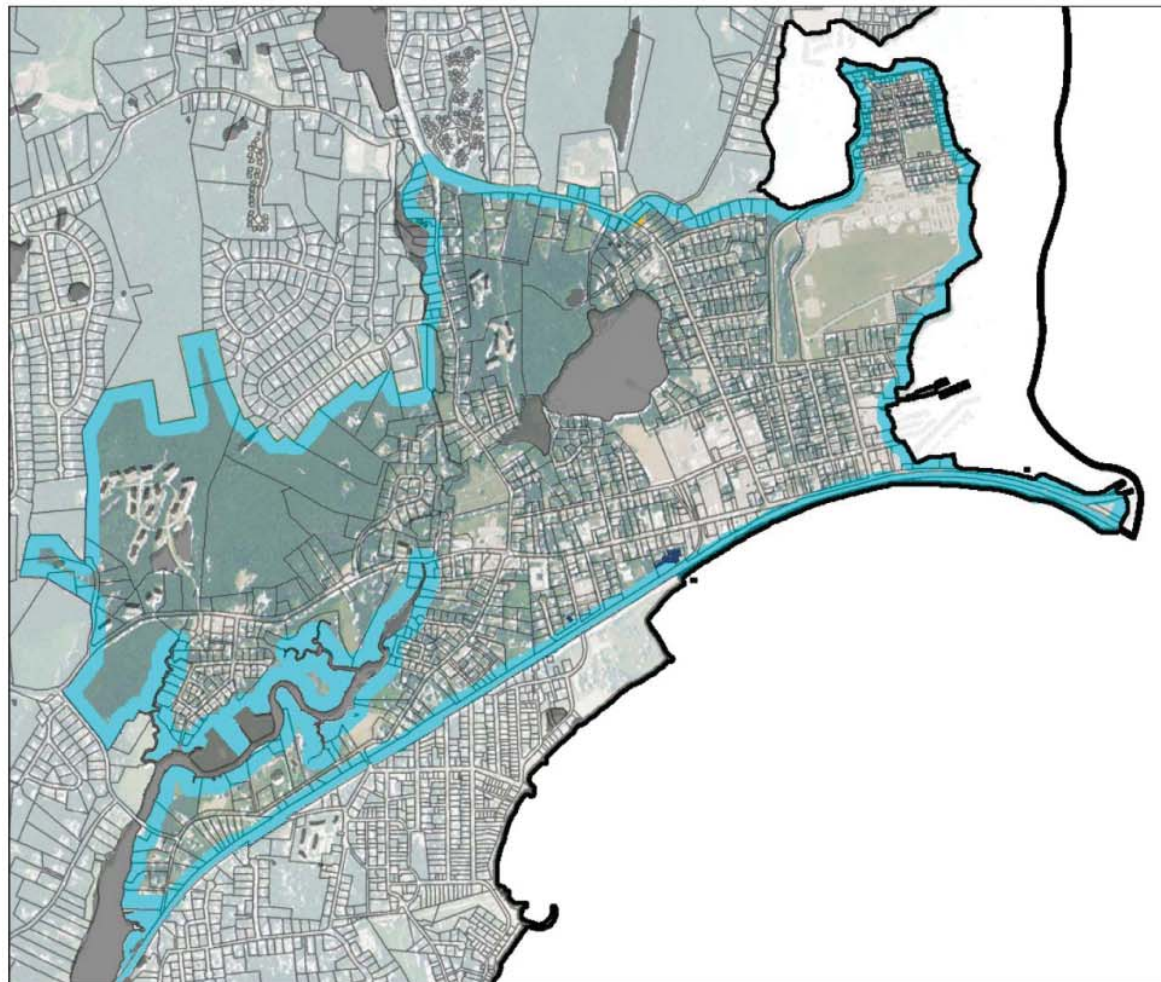
Land Cover & Land Use
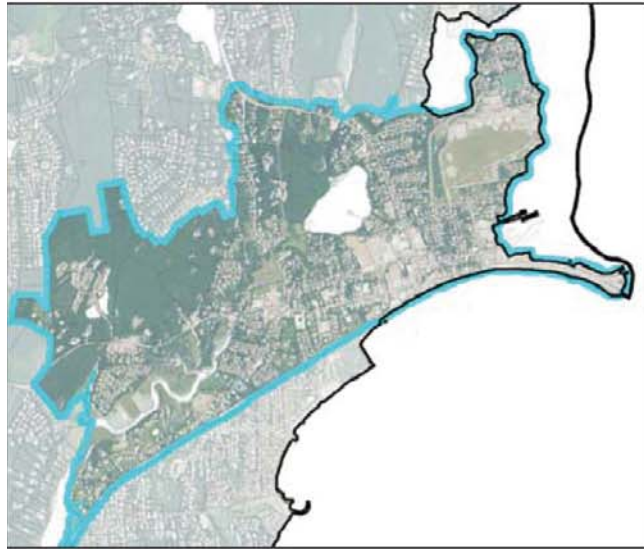
Character Contributors

Developed vs. Undeveloped Land
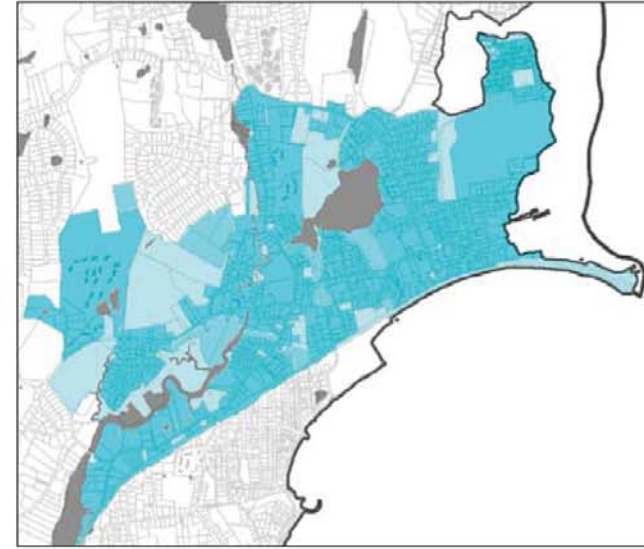
Elevation & Landform

Composed of two transect zones:
Niantic Commercial and Medium Density Residential

Notes:
- Infill and tie into existing infrastructure whenever possible
- Greatest susceptibility to multi-modal transportation
- Replicate existing fabric and architectural character
- Strengthen Main St by celebrating proximity to the Sound
- Promote and support actions that would continue to attract tourists to East Lyme and result in the focusing of attention on downtown Niantic.
  - To encourage marine-oriented tourism and commerce.
  - 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.
  - 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 his toric Niantic and its location on the water.
  - 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.
  - 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.
  - Expand and improve visual access to the coast.
- Model future development after existing patterns in older parts of Niantic
Improve terminus of Route 161 (Consider converting it into the civic realm).

Chapter 2 Inventory and Analysis - Qualitative

Niantic - South
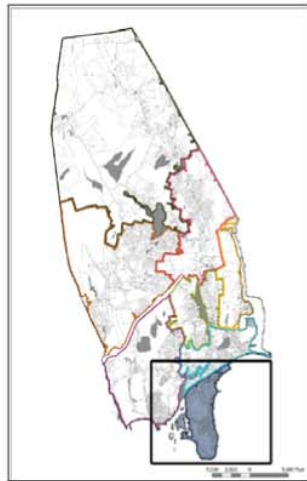
Strong connection to Niantic Bay and beaches
Railroad and sudden change in land use act as northern edge
Largely residential with maritime vernacular
Vegetation is mostly beach-like with woodland in interior
Development not as recent
Very dense development
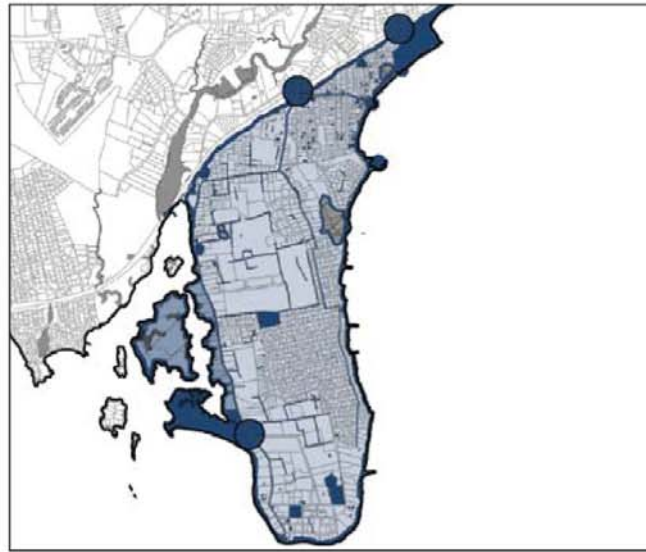Very little grade change and low elevation
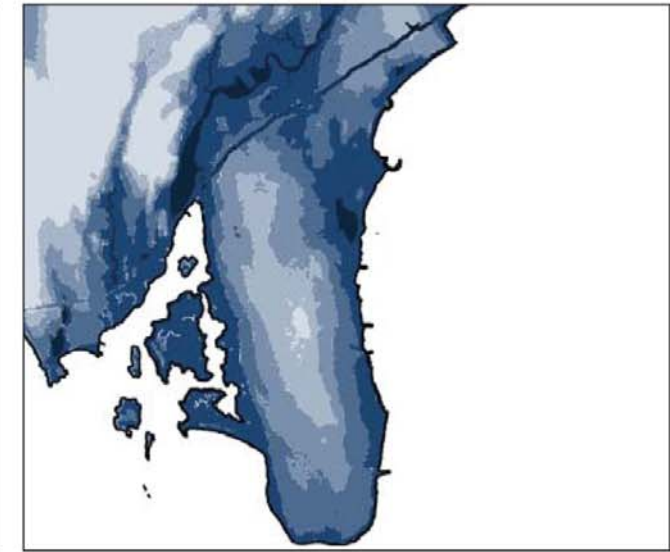
Land Cover & Land Use

Character Contributors

Developed vs. Undeveloped Land

Elevation & Landform

Composed of one transect zone:
High Density Residential

Notes:
- Preserve existing character
    - Model future development after areas such as Attawan, Oak Grove, and Crescent
    Small parcels/drives, historic vernacular
- Expand Town ownership of beach front where possible, giving highest priority to waterfront areas with potential for multiple recreational uses.
    - Provide visitor accommodations (walking trails)
- Preserve open space in center
- Continue to allow for small commercial uses in the crescent beach area
- Continue to promote narrow roads, shared driveways, and shared views.

Chapter 2 Inventory and Analysis - Transect

An environment which is ordered in precise and final detail may inhibit new patterns of activity. A landscape whose every rock tells a story may make difficult the creation of fresh stories. Although this may not seem to be a critical issue in our present urban (suburban) chaos, yet it indicates that what we seek is not a final but an open ended order, capable of continuous further development.

Kevin Lynch

Purpose: Developing a transect allows us to identify existing development patterns in the town and evaluate them based on goals that satisfy natural and cultural needs. It will also inform us at to which patterns we wish to continue pursuing and those we do not.

The benefits of using the Transect include a common language for a new zoning paradigm …the ability to plug into transect-based codes and supplementary modules created by different experts in the design, engineering, and environmental fields …successional potential for communities to evolve gracefully and sustainably over generations.

In the 18th century, a geographer named Alexander von Humboldt introduced the concept of a transect. Defined as a cross section of a region, Humboldt used it to examine sequences in natural land forms.

More recently, the Miami-based firm of Duany Plater-Zyberk and Company has deployed the concept of a transect to facilitate place making in cities and regions. In this sense, the Transect is a categorization system that organizes all elements of the urban environment on a scale from rural to urban. Each of these human habitats has a specific character with unique attributes and inhabitants, yet is also part of a network of other habitats that form a sustainable, cohesive system.

When a building or sequence of development does not fit our expectations, we can lose our sense of comfort or "sense of place." Counties, towns and cities can create and maintain welcoming places by using human perception as the guiding principal for deciding how development is placed and designed. Currently, the town manages development through zoning laws or land development ordinances. These types of regulations have historically been used to protect the compatibility of adjoining land uses. These regulations are very effective at separating certain types of land use from one another, but they also can remove the possibility of locating highly compatible uses near each other (e.g. small businesses, schools and homes). When we focus on partitioning the land into separate uses, we are not only confronted with a complicated list of zoning categories, but we are also forced into thinking and building our places in a rigid, piecemeal fashion. Efforts to enhance variety and sustainability in built form—socially, environmentally and economically—have frequently been thwarted by standards and codes. To counter the current paradigm, some urban planners have proposed transect planning as a tool for understanding and designing places that feel more like neighborhoods.

The application of a transect varies from one culture and place to another. Its success in a North American context will depend on its proponents' ability to create planning tools and regulations that support its use.

Methodology: We began by looking at raw data, that is the density and current zoning. Took average of density in the area. Method was guided somewhat by district boundaries. Undeveloped land was categorized by subjective factors that helped determine transect zones include parcel size, setbacks, transportation, architecture, cultural landscape values, and presence/ use of vegetation, size of front and side setbacks, forms of transportation available, width and speed of roads,

Parcel Size
      Location in town
      Determine general grain for the area by finding average parcel size
Setbacks
      Size of front and side setbacks
      Pattern and resulting function of setbacks on the landscape
Transportation
      Forms of transportation available
      The width and speed of roads
      Presence of sidewalks and proximity to existing infrastructure (or lack thereof)
      How these modes affect the sense of community
Architecture
      Style of architecture
      Placement in the landscape and relation to the street
      Massing, scale, and proportions of building
      Building use
Cultural Landscape Values
      Presence and quality of cultural elements and their interplay with natural elements
      Aesthetic qualities
      Philosophies and attitudes toward the landscape (utilitarian vs. primitive)
      Conflicting ideals of private land versus public land
Presence/Use of Vegetation
      Determine ratio between natural vegetation and cultural vegetation
      Type of vegetation being used and degree of biodiversity
      Performance and maintenance of vegetation

Conclusions:

It begins with two that are entirely rural in character: Rural preserve (protected areas in perpetuity); and Rural reserve (areas of high environmental or scenic quality that are not currently preserved, but perhaps should be).

The transition zone between countryside and town is called the Edge, which encompasses the most rural part of the neighborhood, and the countryside just beyond. The Edge is primarily single family homes. Although Edge is the most purely residential zone, it can have some mixed-use, such as civic buildings (schools are particularly appropriate for the Edge). Next is General, the largest zone in most neighborhoods. General is primarily residential, but more urban in character (somewhat higher density with a mix of housing types and a slightly greater mix of uses allowed).

Protected Lands

50+ acres primarliy located in northern Flanders
Foot trails within open space
Protection of valuable open space
Recreational uses
Aesthetic quality
Contributes to the defining character of adjacent development
Heavily wooded with understory growth
Serves ecological functions and provides habitat for wildlife
Town has little to no control over these lands

Rural Residential

.5+ acres in northern Flanders
Narrow roads require less pavement, reduce speed of drivers, and contribute character. Trails also accessible.
Fits woodland vernacular but is dominated by adjacent natural presence
Houses often tucked away neatly into the terrain
Houses typically have a good entry sequence which evokes mystery
Private - Usually larger parcels more spread out (low density)
Dominated by heavily vegetated surroundings and rugged landscape
Properties not as manicured as those seen in medium-low density suburban
Has potential of becoming low-density suburban (zoning allows 2 acre plots)

Low Density Suburban

.5 - 1 acre within southern Flanders
Large setbacks prohibit a strong edge condition and create useless front yards
Wide roads and large cul-de-sacs require extensive paving which are underused and unnessary. Not as walkable often due to lack of sidewalks.
More about importance of architecture which can sometimes be a bit generic
Lots of privacy but less community oriented
Landscape and entry sequence dominated by the car
Large lawns lack biodiversity and require heavy maintenance and irrigation
Big house and abundance of space viewed as a sign of prestige
Large parcels are extremely consumptive which lead to gradual clear cutting of forests.

High Density Residential

.25 acre or less located in southern Niantic
Small setbacks create a strong street edge and reduce amount of turf
Absence of useless side yards
Narrow roads reduce amount of pavement and slow traffic
Strong connectivity and highly walkable
Some areas with high concentrations of vacation homes lack maintenance
Community oriented - Development pattern allows for sharing of resource
While there is less privacy there is a greater tendancy to communicate with neighbors due to proximity to each other
Small parcels by definition are less consumptive of the land which allows for preservation of larger tracts of land and reduces amount of lawn
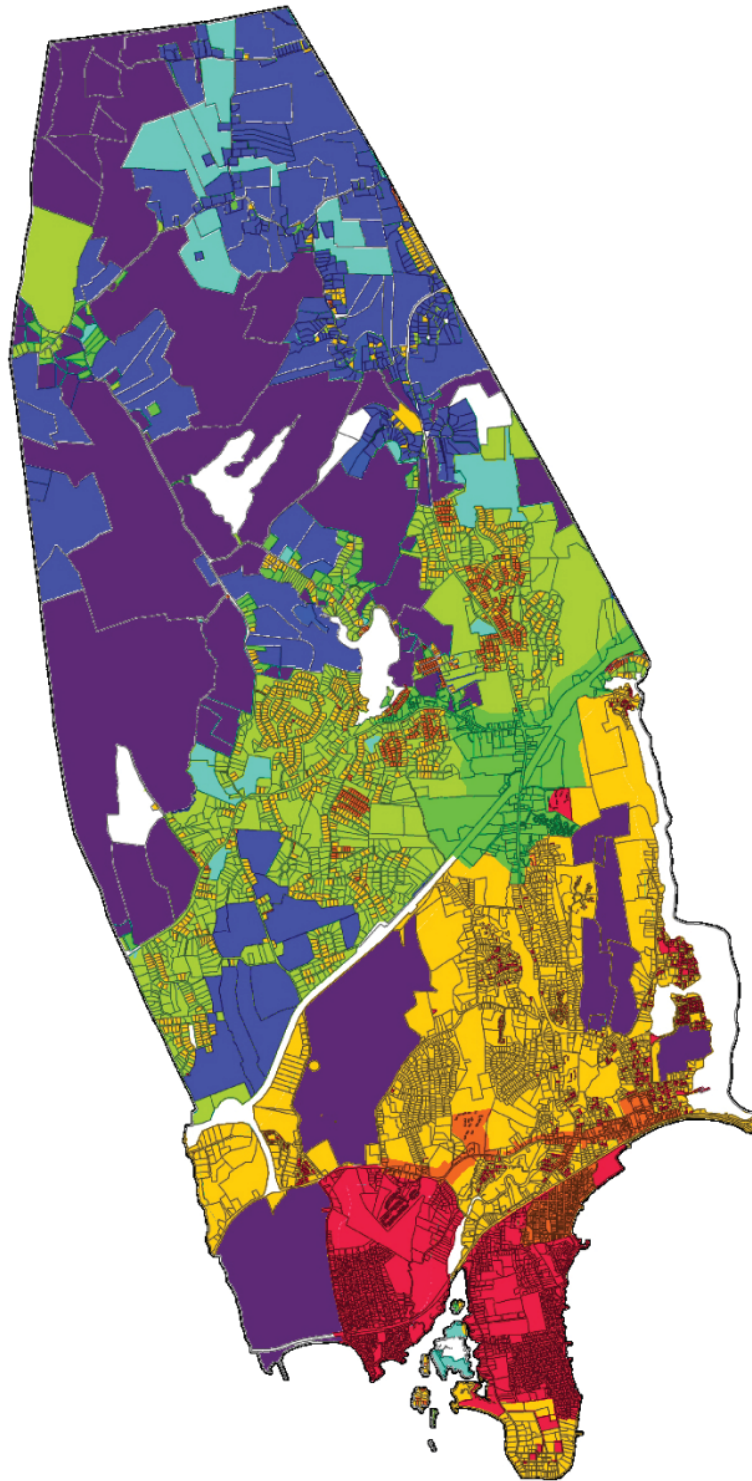
Agricultural Lands

1-2+ acres land in northern Flanders with visible farm fields
Narrow, winding, tree-lined roads contribute to rural character
Accessible to trails that wind through surrounding open space
Houses are modest and exemplify the agricultural vernacular
High cultural, nostalgic and aesthetic appeal to fields, silos, barns
Represents a positive philosophy of the land (middle landscape)
Enveloped by natural wooded vegetation
Still low density development
Current zoning allows for 2 acre parcels which could quickly deplete the existing forest

Flanders Commercial

Parcel size varies - located in southern Flanders around Four Corners
Poor street edge due to front setback and lack of street trees
Massive amounts of impervious surfaces because of large parking lots
Not pedestrian friendly, no connectivity heavy reliance on automobile
Very wide roads demand more pavement and increase drivers' tendancy to speed
One story building with huge footprints and one dimensional uses
Architecture is generic and often aesthetically unappealing
Convenient for consumers; cheap and easy to build for developers
Absent with exception of trivial foundation/island plantings

Medium Density Suburban

.25-.5 acre located in northern and central Niantic
Front setbacks not excessive; still holds street edge
Moderately narrow roads and smaller driveways reduce amount of impervious surfaces
Close-knit pattern and sidewalks make it walkable
New England/Maritime vernacular
Equal balance between privacy and community*5
Tendancy to develop around water bodies
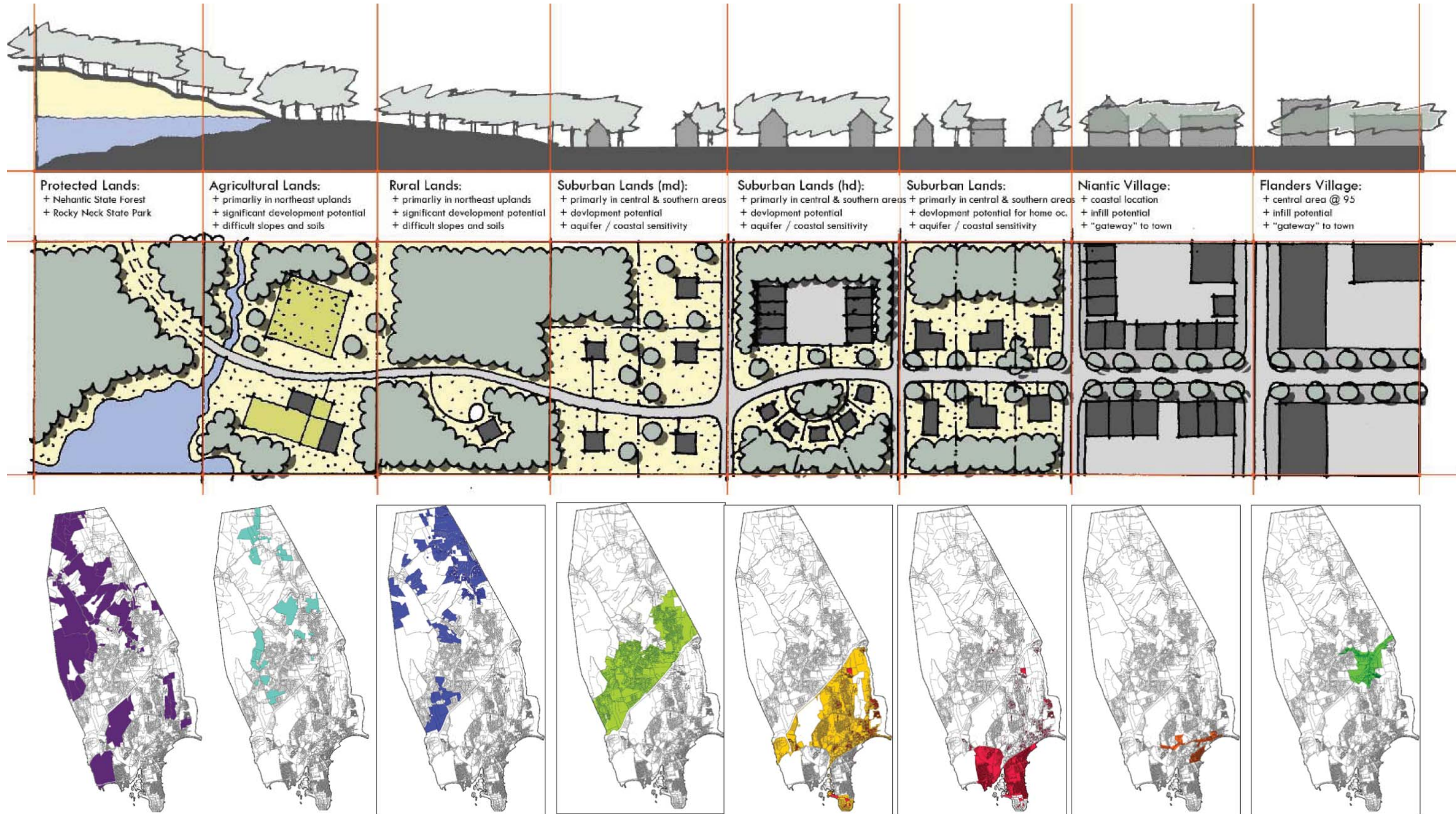Slightly more biodiversity than low density suburban

Niantic Mixed Use

Parcel size varies along with land use in central Niantic
Small front setbacks create strong street edge
Building massing reduces wasted space between buildings
Narrow roads reduce impervious surfaces and slow traffic
More walkable (safer), less reliance on car, reduces CO_2 emissions
On-street parking reduces need for big lots and calms traffic
Architecture meets maritime vernacular
Mixed use multi-story buildings condense several land uses in on small area decreasing the need to build elsewhere
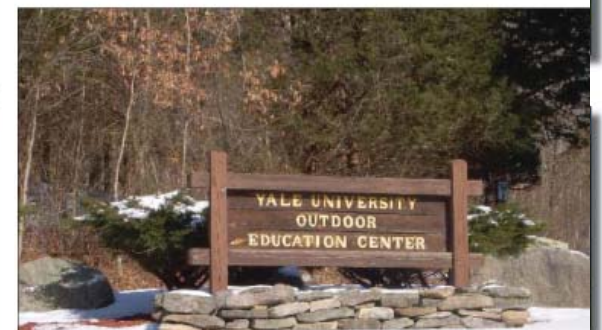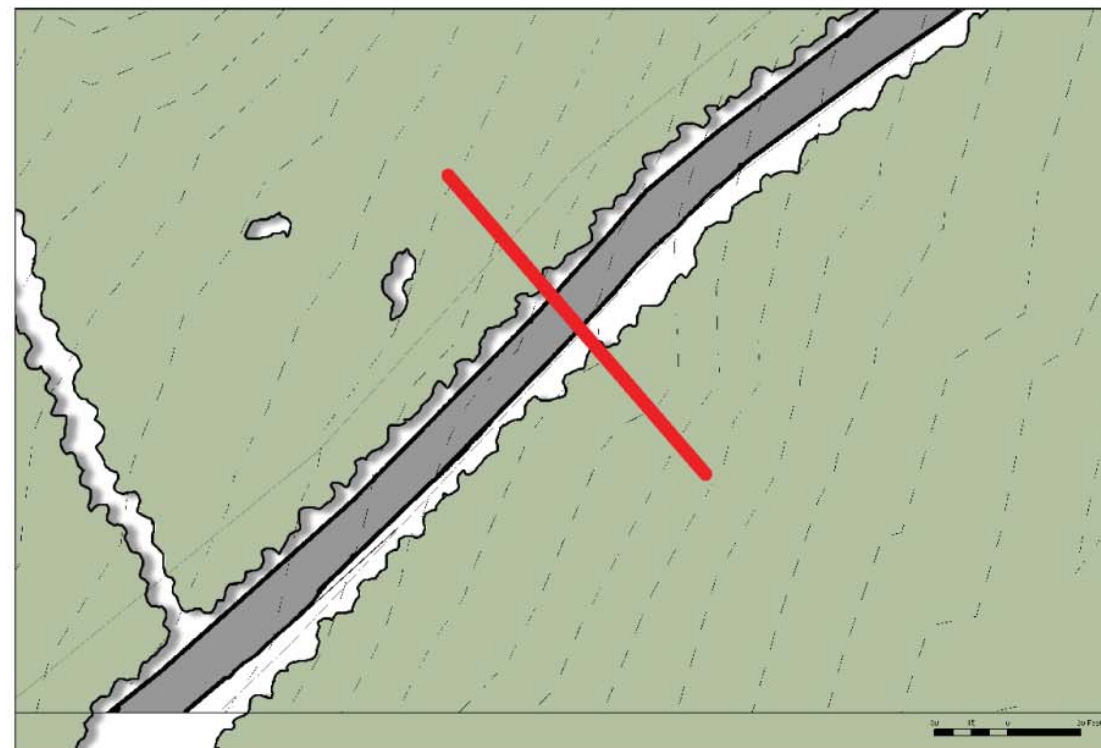Not much vegetation present other than sparsely used street trees

Protected Lands:
+ Nehantic State Forest
+ Rocky Neck State Park

Agricultural Lands:
+ primarliy in northeast uplands
+ significant development potential
+ difficult slopes and soils

Rural Lands:
+ primarliy in northeast uplands
+ significant development potential
+ difficult slopes and soils

Suburban Lands (md):
+ primarily in central & southern areas
+ devlopment potential
+ aquifer / coastal sensitivity

Suburban Lands (hd):
+ primarily in central & southern areas
+ devlopment potential
+ aquifer / coastal sensitivity

Suburban Lands:
+ primarily in central & southern areas
+ devlopment potential for home oc.
+ aquifer / coastal sensitivity

Niantic Village:
+ coastal location
+ infill potential
+ "gateway" to town

Flanders Village:
+ central area @ 95
+ infill potential
+ "gateway" to town

Chapter 2 Inventory and Analysis - Transect

Parcel Sizes

Zoning
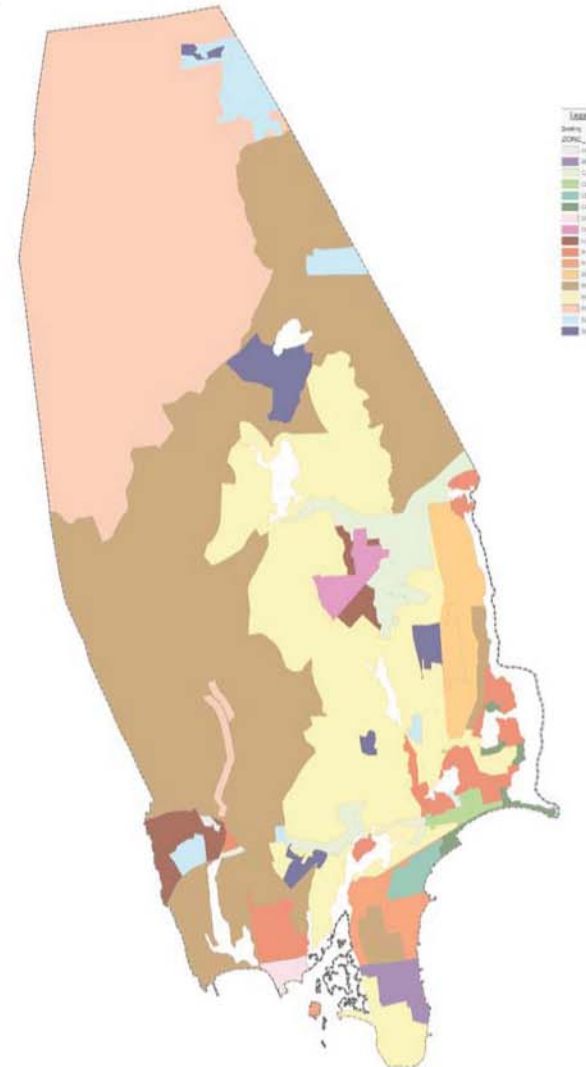
Transect Zones

P r o t e c t e d   L a n d

Protected Lands | Agricultural Lands | Rural Lands | Low-Density Suburban | High Density Residential | Medium-Density Suburban | Niantic Mixed-Use | Flanders Commercial
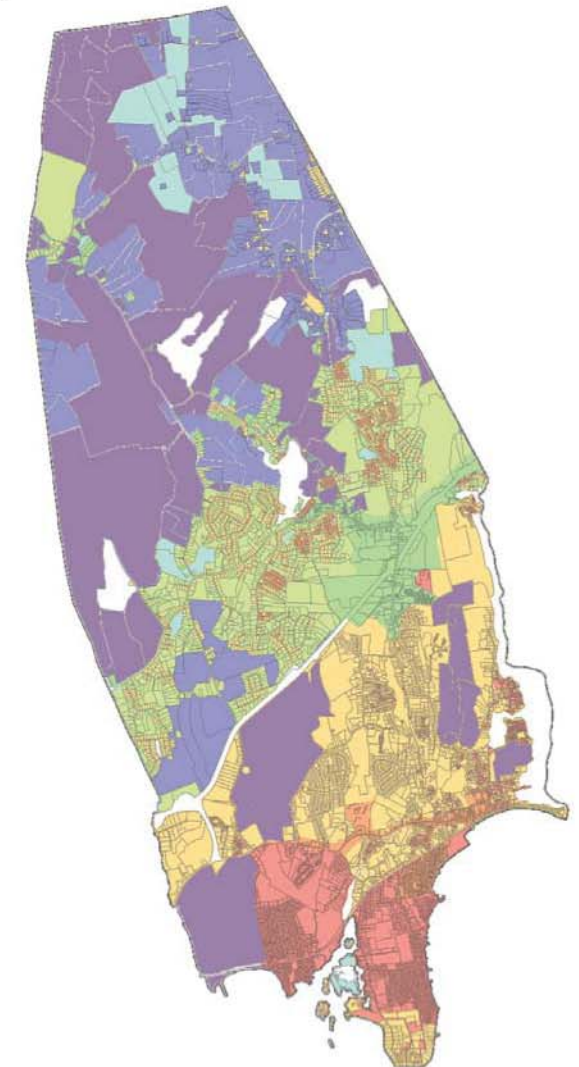
Parcel Size: 50+ acres primarliy located in northern Flanders

Setbacks
N/A

Transportation
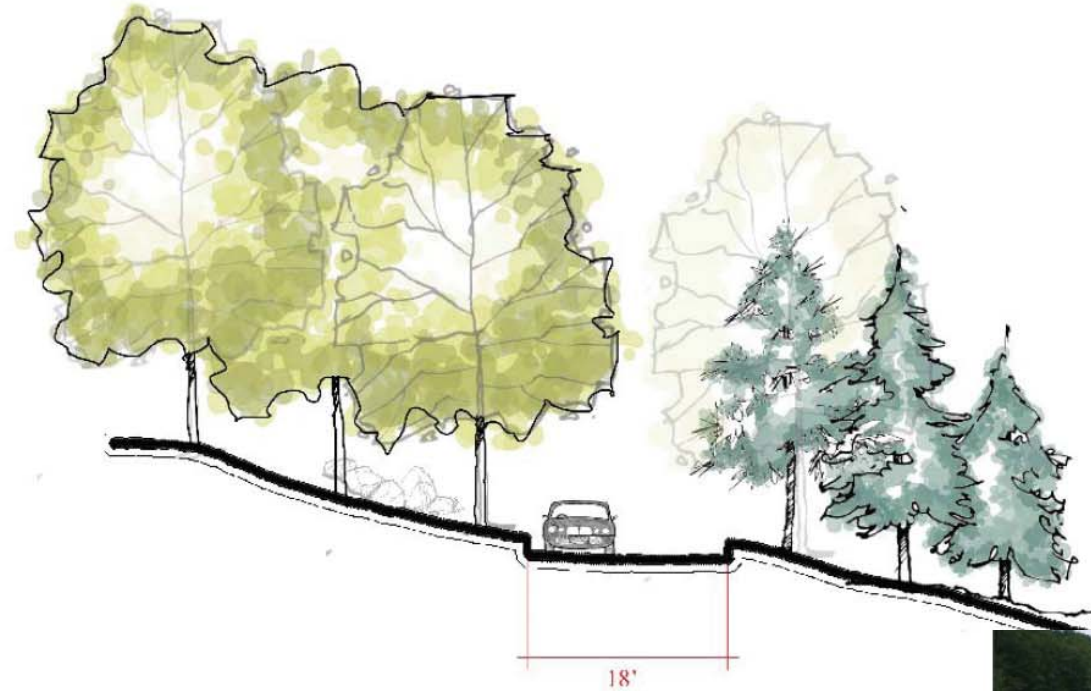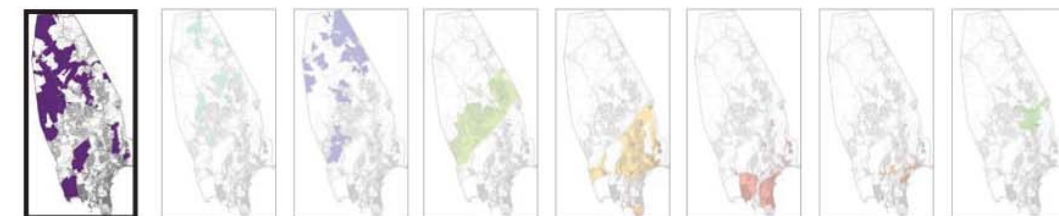Foot trails within open space*1

Architecture
N/A

Cultural Landscape Values
Protection of valuable open space*2
Recreational uses*3
Aesthetic quality*4
Contributes to the defining character of adjacent development

Presence /Use of Vegetation
Heavily wooded with understory growth*5
Serves ecological functions and provides habitat for wildlife*6

Issues
Town has little to no control over these lands

A g r i c u l t u r a l   L a n d

Protected Lands | Agricultural Lands | Rural Lands | Low-Density Suburban | High Density Residential | Medium-Density Suburban | Niantic Mixed-Use | Flanders Commercial
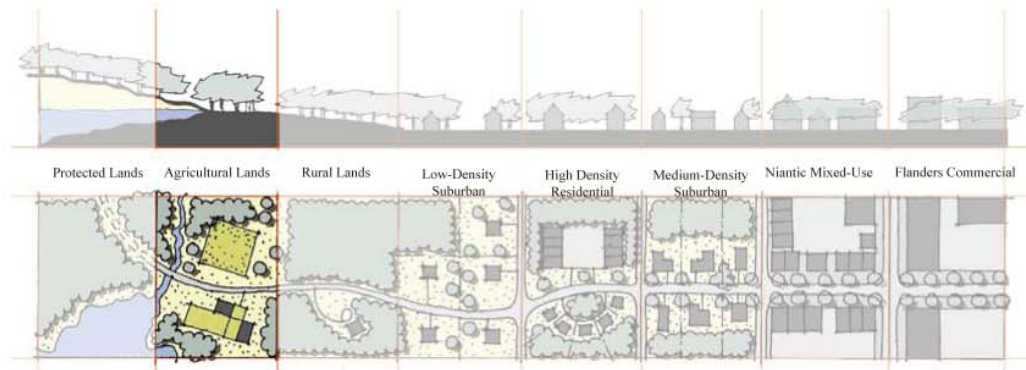
Parcel Size: 1-2+ acres land in northern Flanders with visible farm fields*1

Setbacks - N/A

Transportation
Narrow, winding, tree-lined roads contribute to rural character*2
Accessible to trails that wind through surrounding open space*3

Architecture
Houses are modest and exemplify the agricultural vernacular*4

Cultural Landscape Values
High cultural, nostalgic and aesthetic appeal to fields, silos, barns etc*5
Represents a positive philosophy of the land (middle landscape)*6

Presence/Use of Vegetation
Enveloped by natural wooded vegetation*7

Issues
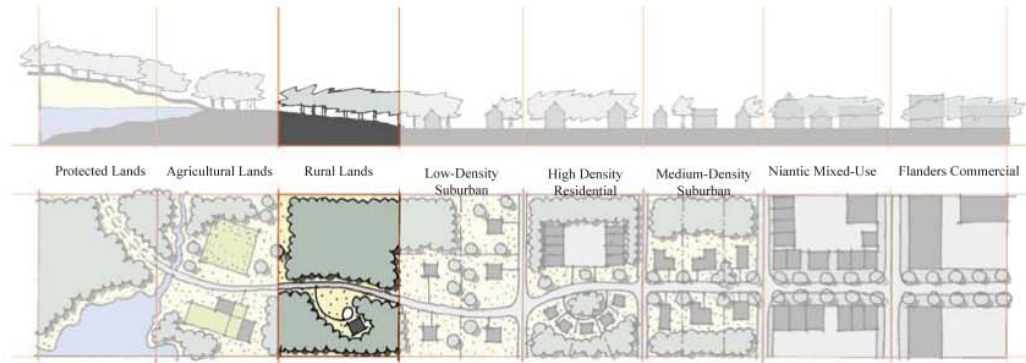Still low density development
Current zoning allows for 2 acre parcels which could quickly deplete the existing forest

R u r a l   R e s i d e n t i a l
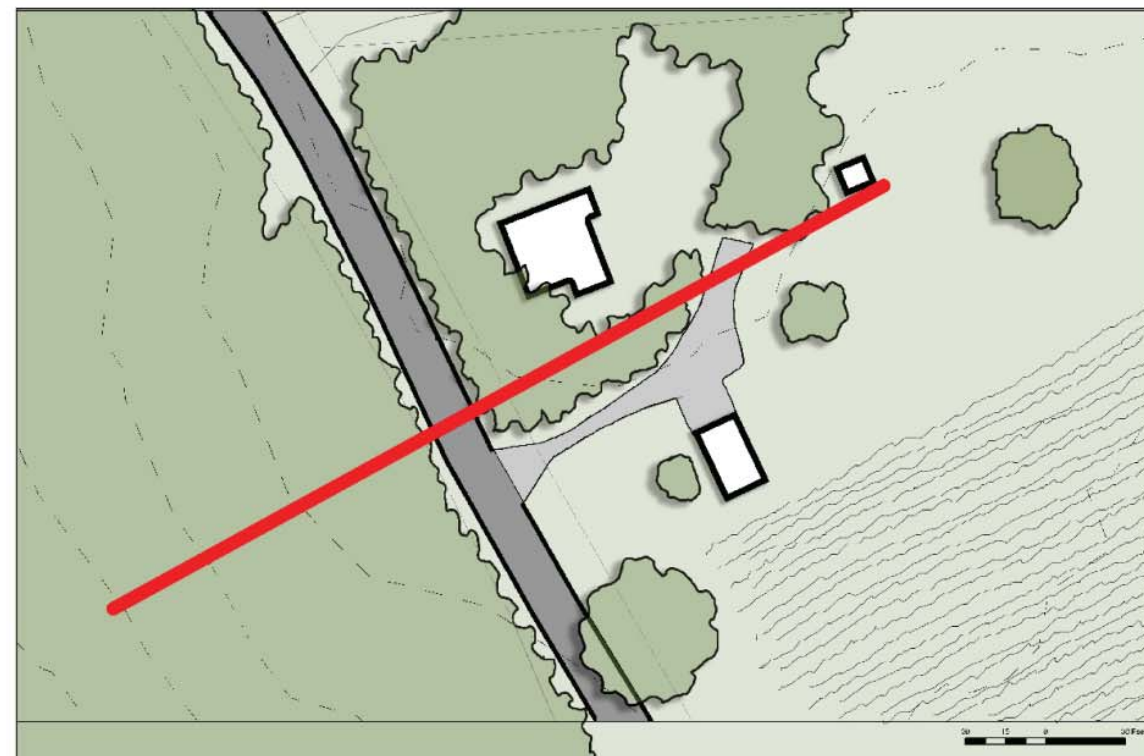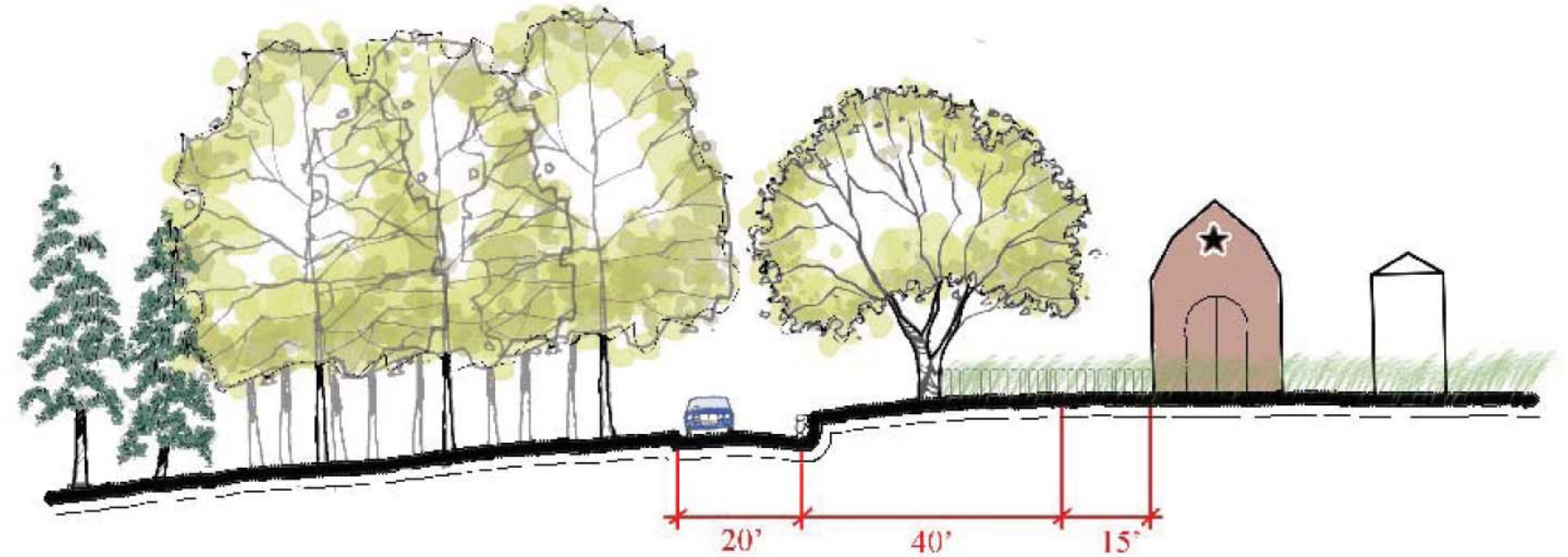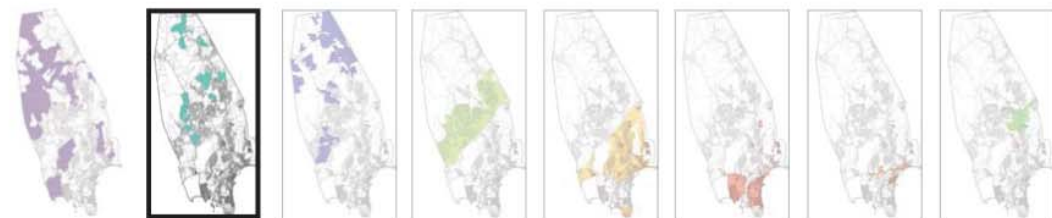
Protected Lands Agricultural Lands Rural Lands Low-Density Suburban High Density Residential Medium-Density Suburban Niantic Mixed-Use Flanders Commercial

Parcel Size: .5+ acres in northern Flanders
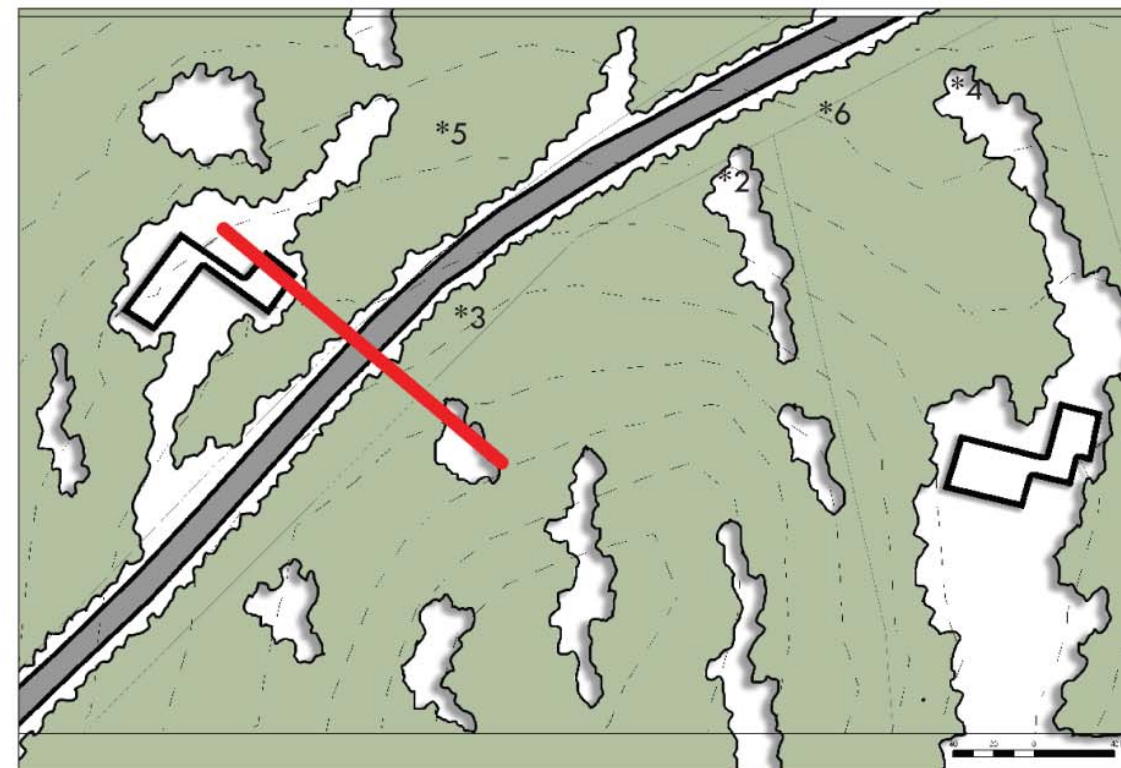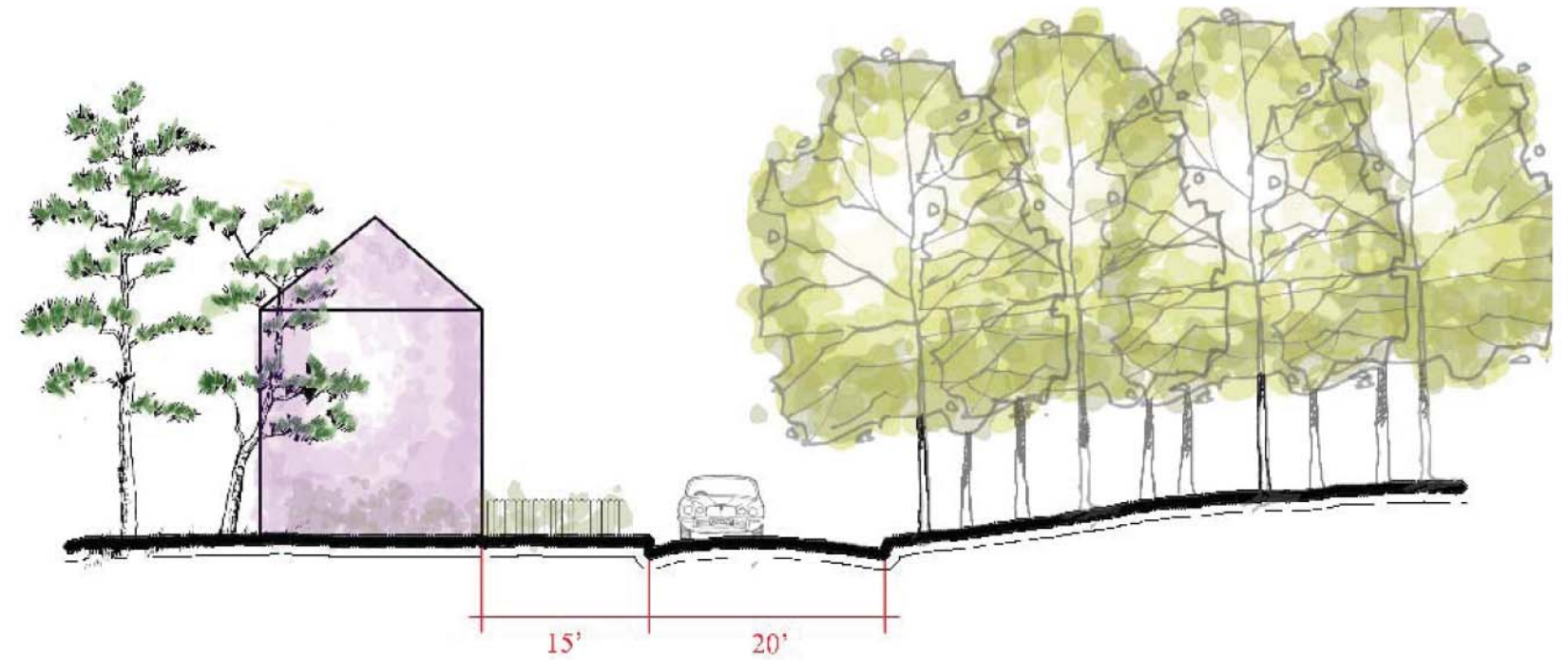
Setbacks
Vary depending on terrain

Transportation
Narrow roads require less pavement, reduce speed of drivers, and contribute character.*1 Trails also accessible.*2

Architecture
Fits woodland vernacular but is dominated by adjacent natural presence*3

Cultural Landscape Values
Houses often tucked away neatly into the terrain*4
Houses typically have a good entry sequence which evokes mystery*4
Private - Usually larger parcels more spread out (low density)*5

Presence /Use of Vegetation
Dominated by heavily vegetated surroundings and rugged landscape*6
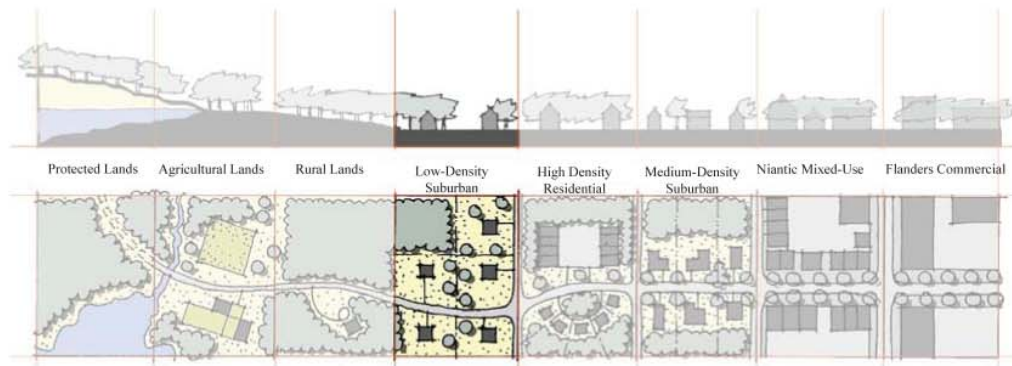Properties not as manicured as those seen in medium-low density suburban

Issues
Has potential of becoming low-density suburban (zoning allows 2 acre plots)

15'   20'

L o w   D e n s i t y   S u b u r b a n

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

Parcel Size: .5 - 1 acre within southern Flanders

Setbacks
Large setbacks prohibit a strong edge condition and create useless front yards*1

Transportation
Wide roads and large cul-de-sacs require extensive paving which are underused and unnecessary. Not as walkable often due to lack of sidewalks.*2

Architecture
More about importance of architecture which can sometimes be a bit generic*3
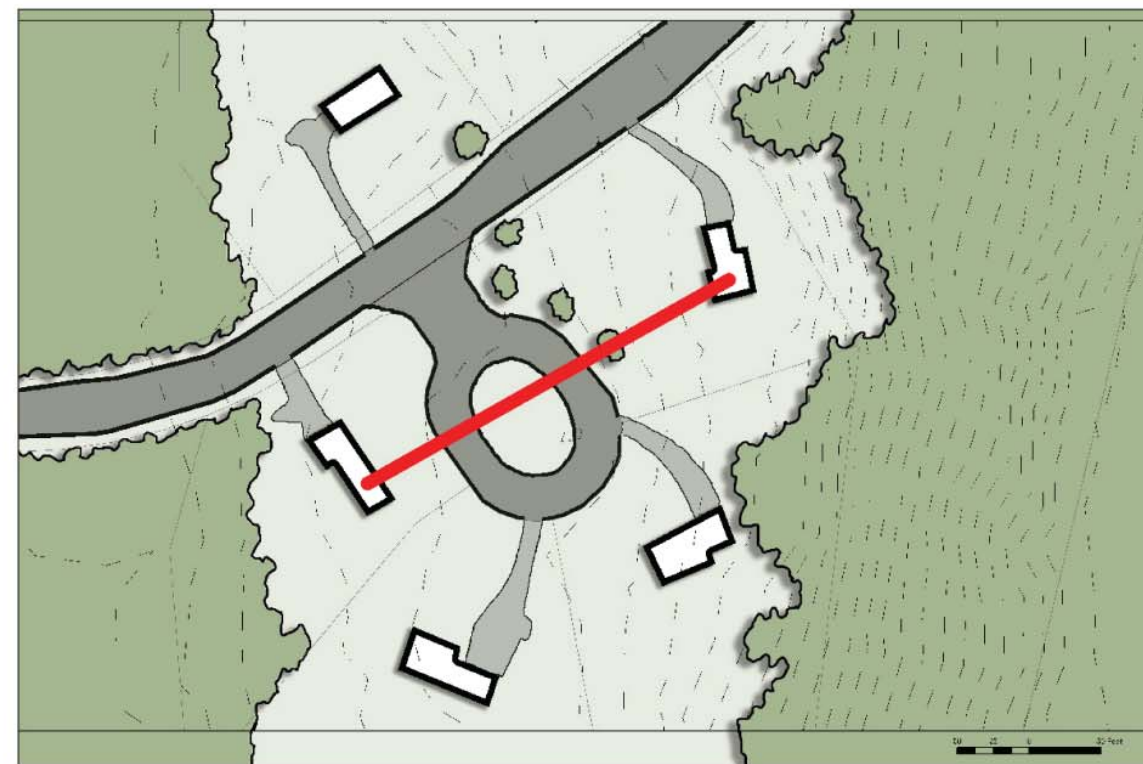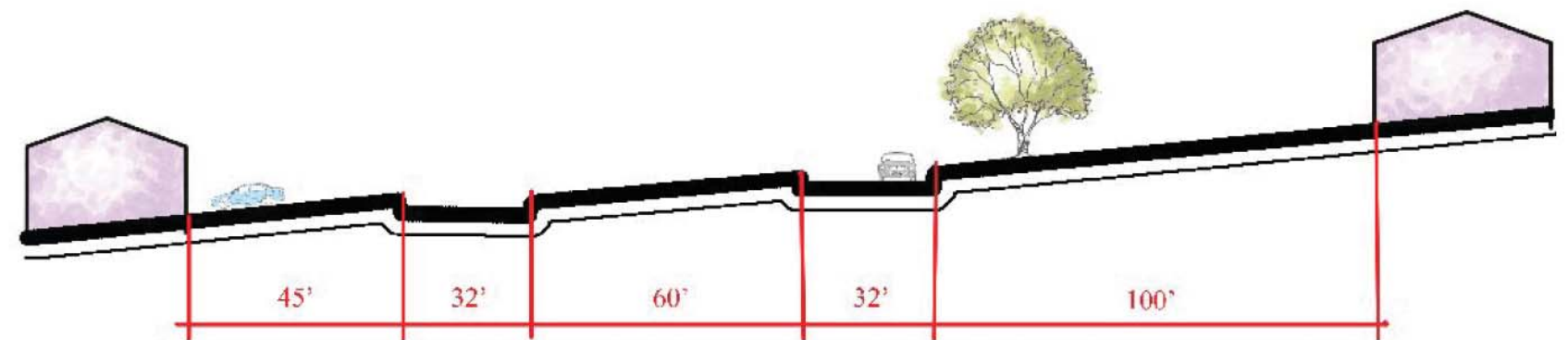
Cultural Landscape Values
Lots of privacy but less community oriented*4
Landscape and entry sequence dominated by the car*5

Presence/Use of Vegetation
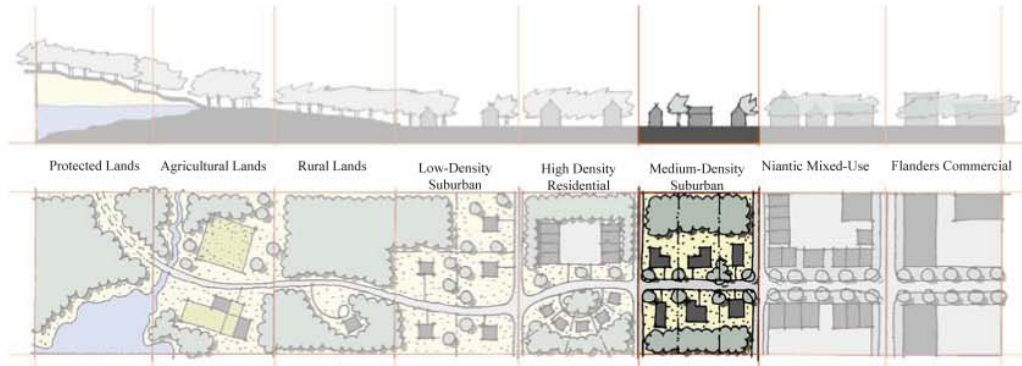Large lawns lack biodiversity and require heavy maintenance and irrigation*6

Issues
Big house and abundance of space viewed as a sign of prestige*7
Large parcels are extremely consumptive which lead to gradual clear cutting of forests.*8

Medium Density Suburban

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

Parcel Size: .25-.5 acre located in northern and central Niantic

Setbacks
Front setbacks not excessive; still holds street edge*1

Transportation
Moderately narrow roads and smaller driveways reduce amount of impervious surfaces*2
Close-knit pattern and sidewalks make it walkable*3

Architecture
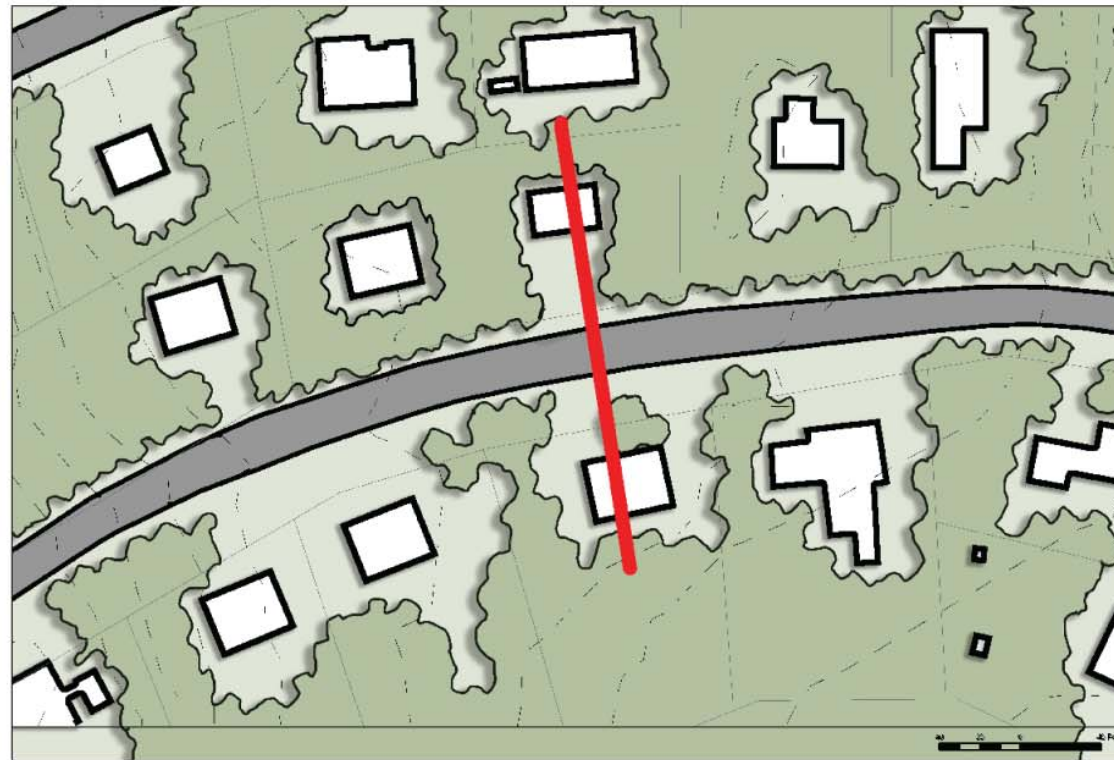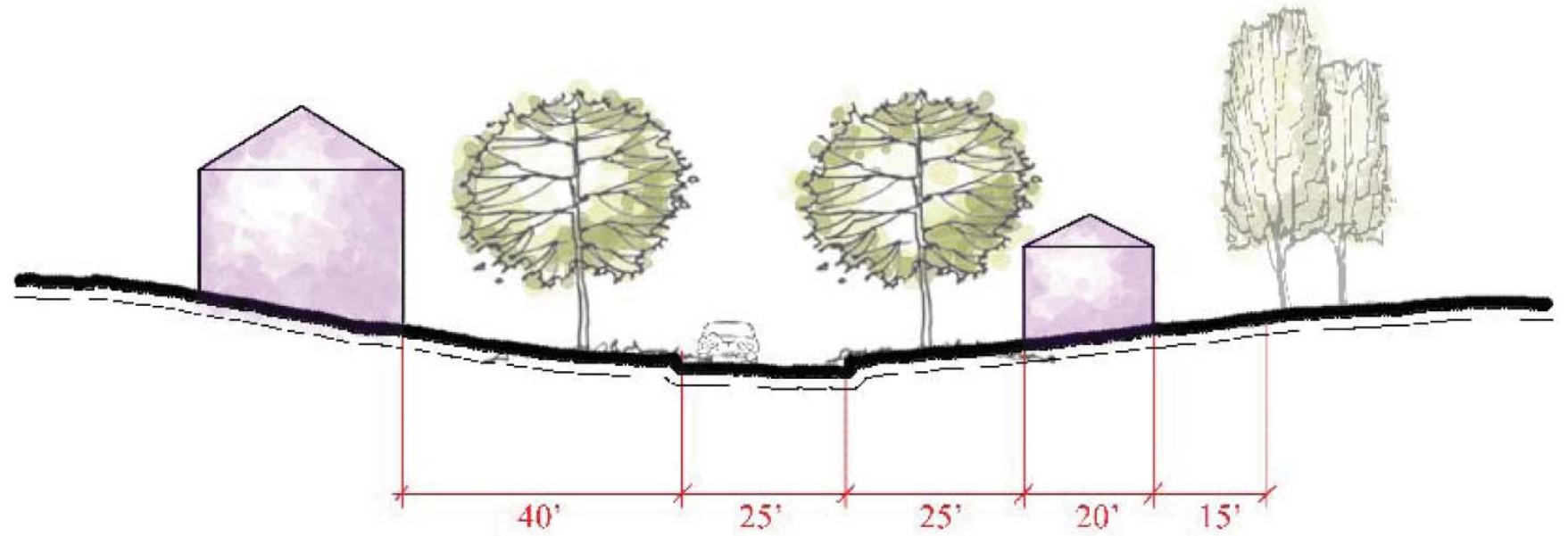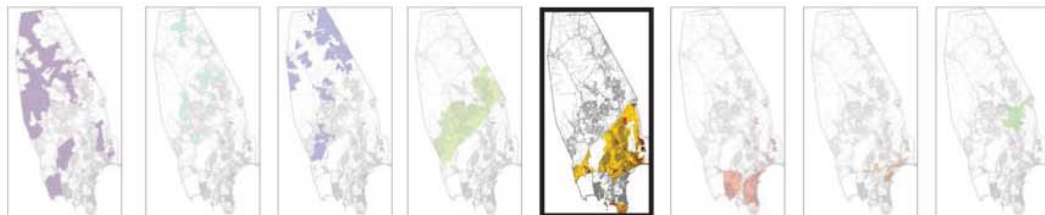New England/Maritime vernacular*4

Cultural Landscape Values
Equal balance between privacy and community*5
Tendancy to develop around water bodies

Presence/Use of Vegetation
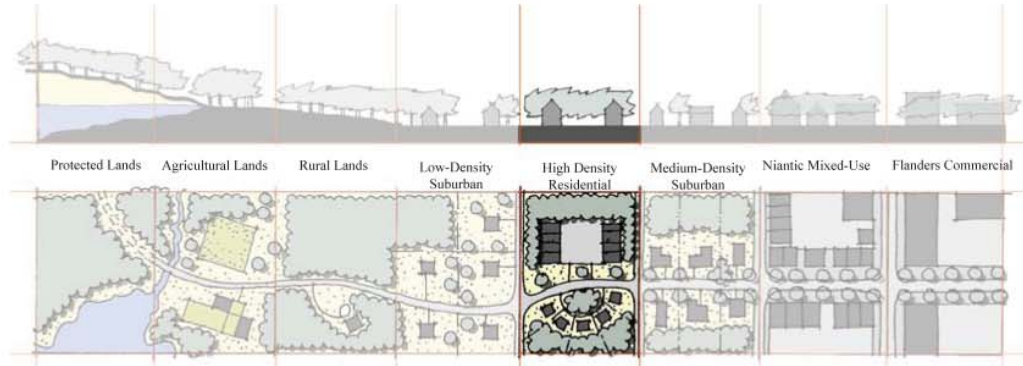Slightly more biodiversity than low density suburban*6

Issues

40' 25' 25' 20' 15'

High Density Residential

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

Parcel Size: .25 acre or less located in southern Niantic

Setbacks
Small setbacks create a strong street edge and reduce amount of turf*1
Absence of useless side yards*2

Transportation
Narrow roads reduce amount of pavement and slow traffic*3
Strong connectivity and highly walkable*4

Architecture
Some areas with high concentrations of vacation homes lack maintenance

Cultural Landscape Values
Community oriented - Development pattern allows for sharing of resource*5
While there is less privacy there is a greater tendancy to communicate with neighbors due to proximity to each other*6

Presence/Use of Vegetation
Small parcels by definition are less consumptive of the land which allows for preservation of larger tracts of land and reduces amount of lawn.*7
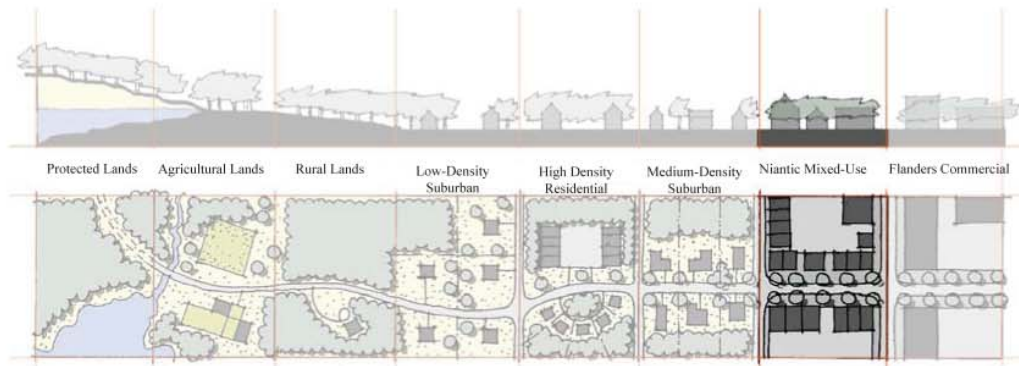
Issues - N/A
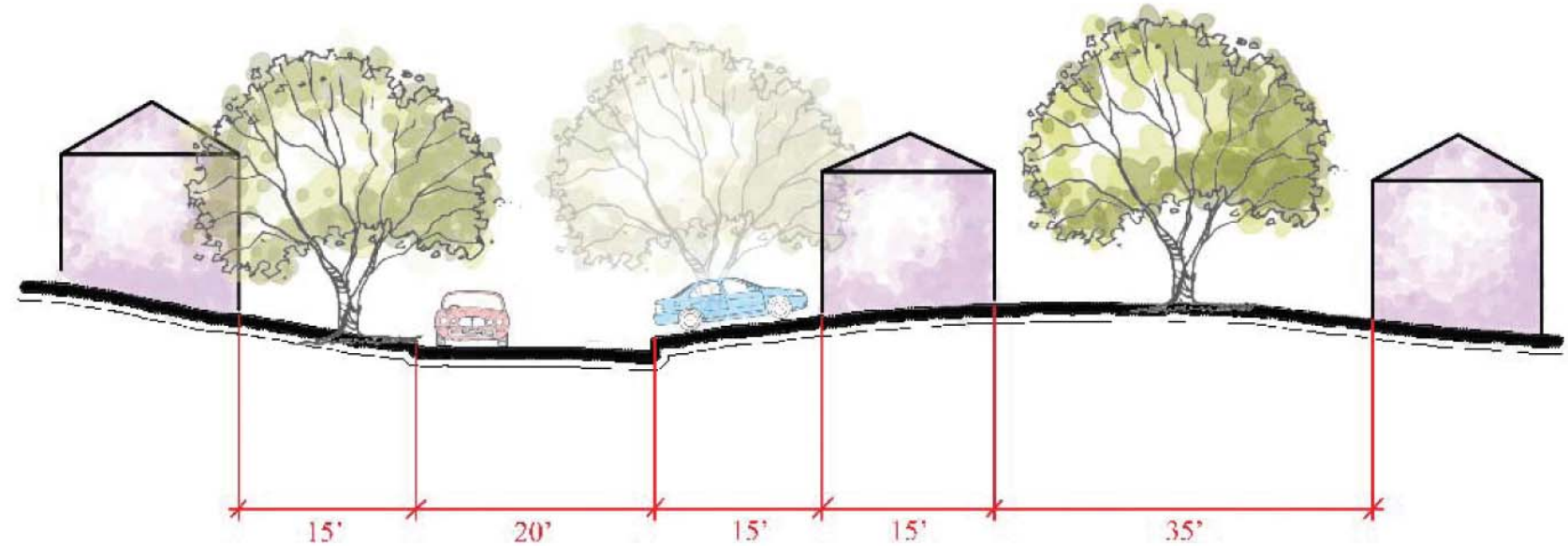
15'   20'   15'   15'   35'

N i a n t i c   M i x e d - U s e

Parcel Size: Varies along with land use in central Niantic

Setbacks
Small front setbacks create strong street edge*1
Building massing reduces needless site setbacks*2

Transportation
Narrow roads require less impervious surfaces and slow traffic*3
More walkable (safer), less reliance on car, reduces CO_2 emissions*4
On-street parking eliminates need for big lots and calms traffic*5
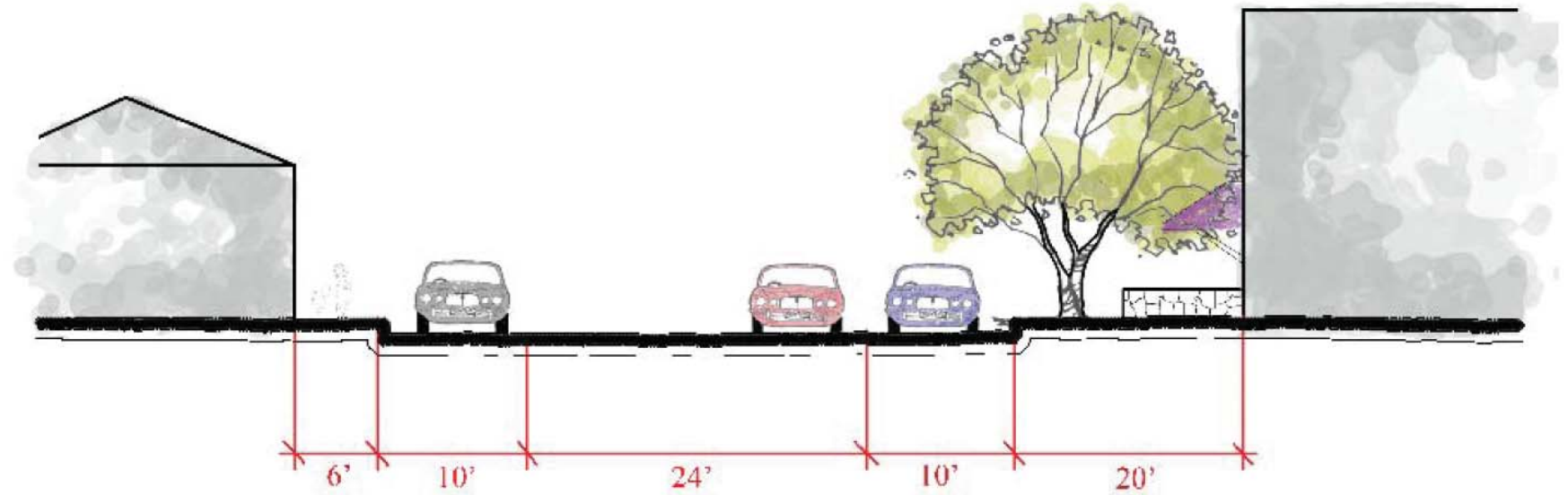
Architecture
Maritime vernacular

Cultural Landscape Values
Mixed use multi-story buildings condense several land uses in on small area decreasing the need to build elsewhere*6

Presence/Use of Vegetation
Not much vegetation present other than sparsely used street trees*7

Issues

Flanders Commercial
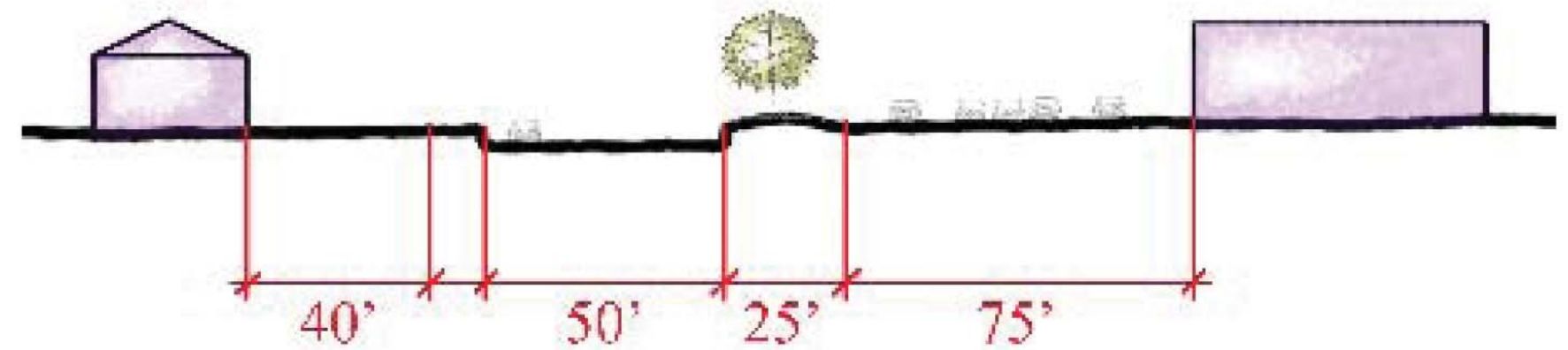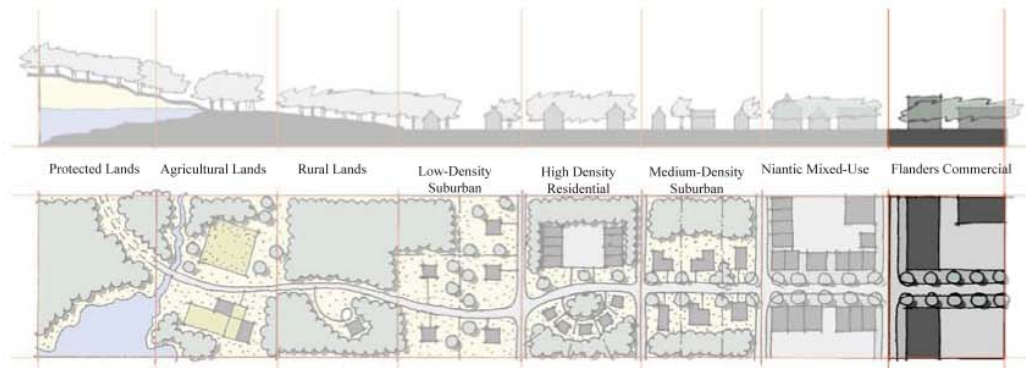
Parcel Size: Parcel size varies (2+)- located in southern Flanders (Four Corners)

Setbacks
Poor street edge due to front setback and lack of street trees*1
Massive amounts of impervious surfaces because of large parking lots*2

Transportation
Not pedestrian friendly, no connectivity heavy reliance on automobile*3
Very wide roads demand more pavement and increase drivers' tendancy to speed*4

Architecture
One story building with huge footprints and one dimensional uses*5
Architecture is generic and often aesthetically unappealing*6

Cultural Landscape Values
Convenient for consumers; cheap and easy to build for developers

Presence/Use of Vegetation
Absent with exception of trivial foundation/island plantings*7

Issues

Survival that depends on human attention might be called cultural sustainability.

Landscapes that are ecologically sound, and also evoke enjoyment and approval, are more likely to be sustained by appropriate human care over the long term.

from the book, "Placing Nature"

Public Workshop I:
Exercise I: Views and Vistas

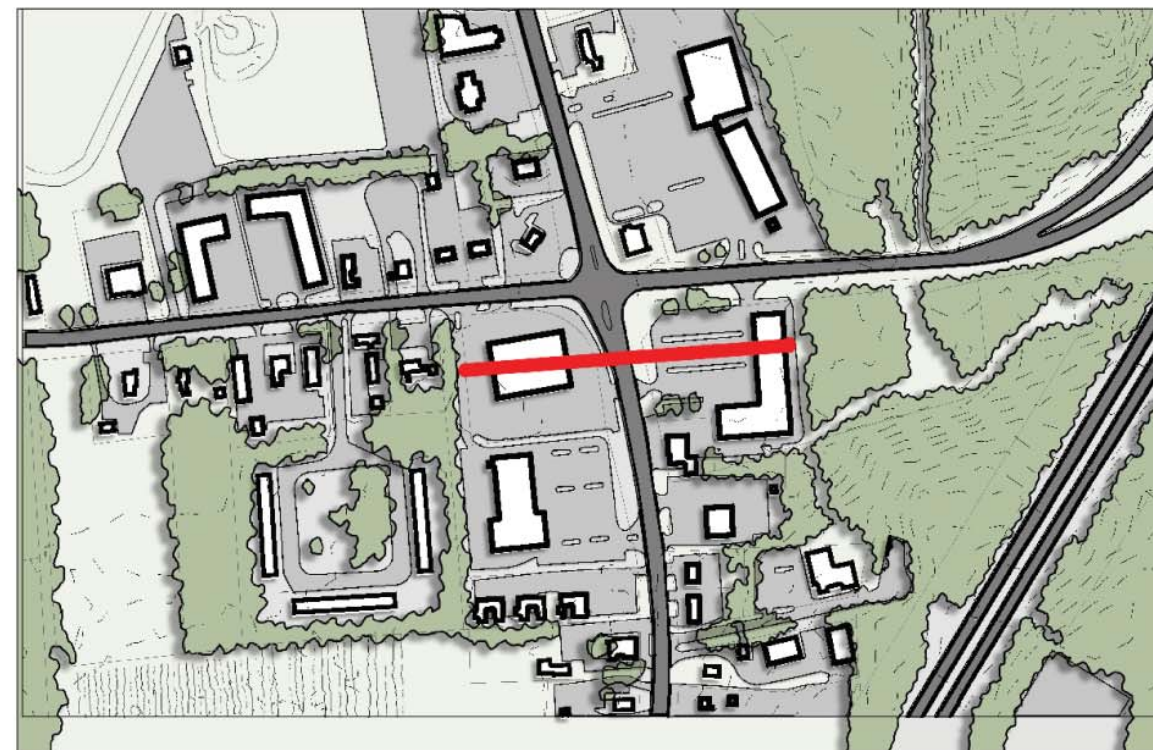**Purpose:** Much like the goal any inventory-type mapping, the goal of the Views and Vistas Exercise is to determine which areas the town likes and wishes to preserve and the areas which the town dislikes and wishes to mitigate. This in turn identifies the town's opportunities and constraints. The good thing about having the views determined by citizens of East Lyme, is that not only do they have specific information about the town, but ultimately informs LUV as to what people really value.

The significance of place is difficult to specify and varies among persons and cultures, Yet common meanings do exist and they are communicated. Inevitably, they are an elements of settlement design. One must have an understanding of them, in order to analyze the impact of place on its people.

Methodology: We asked citizens to organize into groups of 3 - 5. In the POCD Steering Committee meeting, there were two groups. At the public work session, there were seven groups. Each table was given a 24" x 36" portrait aerial photograph of the town. One of the three envelopes on the table had each with a set of directions and other supplementary

materials. Each team had 4 sets of arrows.

Negative Views	Positive Views
3 long red arrows	3 long green arrows
3 short red arrows	3 short green arrows

Because it is our job as designers and planners to prioritize the most important areas, we asked participants in the workshop to do the same. Therefore we provided a fixed amount of materials to each group. Each group must use the same amount of materials. We do not supply unlimited materials because it forces people to really prioritize and make careful and deliberate decisions. If groups were given as much acetate as they wanted, it would be very difficult to understand which areas to focus on because they would be no hierarchy among each individual map and would lack consistency between the groups. The truth is, in real life, the POCD can not mitigate/enhance every bad/good view. The point is to find the large patterns consistent in all the results that govern what the town values.

Team members were asked to work as a group and come to a consensus at to where the arrows should be placed. The end of the arrow was meant to be the place of viewing and the arrow head was to be placed upon the thing to which the view is focused. Groups were required to

label the view itself, and the origin. They were encouraged to write additional notes on the map or on a separate sheet of paper about the places they were highlighting and why it justified by its corresponding arrow type. The teams were given about 25 minutes to complete the

exercise. At the end of the session, the groups shared information with everyone.
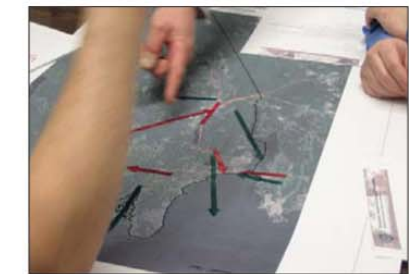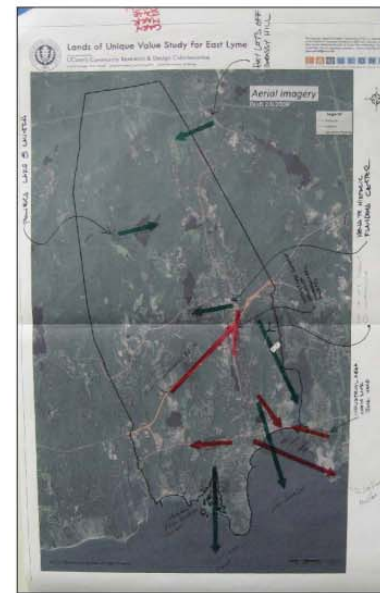
Chapter 2 Inventory and Analysis - Public Work Session - Views

Conclusions and Obervations:
There was a lot of discussion among the groups and some compromises made but as a whole, the results displayed remarkable consistencies. Some of the most common bad views would include Rt. 161 development, Millstone. Some of the most common good views were of Niantic Bay, Oswegatchie Hills, and farm fields. Geographically, the most short positive views were placed in Northern Flanders, this zone had no red arrows. The most red arrows used without green arrows nearby were often placed in the central part of town near the highway. The most mixed views all took place in Central Niantic where good and bad views overlapped. On the map, this area appears orange. This indicates that there is a lot of conflict about this area. Clearly, there are tons of amenities that make it imageable and beautiful but there are elements that impede the power of the place.

One of the most interesting patterns was that 100% of the bad views were of cultural elemnts. This is somewhat ironic because these are the things which we have control over and the places which citizens most frequently visit on a day-to-day basis. Furthermore, only 16% of the views were of cultural elements. Most commonly, these were landscapes with agricultural uses. This tell us that farms are highly valued and should be protected and that there are ultimately no intensively human-built environments which people favored. There are two possible explanations for this (which are not mutually exlusive). The first is that people have a stronger connection to nature and therefore because they are are so pristine they can not compete with a human environment; or there are no human built environments in the town worthy of it.

Negative views are based mainly at entry points and connect along Route 161. Another interesting obeservation is that 100% of the good natural views included a water body. Sometimes the views themselves were zones and sometimes they were something far more specific. (Niantic Transmissions, the abandonded Lulu's Restaurant at exit 75, the town garage on , and the transformers at entrance ramp on exit 74. In rare cases, there was a landscape that lended a good view but was a good view itself. In other words it was a landscape that was both an origin of a good view and a good view itself. The best example of this would be Oswegatchie Hills.

Bad Long Views: 100% Cultural Elements
- 30% Millstone
- 20% of 161 Strip Development
- 1% of I-95 corridor

Bad Short Views: 100% Cultural Elements
- 19% from Main Street Niantic
- 11% of 161 Strip Development
- 7% of Flanders Four Corners
- 7% Niantic Transmission

Good Long Views: 100% Natural Elements
- 22% of Niantic Bay and Long Island Sound
- 15% of Niantic River from Oswe gatchie Hills
- 11% of Black Point Marshes
- 11% of Oswegatchie Hills and Nian tic River

Good Short Views: 19% Cultural Elements
- 19% of Hayfields
- 15% of Powers Lake
- 15% of Darrow Pond
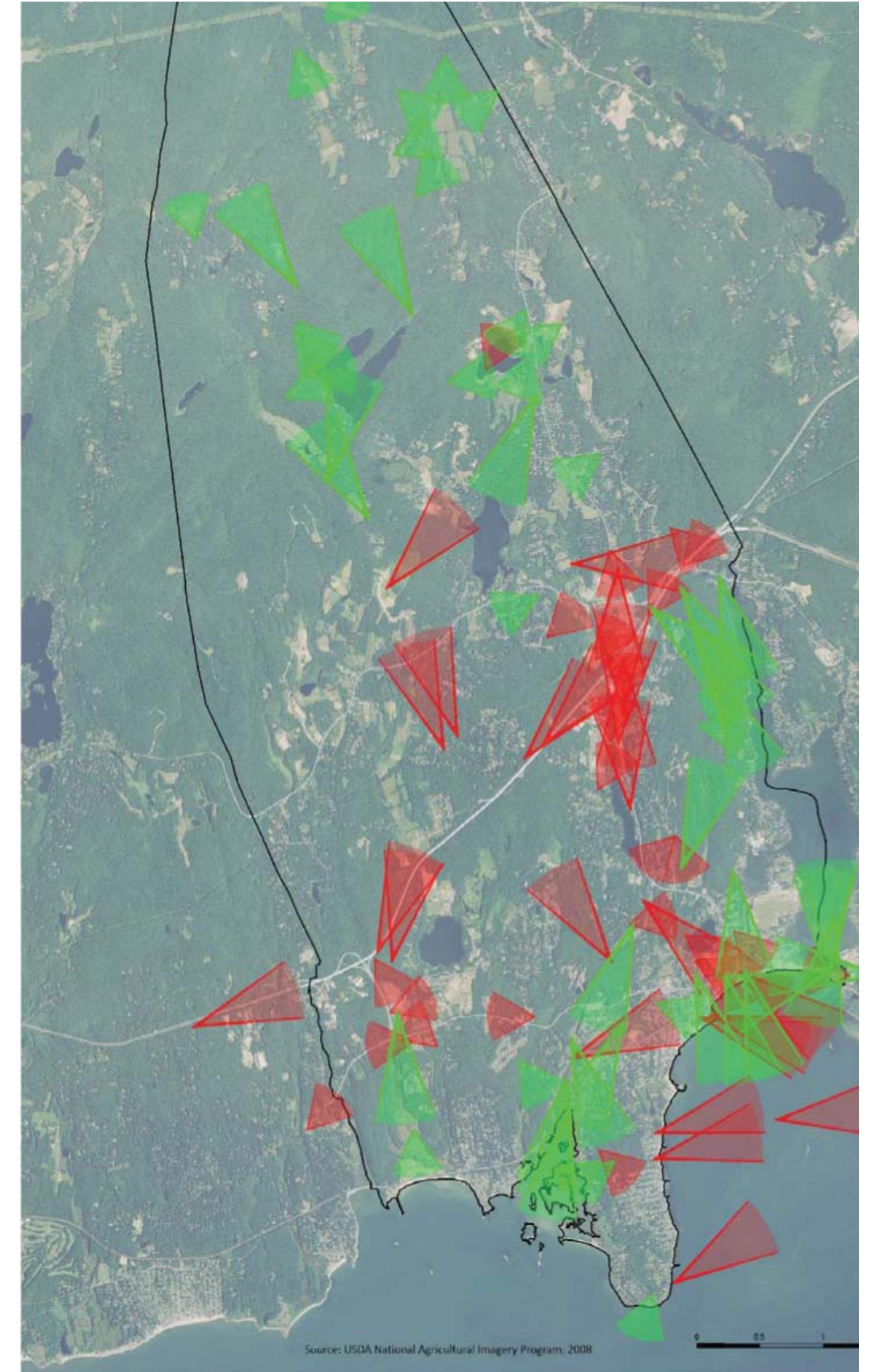
Source: USDA National Agricultural Imagery Program, 2008

Public Workshop I:
Exercise III: New England Imagery

Purpose: The purposes of all the workshop exercises are similar. See Views and Vistas Purpose for additional information.

Methodology: Workshop participants were asked to answer the following questions: What makes East Lyme New England?

What does New England mean to you?

If a developer comes to town and wants to give you a project with a New England flavor, what advice would you give the developer?

Please list 5 – 10 ideas and when possible, provide a drawing to support your ideas.

Please work as a team and come to a group consensus.

Put your names on your paper.

Time frame 20 – 30 minutes

Conclusions and Obervations:

The following terms and drawings were considered the most prominant by the workshop participants:

Stone walls
Town green
Farms
Winding narrow roads
Villages
Steeples
Brick cobble walks
Clapboards / cedar shaker
Street trees
Small structures

Other concepts include:
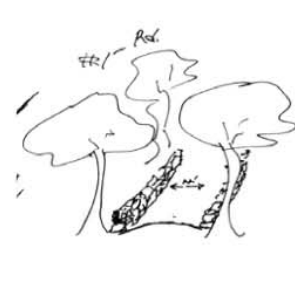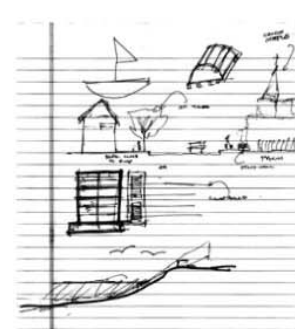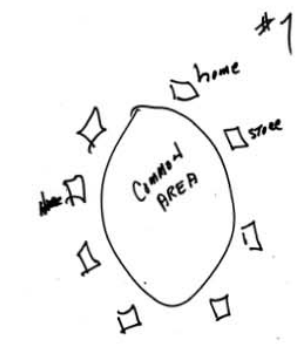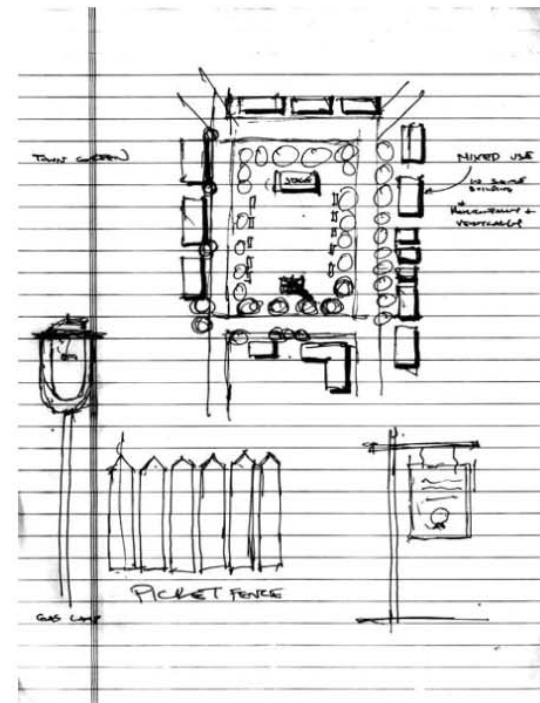Four seasons
Pedestrian-friendly
Small front setbacks
Scenic roadways
Historic architecture
Seashore
Gas Lamps
Barns
Gabled Roofs
Colonials
Picket fences
Churches
Forests/Woodland
Mixed-use
Cluster Development
Open/parking areas to rear
Beaches
Rocks/Ledge
Bike Paths
Mills
Beaches
Split rail fences

Wildlife diversity
Orchards
Gold leaf sandblasted signage
Boats
Pitched roofs
Salt Box
Wrought Iron
Large trees
Benches/Seating
Ponds
Capes
Lighthouse
Wood frame buildings (post & beam)
Grill windows (6/6 or 8/8)
Converted home and offices
Streetscape
Rolling hills
Foliage
Fishing villages
Docks
Multiple windows
Front porches
Chimneys
On-street parking
Windmills
Building massing
Quarries
Farmhouses
Underground utility
Granite curbs
Wood fences
Cupolas
6'x6' windows
No picture windows
Silos
Flower gardens
Human scale architecture
Small local businesses
Domestic animals (horses, cows, sheep, goats, chicken)
Lakes

Community/ Civic spaces
Evergreen Trees
Vistas
Dense development near =rivers and streams
Homes and stores close to street
Hide new development
Colonial colors Peaked roof colors
Fishing fleet
Fishing
Historic stone structure
Bridges
Cemetery
Mountain Laurel
Deer ticks
Open space
Low buildings
Community involvement
Conservation efforts to fruition
Smaller houses (no McMansions)
Rocky coast line
Rivers and streams
Not flat topography
Small businesses
Coves
Georgian
Federalist
Farmhouse
Shorefront cottages
Victorian Architecture
Salt marshes

Public Workshop II: Exercise I:
Future Development

Purpose: To determine the most suitable places to build and the most suitable places to protect.

Focus: Zoning changes mixing land uses, conservation subdivisions

Methodology: Each group was provided with a 24" x 36" aerial showing existing development, land with development potential, controlled land, existing commercial land, existing industrial land, and the sewer service boundary. There were two sets of envelopes; one labeled "Old School Development Practices" and the other labeled "New School Development Practices".

In each, there were 5 pieces of color-coded acetate representing the following:
- 2,500 single family detached residential units
- 500 acres of commercial or retail
- 250 acres of affordable housing
- 125 acres of Multi-family housing
- 500 acres of purchased open space

The differences between "Old School Development Practices" and "New School Development Practices"

"Old" = 2,500 units on 2 acres parcels
= 500 acres of protected open space
= Cannot mix land uses

"New" = 2,500 units on 1 acre parcels
= 3,000 acres of open space
= Can mix land uses
Teams were allowed to cut up the pieces of acetate and place them where they like.
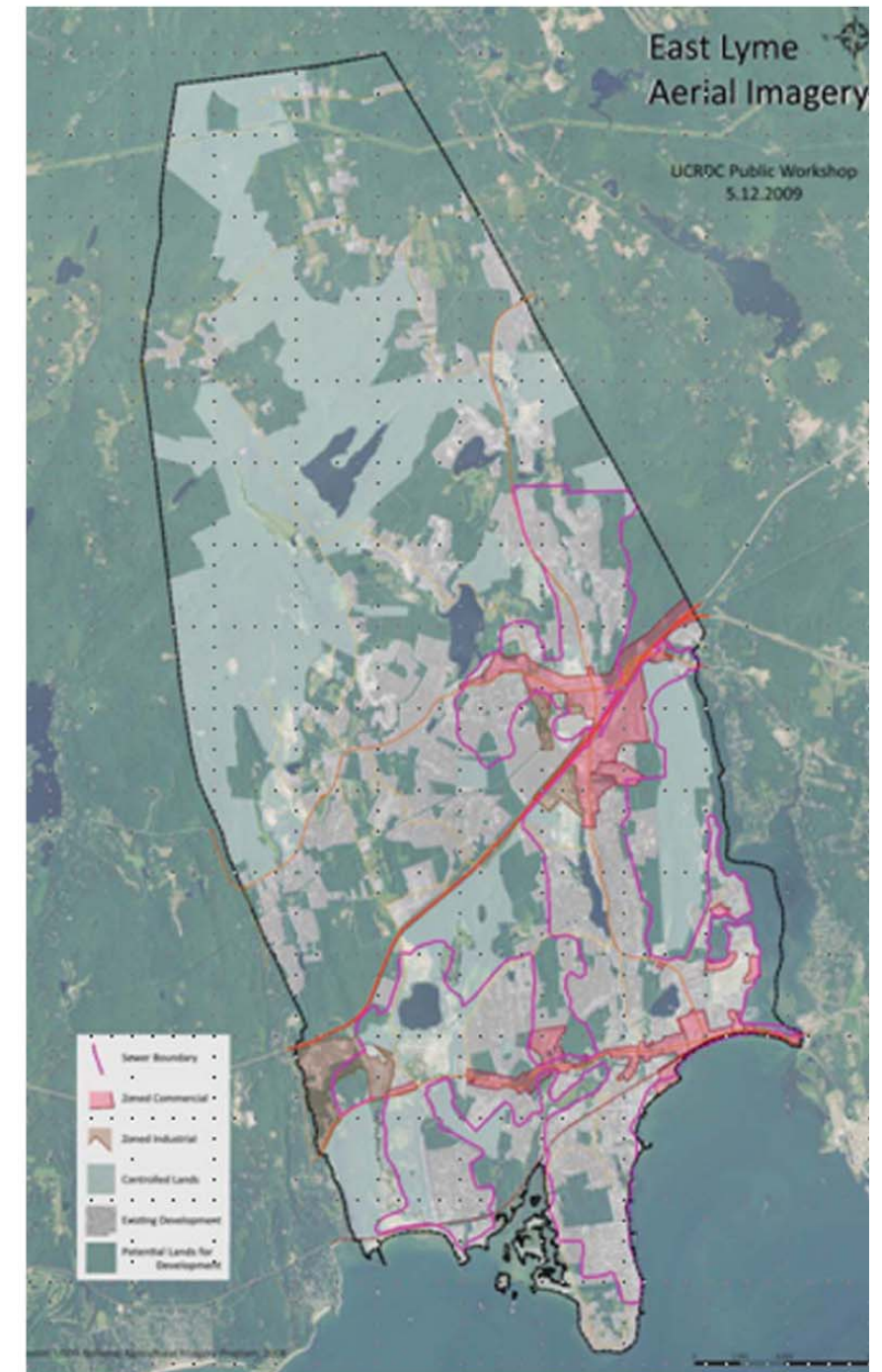
Conclusions and Observations:

Control groups using "Old School Method" had developed nearly every inch of developable land.

100% of group participants said they favored the "New School" method of development using conservation subdivision techniques.

Commercial uses were also put either along a state road, or a highway exit/entrance ramp. Some groups suggested developing the prison site and possibly other land owned by the state. Some groups thought that small and light commercial uses not agriculturally based might work well on the northeastern portion of town. Groups thought there was a lot of infill potential in Niantic particularly on Main Street. The area just north of Bridebrook was frequently suggested to be preserved as open space. Other open space areas were called for in the center of southern Niantic, and the marshy area adjacent to Giant's Neck.

All groups were reluctant to put any subdivisions in the northern side of town.

Public WorkShop
Land Use Placement Exercise

Legend

- Non-developed land within sewer boundary
- Sewer Boundary
- Open Space
- Commercial
- Multi-Family Units
- Affordable Housing
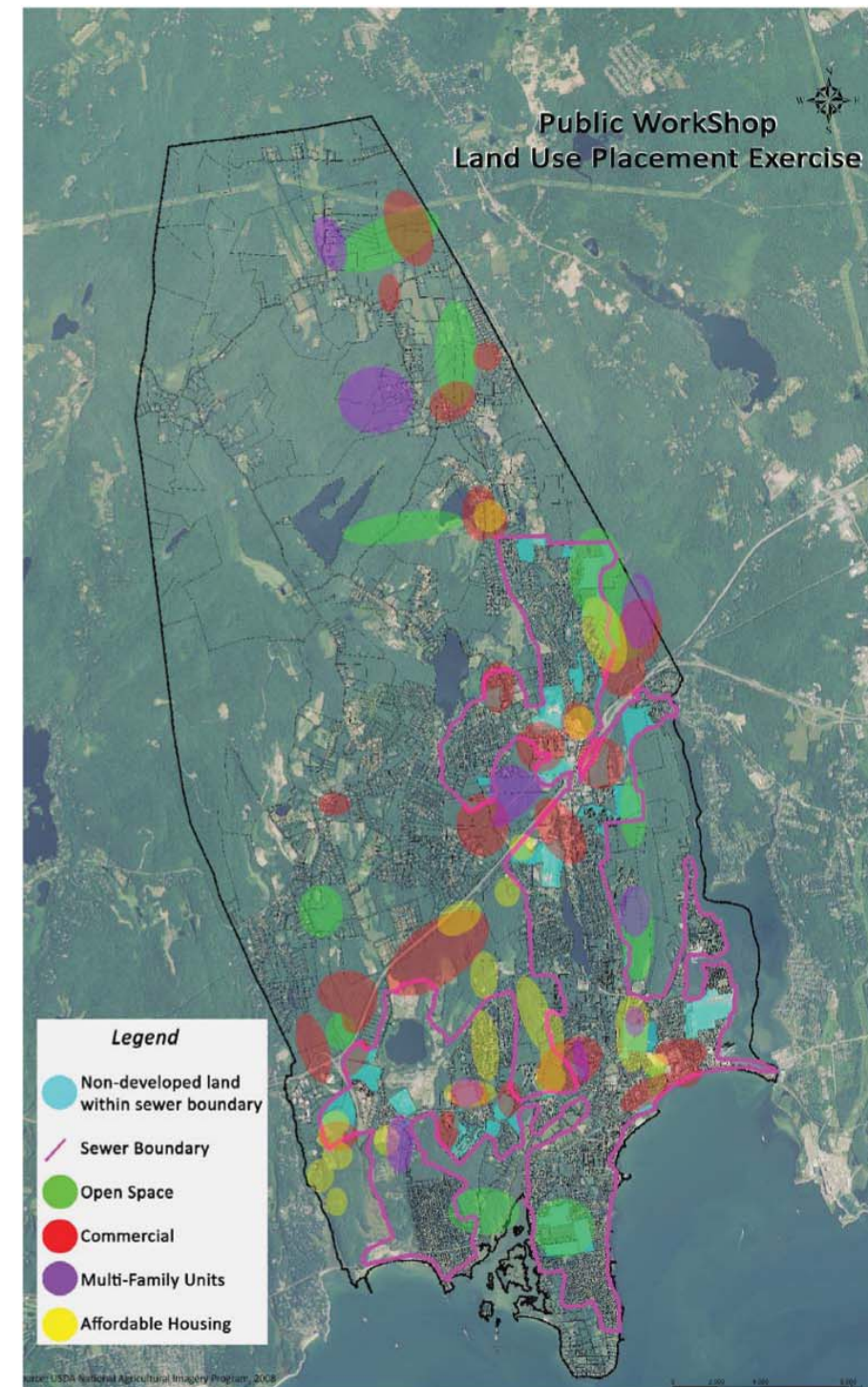
Chapter 3 Design - Niantic Village

"The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired, in value. Conservation means development as much as it does protection."

Theodore Roosevelt

Land Uses

Study Area

Parking

Legend
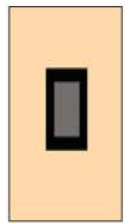
These areas show the most potential for high density redevelopment. The existing buildings on these parcels have little to no historic merit and therefore should be removed to allow for more dense development.
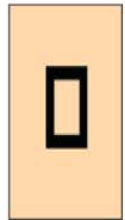
These areas also have potential for high density redevelopment but the existing buildings can remain where they are. Additions to these buildings and reevaluation of the parking systems are recommended.

These areas are generally existing residential properties which show potential for home-based businesses and light infill of other uses.

Shows potential for high density redevelopment but allocation of public open space on such properties is crucial (due to their proximity to various ameneties).

Shows existing open space areas. Every effort should be made to preserve these pockets of green space especially those along the coast.

570 Feet

570   285   0   570 Feet

Zone

Notes
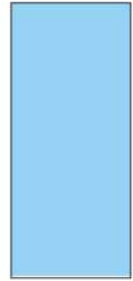
Shows tremendous opportunity for redevelopment. This zone should continue support for marine-based land uses but should not exclude other compatible uses (i.e. hotels, restaurants, residential). It is highly recommended that square footage of buildings and diversity of land use is increased. This zone should take advantage of its access to Niantic Bay as it serves as a gateway to visitors traveling by boat. For this reason visual and physical access to the coast should be attained by whatever means possible.

For more details see appendix and Section A pictured on next page.
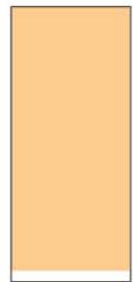
The major issue in this zone is preserving views of the Sound while increasing density and building square footage on the northern side of Main Street. Special sensitivity must be exercised when determining the placement and size of additional buildings. Treatment of railroad fencing and the streetscape are important factors in making this end of Main Street more desirable to walk. Fun and vibrant banners can be used to enliven the street while preserving views of the surrounding water bodies.

For more details see appendix and Section B pictured on next page.
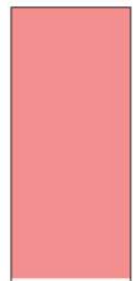
This zone is the epicenter of Main Street and therefore should have the highest density and most diversified array of land uses. This study does not discourage increasing square footage of any building in this zone. This area also has the greatest capacity for parking but suffers from various existing inefficiencies. The main infrastructure of this zone lends itself well to pedestrian activity but opportunities to link people to the coast are often missed.

For more details see next section.
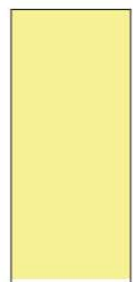
Since the western portion of this zone is more commercial it is recommended that more residential land uses (i.e. second-story apartments) be incorporated into the fabric. This area is also susceptible to infill. Since the eastern portion of this zone is largely residential it is logical to encourage home-based businesses. A streetscape vocabulary should be developed to draw attention to important intersections such as the entrance to Hole in the Wall and McCook's (Baptist Lane and Columbus Ave respectively)

For more details see appendix.

570   285   0   570 Feet

Mixed Use Building | Parking | Mixed Use Building | Civic | Open Space | Niantic Bay

Section A

Grand Street | Private Drive | Private Residence | Private Yard | Buffer | Parking | Civic | Building | Civic | Main Street | Railway | Boardwalk | Long Island Sound
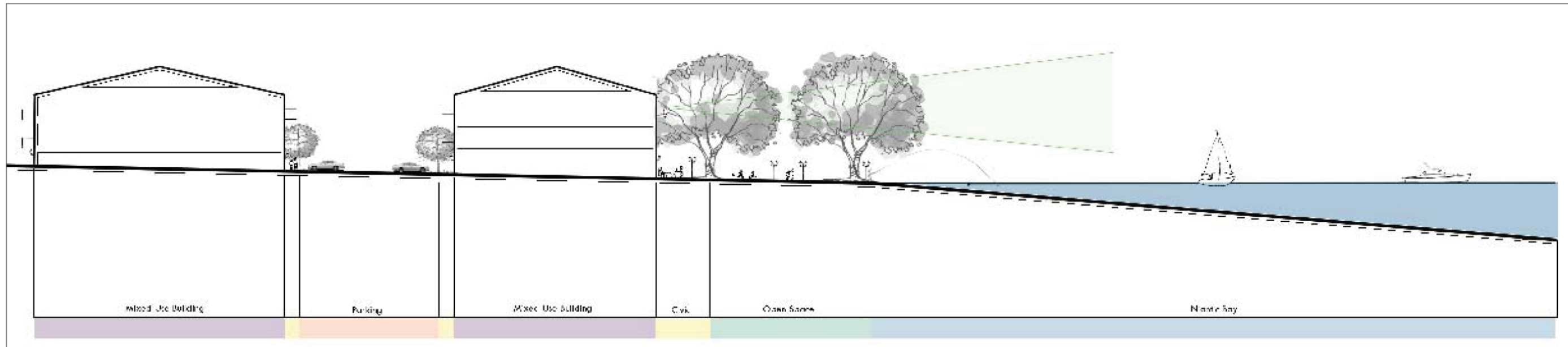
Section B

The Issues

1.) There is plenty of paved space **but** there is a perceived lack of parking which stems from various inefficiencies.

2.) The town has incredible proximity to Long Island Sound **but** physical and visual access are extremely limited.

3.) The existing streetscape is conducive for pedestrian activity **but** there are a number of civic areas that could use improvement.

Opportunities and Constraints

1.) Parking Opportunities
-On-street parking and concept of the block
-Desired connections

Parking Constraints
-Number of curb cuts
-Fences, drive thru(s), and private parking

Access Opportunities
-Boardwalk
-Green spaces which have potential to connect to the coast

Access Constraints
-Dumpsters, chain link fence and Millstone are visually unappealing
-The 161 terminus is an inappropriate land use

Pedestrian Opportunities
-Infill northern side of Main St. to create strong street edge
-Strengthen western edge of 161 with seasonal structures

Pedestrian Constraints
-Soften Constantine's parking lot
-Improve existing civic spaces with streetscape elements

Chapter 3 Design - Niantic Village

Existing Buildings

Proposed Buildings

Existing Vegetation

Proposed Vegetation

Chapter 3 Design - Niantic Village

Existing Circulation

Proposed Circulation

Existing Gathering Areas

Proposed Gathering Areas

Chapter 3 Design - Niantic Village

Chapter 3 Design - Niantic Village

Section A

Parking | Open Space | Building | Parking | Building | Parking | Open Space | Building | Parking | Building | Civic | Rt. 161

Section B

Parking | Building | Building | Building | Parking | Building | Parking | Building | Parking | Building | Civic Building | Liberty Green | Rt. 161

Section C

Mixed Use Building | Parking | Civic | Main Street | Civic | Mixed Use Building | Civic | Parking | Railway | Boardwalk | Long Island Sound
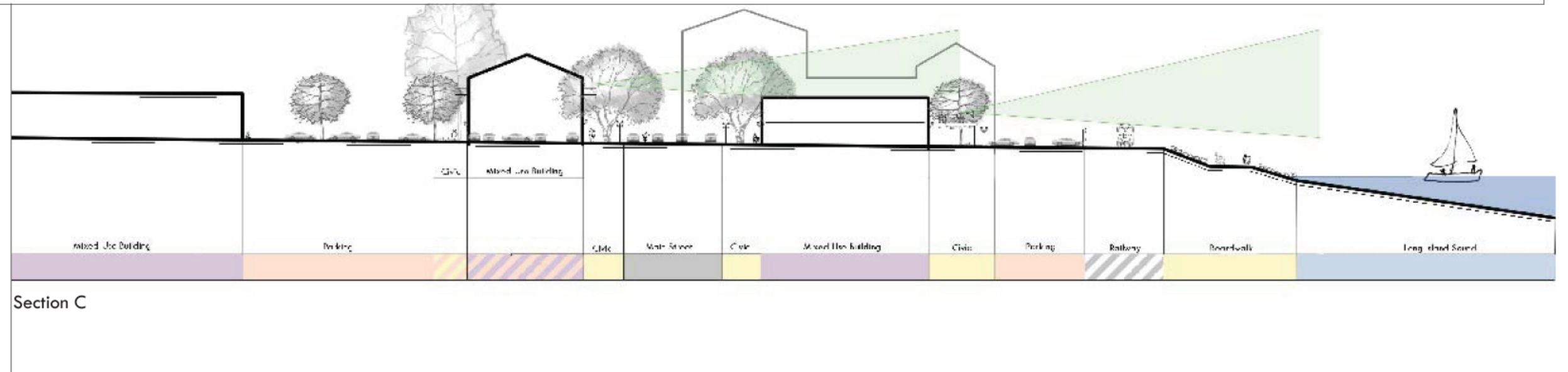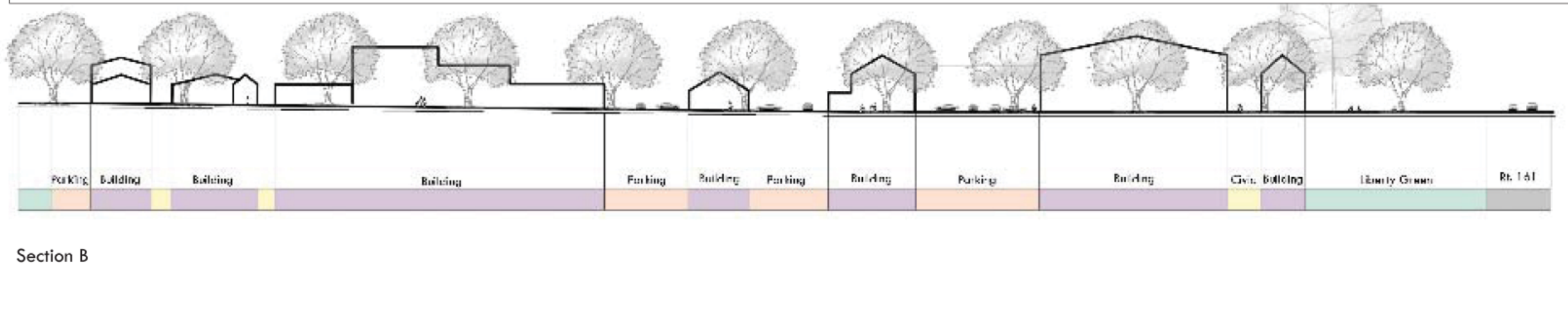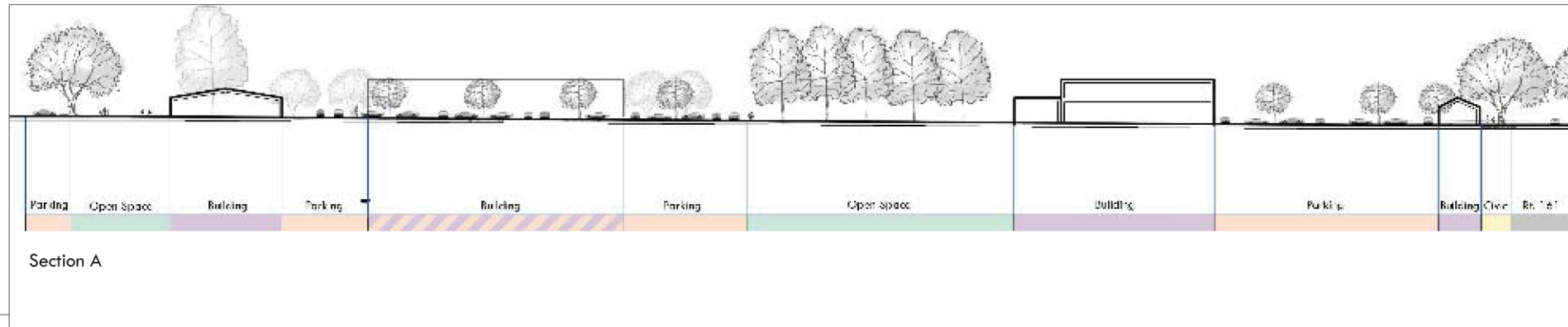
Chapter 3 Design - Flanders Village

CRDC Attitude: Flanders Four Corners will never be a quaint "New England" downtown as recommended by Smart Growth principles without a complete overhaul; an approach that is impractical in this setting.

Instead, this area provides an opportunity to create a new version of a downtown, which celebrates and respects both existing development and pedestrian needs.

The CRDC vision is to enhance and create connections between various land uses, allowing for multi-modal transportation and forming a sense of space within a larger place.

Instead of attempting to redevelop the entire zone, we recommend redeveloping key parcels, and infilling others into walkable nodes within the larger framework. Rt. 161 should become pedestrian friendly, but storefronts close to the street is not practical here.

The methods for doing this include streetscape improvements to bring a sense of unity and way finding, and integration of sustainable storm water practices as elements of the infrastructure. The CRDC also suggests the use of infill as an opportunity to engender pedestrian friendly nodes, and in some cases redevelopment to create gateway nodes which have a stronger presence on the street itself.

Existing Circulation: Flanders Four Corners strip development has a vibrant economy and ingrained auto-centric infrastructure. While parking spaces are in abundance, the sidewalks are narrow, end and begin at random intervals, and are treated as an afterthought rather than a necessity. This combination has created an area that feels exactly as it is; a series of disconnected parking lots with buildings behind them.

Existing Infrastructure: The strip development has used traditional practices for building, parking, street, and storm water construction. This means that most of the buildings have poor spacial relations to the street, and an over-abundance of parking.

In addition, while the street network is easily navigated and well maintained, it lacks key features to make it whole, such as safe pedestrian circulation.

The runoff from these buildings, parking areas, and streets flow into catch basins which bring contaminated water either to the overburdened sewer system, or directly into natural ecosystems.

East Lyme

Legend

Roads
— Limited Access
— Interchange
— State Route
— Collector
— Connector
— Railroads
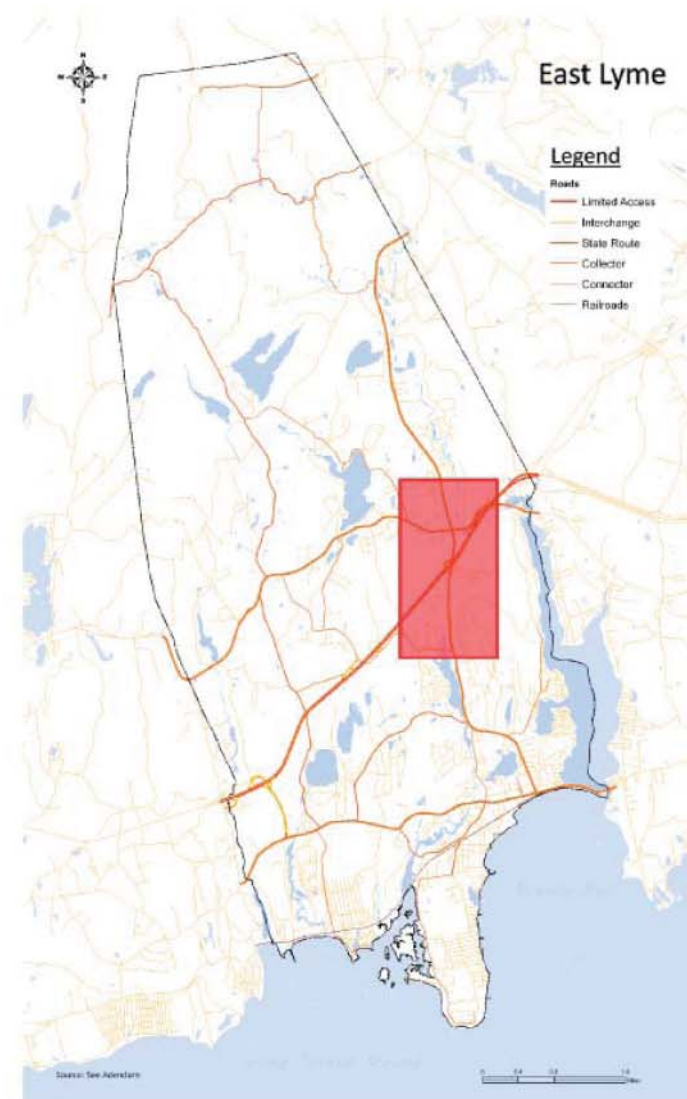
Opportunities

Strong axis provided by Pennsylvania Ave./Rt. 161, paralleled by wetlands

Healthy commercial environment with large and small businesses

High visibility and potential

Improvement Issues

Autocentric development limits access and visible amenities

Disconnect between functional land uses, such as barriers between
residential developments and community hubs.

Dysfunction between cultural and natural systems

Community Destinations (Nodes)

Residential Neighborhoods   Office/Light Industrial

Transient Lodging   Food Services

Cemetery   Automotive Services

Undeveloped Land   General Commercial
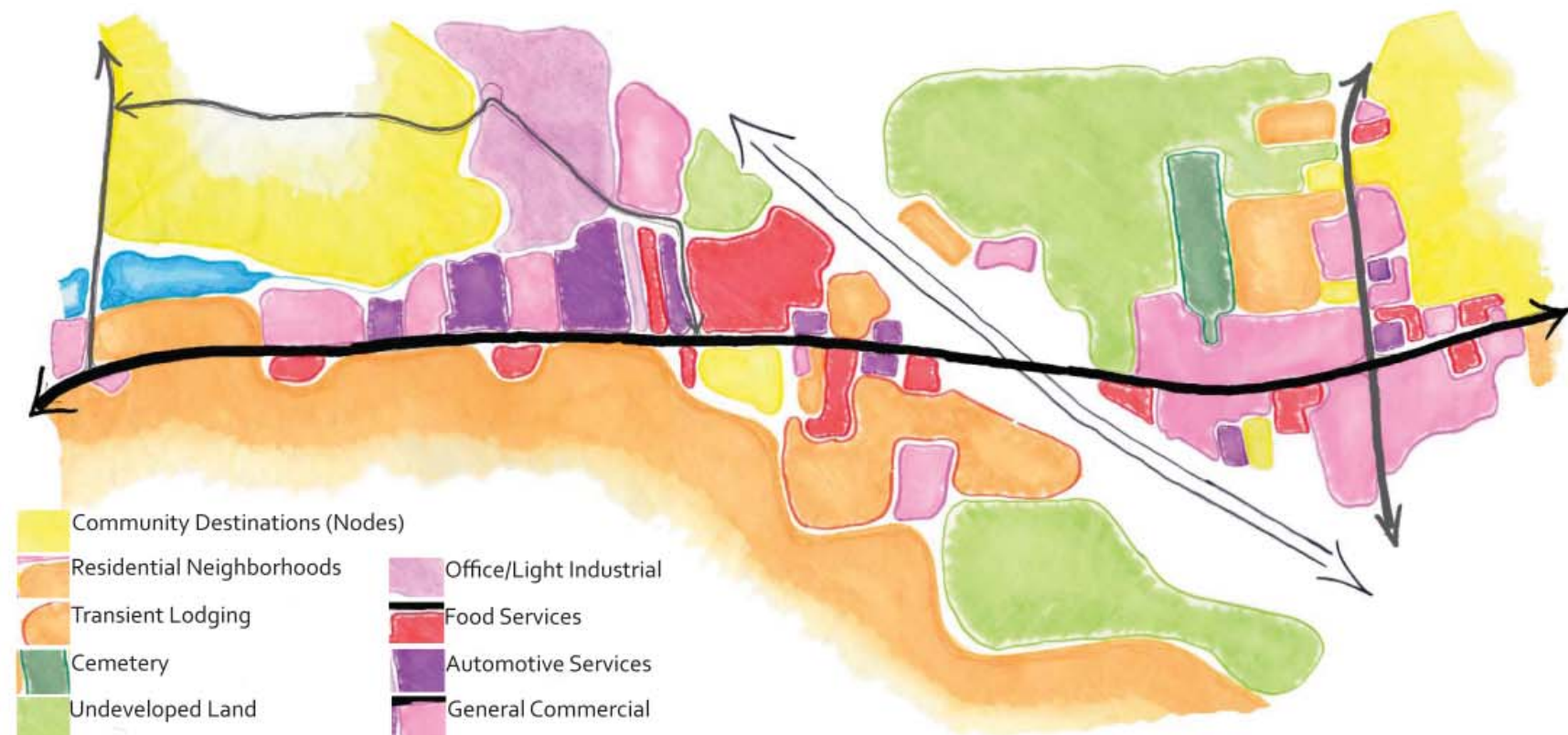
Vision:

 gateways to indicate a change in form/function

 pedestrian connections between
residential zones
and community nodes
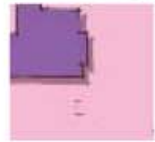
sustainable and visually stimulating streetscape
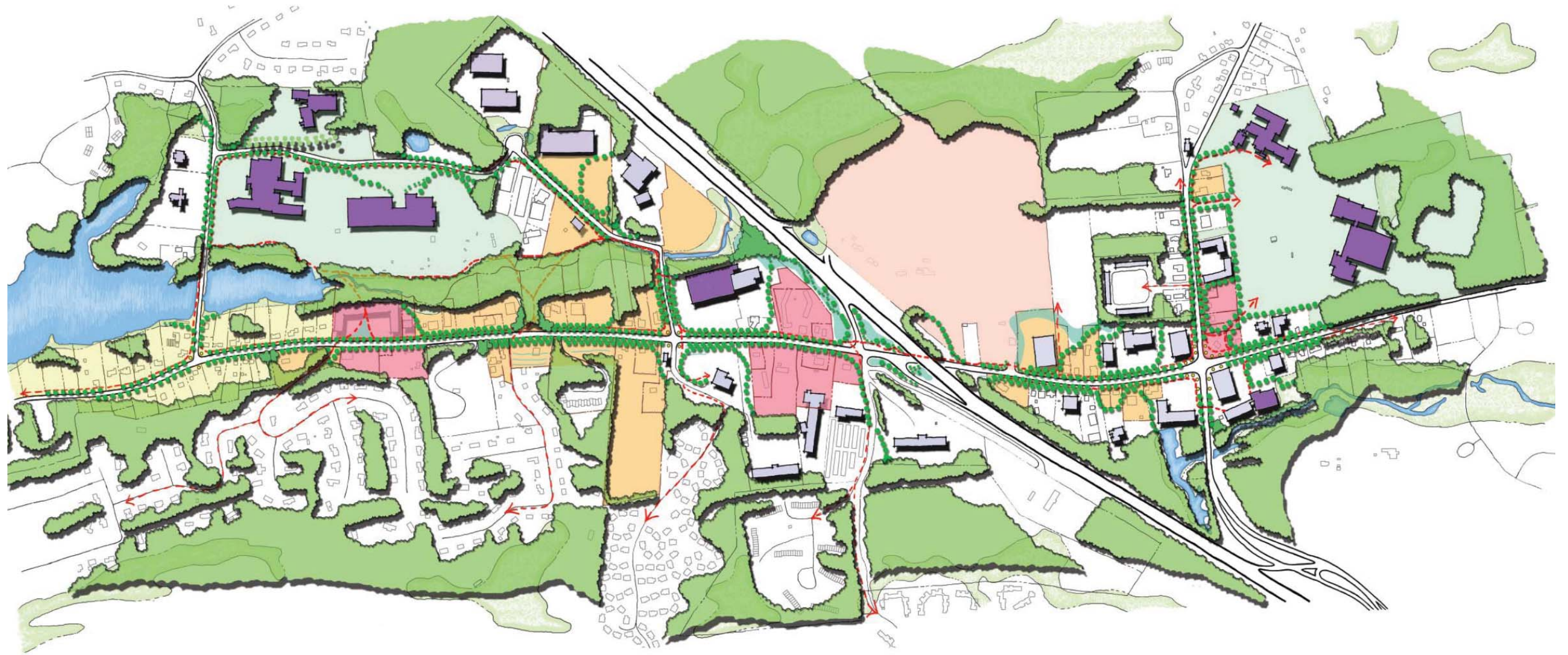
Chapter 3 Design - Flanders Village
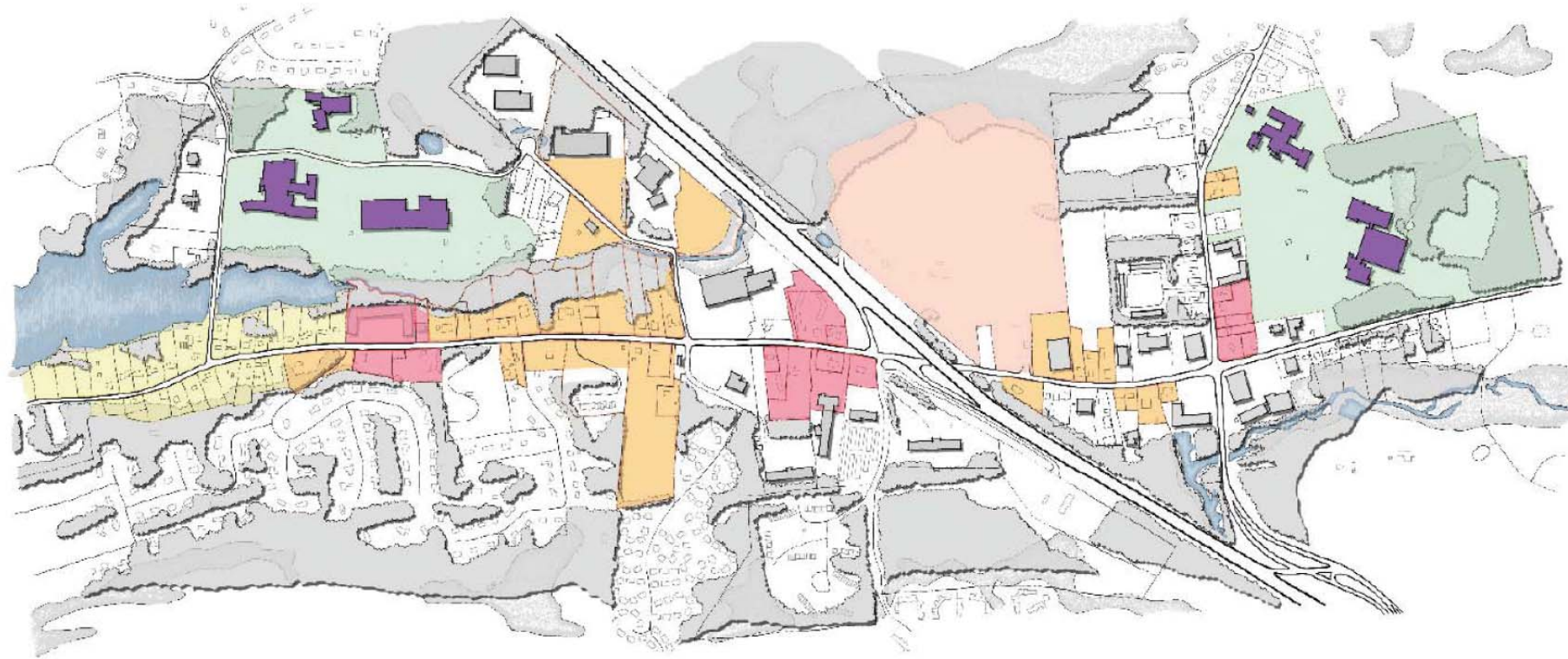
Development Improvement Zones

Community/Civic Space

Redevelop as Gateway/Node

Infill as walkable areas

Transition into Home Office uses

"Gateway Development Project"
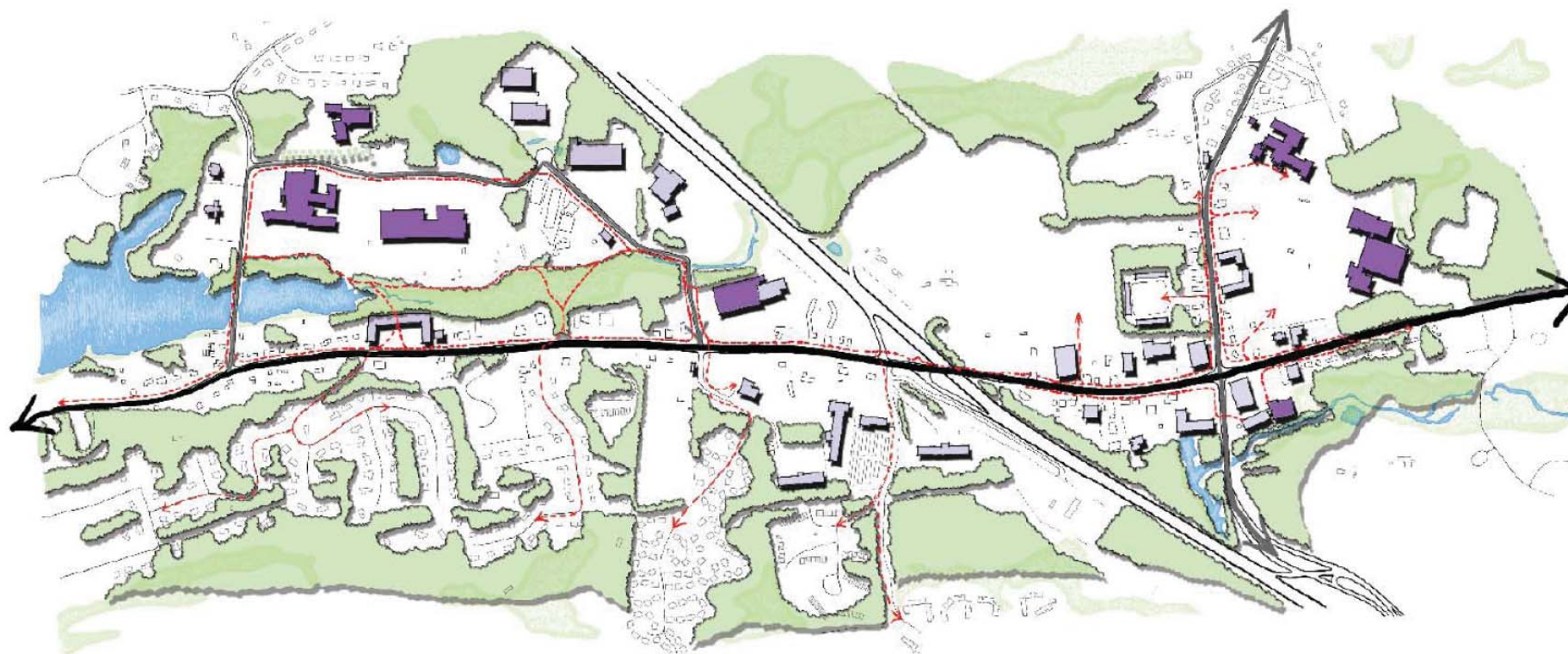
Circulation System

Pedestrian Pathways

The existing infrastructure of the Flanders Four Corners area is conducive to functional and efficient automotive access.

This system can be improved by using permeable paving around the periphery of parking lots and changing zoning regulations to allow for fewer parking spaces than are currently demanded.

Vehicular movement should not supercede alternate modes of transportation such as pedestrians, mass transit, or bicycles. The concept of a "complete road" should be implemented where ever possible.

Chapter 3 Design - Flanders Village

Planting Plan

Large Street Trees
unifies main axis, create space

Flowering Trees
mark transitions

Sustainable Street Lighting
sculptural, visual cue of important intersection (see section "A")

Street planting have many benefits, including heat island mitigation, creation and definition of space, and providing unity/visual interest to the streetscape.

Street lighting is an opportunity to showcase East Lyme's goal of being a sustainable community, while providing a much needed wayfinding aid.

Drainage System

Sloped Bio-Infiltration
(Swales, rain gardens...)

Terraced Bio-Infiltration
(addresses drainage on steep slopes)

Capturing rainwater in bio-infiltration systems on-site relieves over-burdened sewer systems, purifies the water, regenerates ground water supplies, and can create interesting and attractive planting opportunities.

Integration of bio-infiltration techniques into new projects, and retrofitting existing development with appropriate methods is an essential step towards creating a sustainable built environment.

Bio-Infiltration techniques and Sustainable Lighting Concept

Bioswale

Pathway

Two Lanes Southbound

Two Lanes Northbound

Parking

Allee Planting

Route 161

Lighting Feature

Terraced Bio-filtration
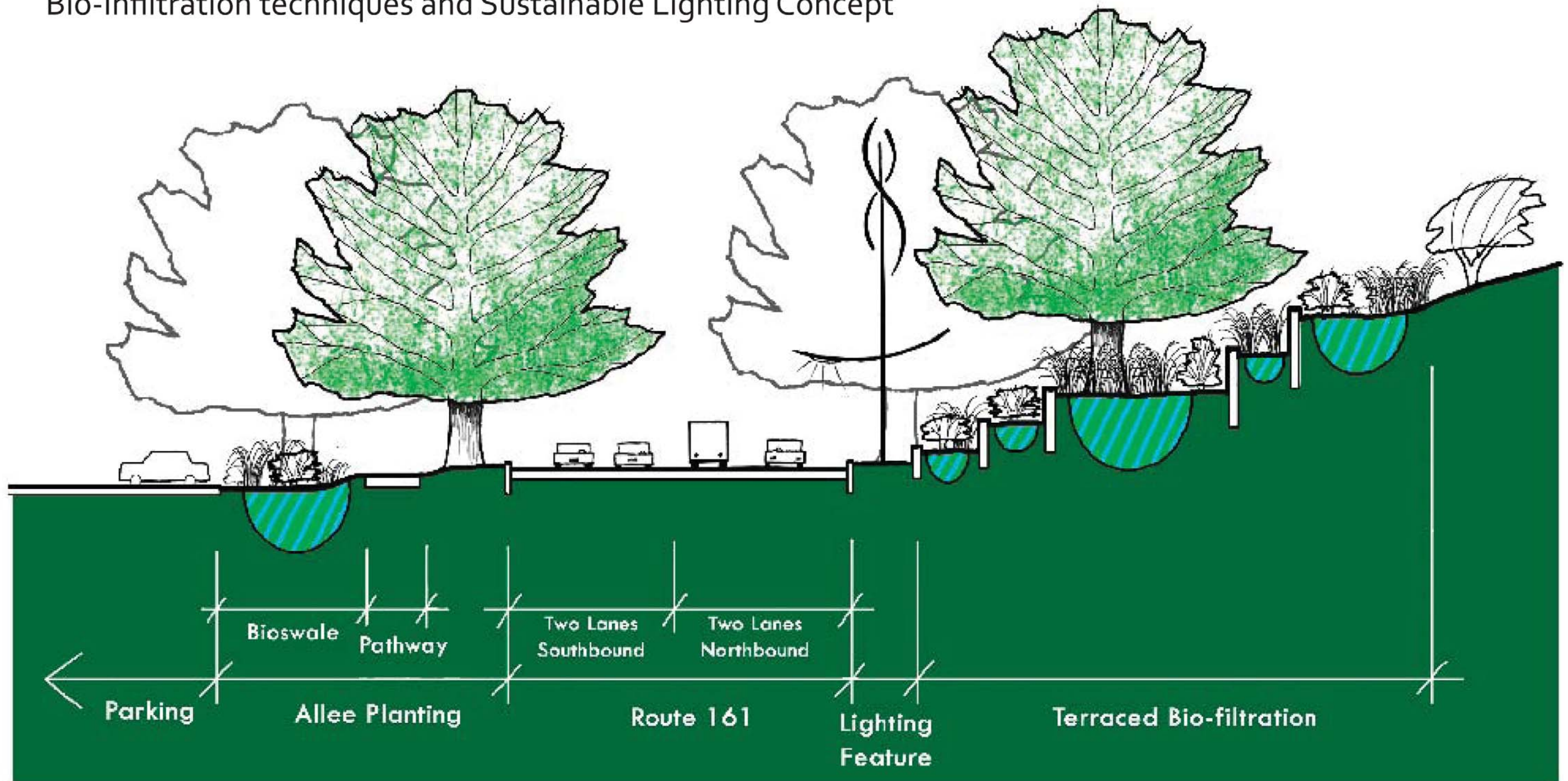
Chapter 3 Design - Flanders Village

Redevelopment Node

Drain to Bioswale

Drain to Bioswale

Drain

Two Lanes
South Bound

Two Lanes
North Bound

Parking

Bioswale

Pathway

Inn as Landmark

Drop off

Street Trees
and

Route 161

Street Trees
and

Pathway

Public Open Space

Tourist Amenity

Infill Improvements

Drain to Bioswale

Drain to Bioswale

Bioswale

Bioswale   Path

Southbound   Northbound

Path   Bioswale

Parking:
Permeable Paving

Pedestrian Zone

Parking:
Permeable Paving

Pedestrian Zone

Pennsylvania Ave./Rt. 161

Pedestrian Zone

Parking:
Permeable Paving

Bioswale

Appendix: Conservation Subdivision Section Type I

Flexible Development Pattern Type I: Flat Ground Plane with a visual barrier close to public viewing area
The existing visual barrier can be vegetation varying in degree of visual penetration from opaque to semi-transparent depending upon the type of plant materials. Built structures or a vertical topographic feature (i.e. rock ledge) could also function to stop views from the roadway. Proposed development would have to be sited behind the barrier to maintain the existing scenic character. Development sited in front of the existing "edge" becomes prominent.

Public Road
or other important use area such as trails, public buildings, protected open space

Existing Vegetation
or other sensitive natural or cultural feature:

1. Determination of width to be based on performance of existing planting to effectively screen potential development.
2. Existing vegetation will vary in ability to provide an appropriate visual barrier.
3. Understory and evergreen planting to be promoted.

Development Area:

1. Net density can be substantially higher than gross density depending on land characteristics.
2. Proposed vegetative buffer areas can be used as developable land to determine a reasonable yield plan for the overall property.

Existing or potential development

Vegetation

View sheds

Public lands

Private Lands

Private lands w/ public implications

Roads

Appendix: Conservation Subdivision Section Type II

Flexible Development Patterns: Type II Flat Ground Plane terminated by a vertical visual barrier at some distance from a public viewing area.
Typically, the barrier is composed of trees, with or without intermediate vegetation of structures. Other prominent vertical features, such as topographic feature (i.e. rock edge) or a series of structures could function as the visual barrier.Development can be concealed from view by siting structures behind the barrier mass, provided necessary depth of the barrier mass is retained to stop visual penetration. Distant views are only of open sky, no hills visible. Development would be most visible if sited in front of the barrier.

Public Road
or other important use area
such as trails,
public buildings,
protected open
space

Open Field (depth varies) or other sensitive natural or cultural feature:

1. High degree of exposure.
2. Some landform or vegetation may occur yet not enough to create a visual barrier.
3. Ownership can either be private of public.

Existing Vegetation or other sensitive natural or cultural feature as Visual Barrier
See Type I for notes.

Development Area:

1. Net density can be substantially higher than gross density depending on land characteristics.
2. Proposed vegetative buffer areas can be used as developable land to determine a reasonable yield plan for the overall property.

Existing or potential development

Vegetation

View sheds

Public lands

Private Lands

Private lands w/ public implications

Roads

Appendix: Conservation Subdivision Section Type III

Flexible Development Patterns: Type III: Upward tilted ground plane which then drops off (military crest)

The upward sloping hill blocks distant views. A visual barrier may or may not be formed by vegetation or other visual barriers occurring before the crest. The crest of the hill blocks all views behind it and allows development to be concealed. Siting structures before the crest or on the ridgeline would emphasize the development.

Existing or potential development

Vegetation

View sheds

Public lands

Private Lands

Private lands w/ public implications

Roads

Public Road
or other important use area
such as trails, public buildings, protected open space

Open Field (depth varies) or other sensitive natural or cultural feature:

1. High degree of exposure.
2. Some landform or vegetation may occur yet not enough to create a visual barrier.
3. Ownership can either be private of public.

Development Area:

1. Net density can be substantially higher than gross density depending on land characteristics.
2. Proposed vegetative buffer areas can be used as developable land to determine a reasonable yield plan for the overall property.
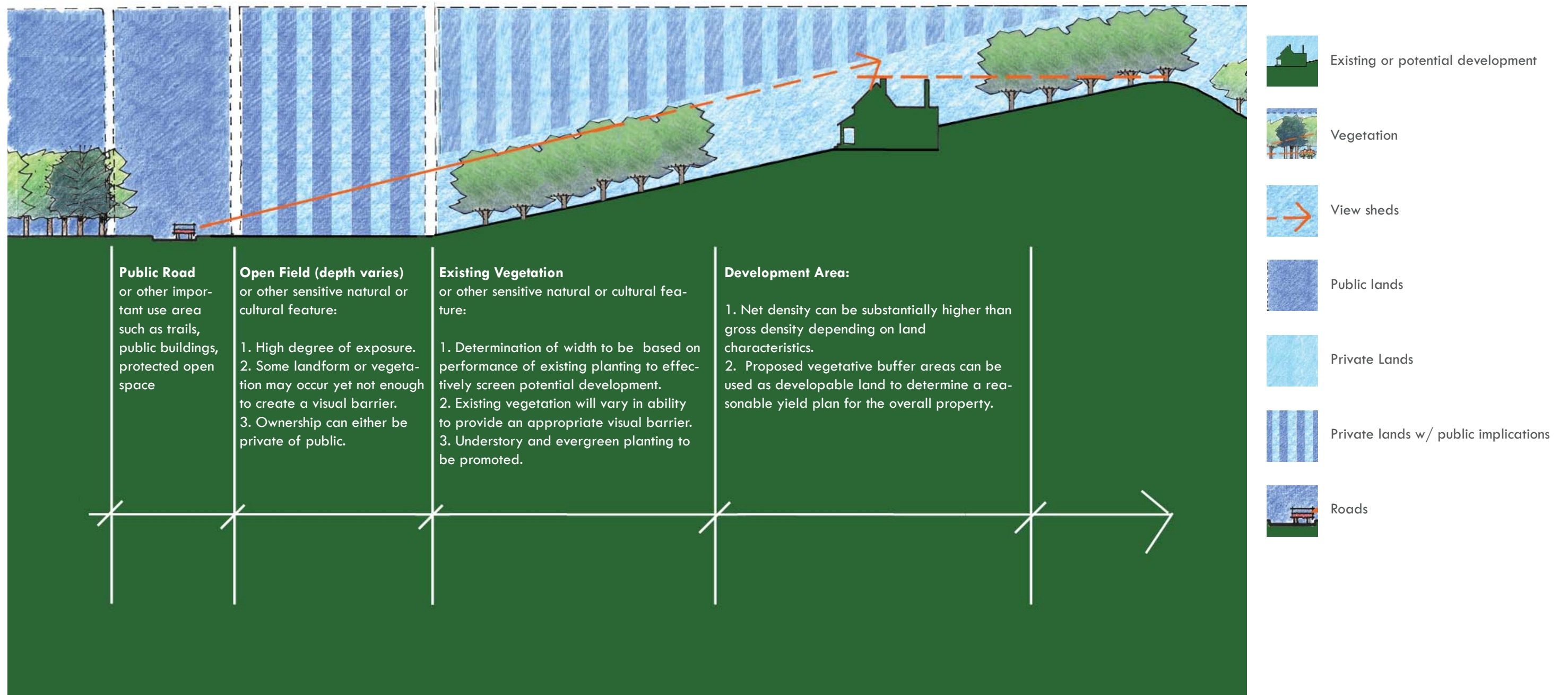
Appendix: Conservation Subdivision Section Type IV

Flexible Development Patterns: Type IV: A continuous ground plane which slopes up as it recedes.

The upward sloping hill blocks distant views but is set back farther than in type #3. A visual barrier may or may not be formed by vegetation or other visual barriers occurring before the crest. Development can be concealed to some extent if sited behind these visual barriers but concealment behind the crest as is possible in type #3 is impractical because of the distances from the road to crest.

Public Road
or other important use area such as trails, public buildings, protected open space

Open Field (depth varies)
or other sensitive natural or cultural feature:

1. High degree of exposure.
2. Some landform or vegetation may occur yet not enough to create a visual barrier.
3. Ownership can either be private of public.

Existing Vegetation
or other sensitive natural or cultural feature:

1. Determination of width to be based on performance of existing planting to effectively screen potential development.
2. Existing vegetation will vary in ability to provide an appropriate visual barrier.
3. Understory and evergreen planting to be promoted.

Development Area:

1. Net density can be substantially higher than gross density depending on land characteristics.
2. Proposed vegetative buffer areas can be used as developable land to determine a reasonable yield plan for the overall property.

Existing or potential development

Vegetation

View sheds

Public lands

Private Lands

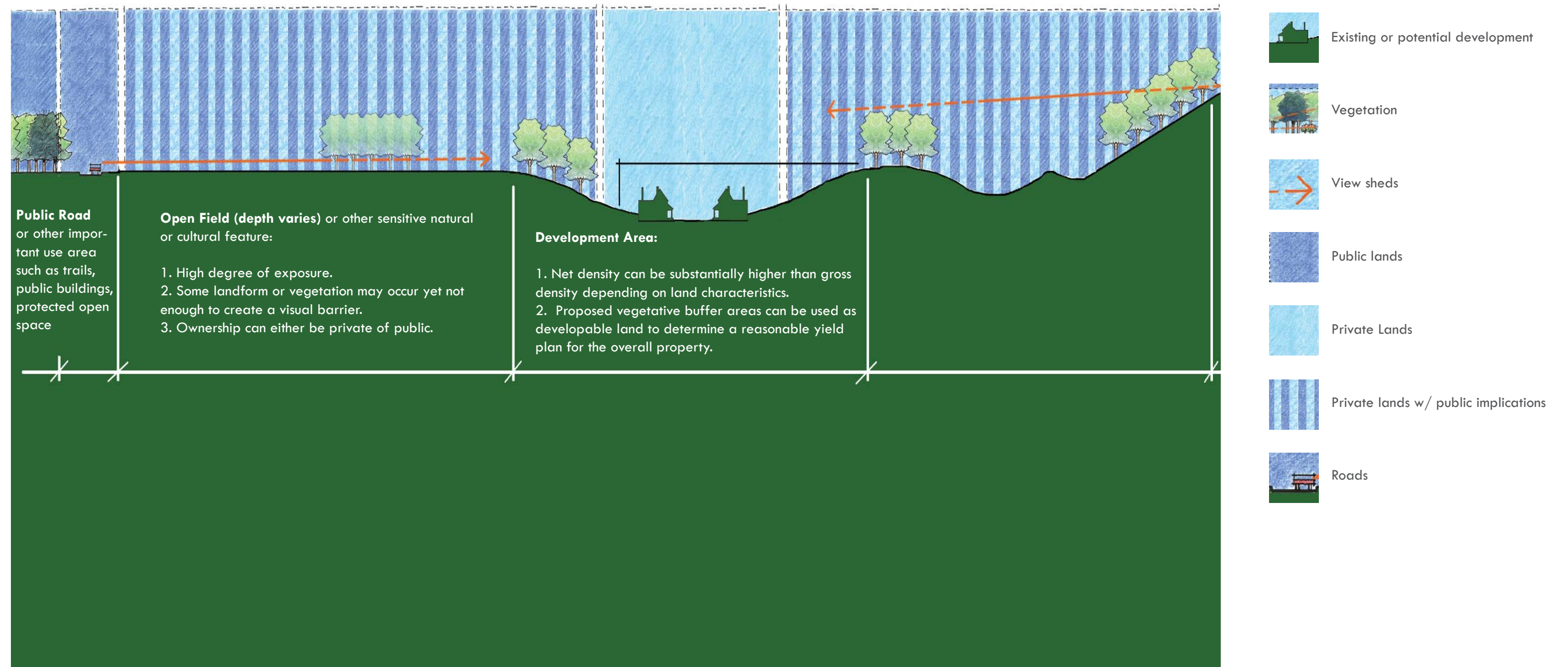Private lands w/ public implications

Roads

Appendix: Conservation Subdivision Section Type V

Flexible Development Patterns: Type V Composed of a flat plane which slopes off into a valley and then rises again to make the far slope visible.

Objects such as trees, structures, etc. may be located at any point in the foreground to midground of the plane yet are not prominent enough to create a visual barrier which would block views of the distant hills. The far slopes may be vegetated or devoid of vegetation. Development can best be concealed if sited in the depression which is out of view. Development sited on the foreground plane or the rising slope in the background would be visible.
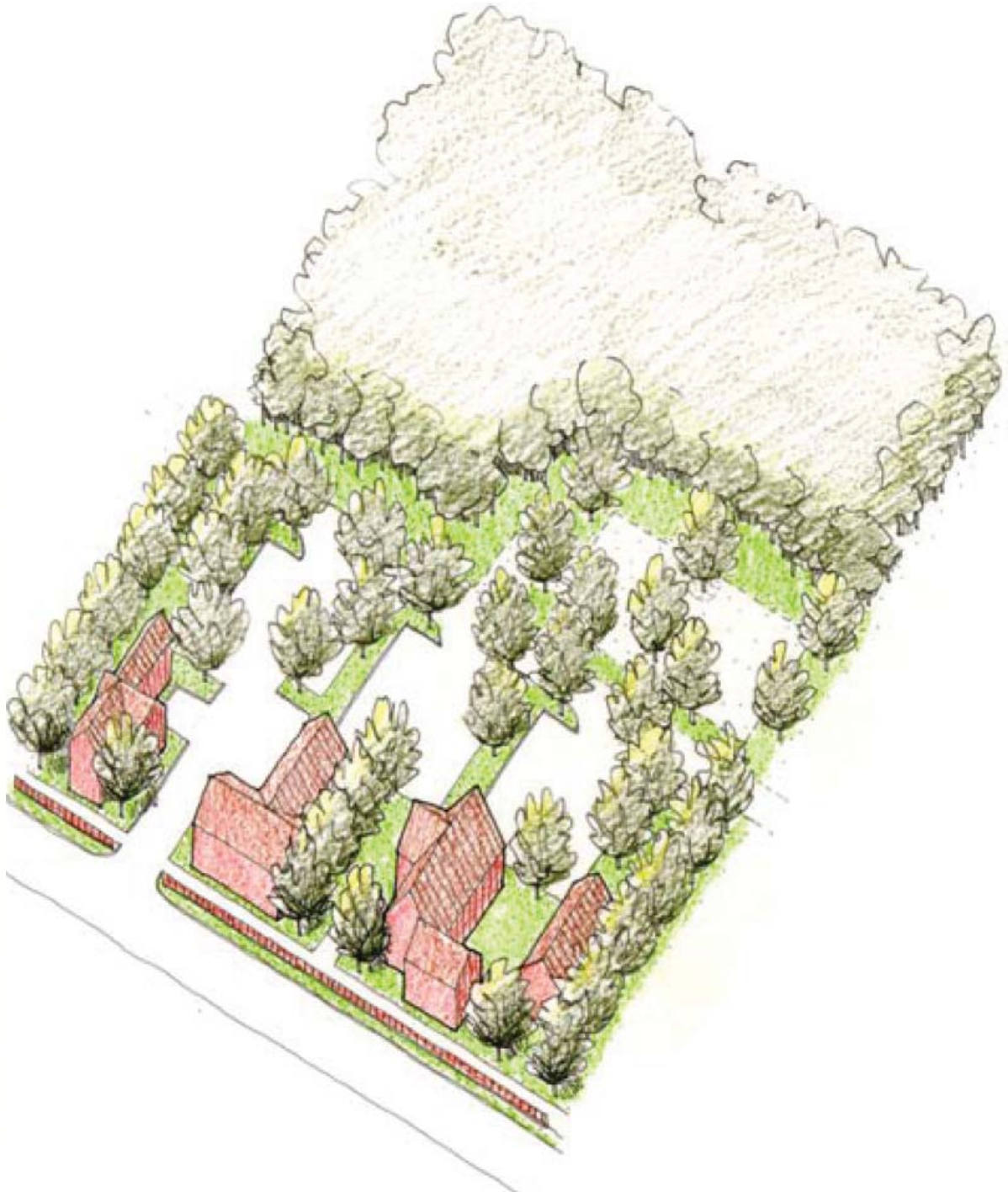
Public Road or other important use area such as trails, public buildings, protected open space

Open Field (depth varies) or other sensitive natural or cultural feature:

1. High degree of exposure.
2. Some landform or vegetation may occur yet not enough to create a visual barrier.
3. Ownership can either be private of public.

Development Area:

1. Net density can be substantially higher than gross density depending on land characteristics.
2. Proposed vegetative buffer areas can be used as developable land to determine a reasonable yield plan for the overall property.

Existing or potential development

Vegetation

View sheds

Public lands
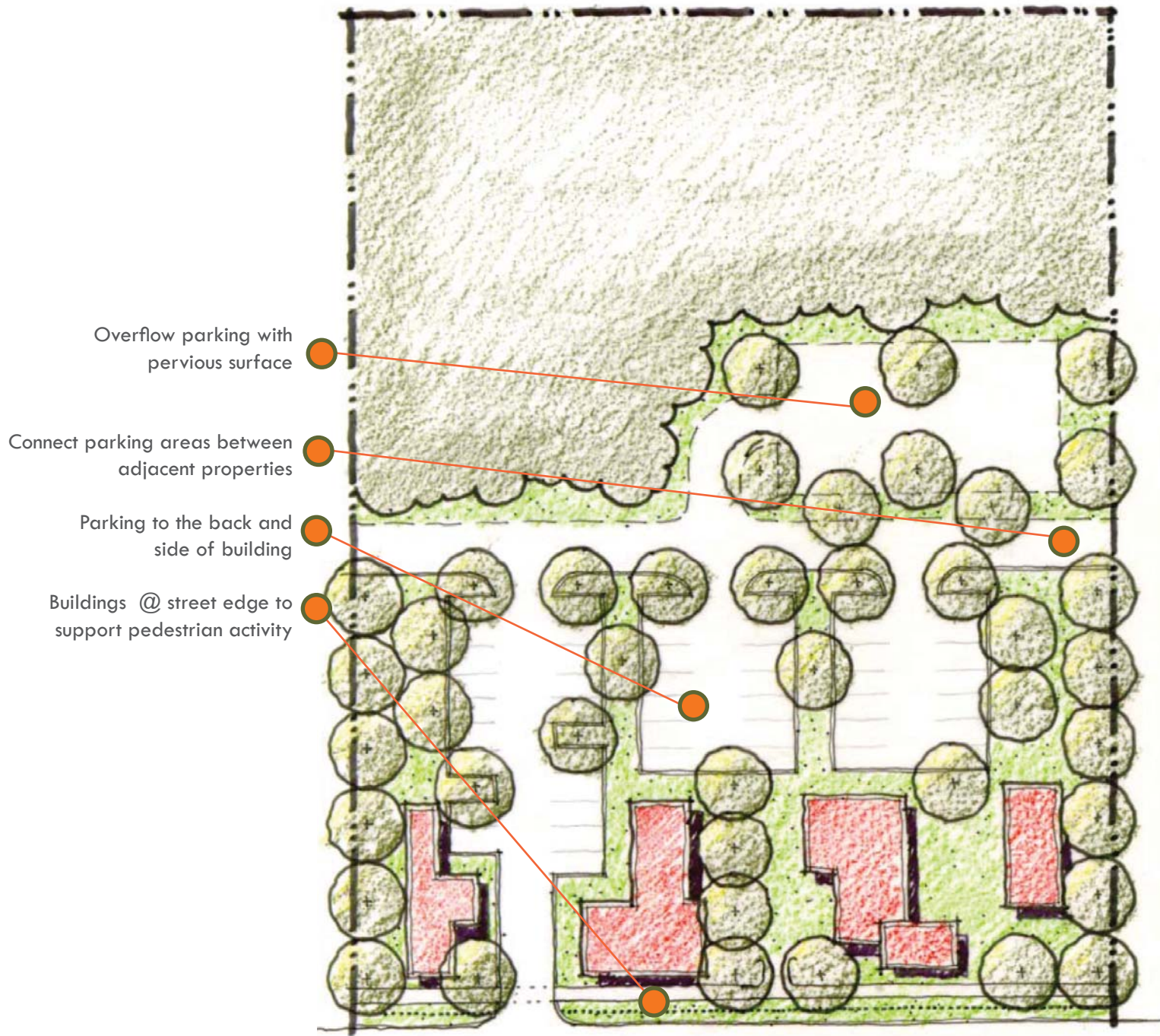
Private Lands

Private lands w/ public implications

Roads

Appendix: Conservation Subdivision - Built Examples

Appendix: Niantic Village - Typical relationship of street, building and parking

Overflow parking with pervious surface

Connect parking areas between adjacent properties

Parking to the back and side of building

Buildings @ street edge to support pedestrian activity

Appendix: Niantic Village - Typical relationship of street, building and parking

Proposed Buildings
Architectural massing and character to conform to guidelines to ensure compatibility with historic structures

Street Tree Planting
Defines edge between street and pedestrian zone creates comfort area for pedestrians. Reduces dominance of roadway corridor

Parking
Provides convenient parking to adjacent land-uses provides a buffer area between pedestrian and vehicular traffic reduces speed of traffic

The face of the water, in time, became a wonderful book
– a book that was a dead language to the uneducated pas-
senger, but which told its mind to me without reserve, de-
livering its most cherished secrets as clearly as if it uttered
them with a voice. And it was not a book to be read once
and thrown aside, for it had a new story every day.
Mark Twain, Life on
the Mississippi

Survival that depends on human attention might be called
cultural sustainability.
Landscapes that are ecologically sound, and also evoke
enjoyment and approval, are more likely to be sustained by
appropriate human care over the long term.
from the book, "Placing Nature"

The nation behaves well if it treats the natural resources
as assets which it must turn over to the next generation in-
creased, and not impaired, in value. Conservation means
development as much as it does protection.

Theodore Roosevelt

Conservation is ethically sound. It is rooted in our love of the
land, our respect for the rights of others, our devotion to the
rule of law.
Lyndon Baines Johnson

A great democracy has got to be progressive or it will soon
cease to be great or a democracy.
Theodore Roosevelt