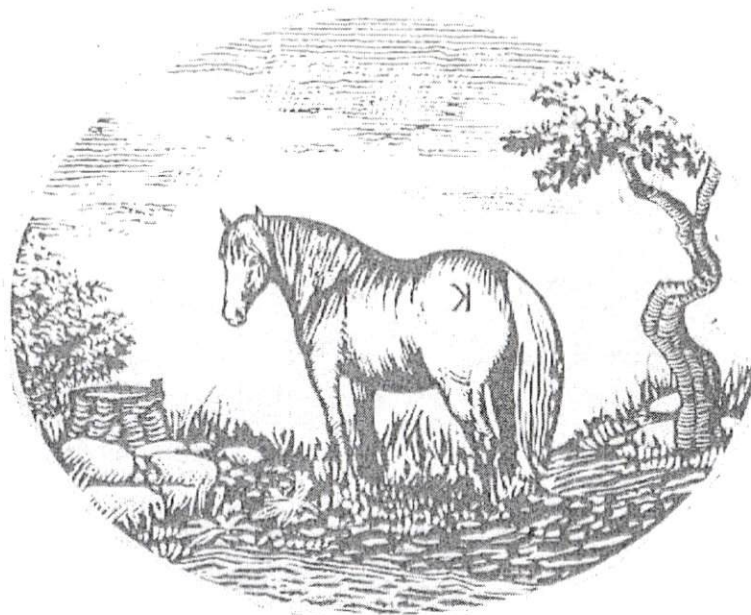


Union, Connecticut  
Plan of Conservation and Development  
2020 - 2030



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## Introduction

Made in conformance with Connecticut statute and the desires of the residents of Union; the plan of conservation and development (Plan) provides a blueprint for decision making that fosters a healthy environment, economic opportunity, and a high quality of life for all residents. The Plan balances population, housing, and economic development with habitat preservation, agriculture, open space, and infrastructure needs. In doing this, the Plan presents a vision for the Town's future, and a series of recommendations and/or strategies for achieving that vision.

The intent of the Plan is to guide the Town's efforts in land use planning and growth management, the provision of public facilities and services, environmental protection, economic development and land conservation. The "goal" of this Plan is to provide Union with a comprehensive, understandable, and usable blueprint to guide future decisions with flexibility and creativity in its application to accommodate competing objectives.

A Plan of Conservation and Development has its legal basis in Connecticut statute (Section 8-23). This law requires each community to have a plan and to update that plan every ten years. Section 8-23 sets forth several mandatory and discretionary areas to be addressed in a plan of conservation and development:

At least once every ten years, the [Planning] commission shall prepare or amend and shall adopt a plan of conservation and development for the municipality. Following adoption, the commission shall regularly review and maintain such plan.

In preparing such plan, the commission or any special committee shall consider the following:

Section 8-23, Connecticut  
General Statutes

1. The community development action plan of the municipality, if any,
2. the need for affordable housing,
3. the need for protection of existing and potential public surface and ground drinking water supplies,
4. the use of cluster development and other development patterns to the extent consistent with soil types, terrain and infrastructure capacity within the municipality,
5. the state plan of conservation and development adopted pursuant to chapter 297,

## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

6. the regional plan of development adopted pursuant to section 8-35a,
7. physical, social, economic and governmental conditions and trends,
8. the needs of the municipality including, but not limited to, human resources, education, health, housing, recreation, social services, public utilities, public protection, transportation and circulation and cultural and interpersonal communications,
9. the objectives of energy-efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation, and
10. protection and preservation of agriculture.

Such plan of conservation and development shall:

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

### Why do we Plan?

The purpose of doing a plan is to ensure an overall quality of life standard be maintained and improved in the future. This is accomplished by identifying the issues the community faces and finding ways to address those issues in the coming years.

Kelly, E & Becker, B.  
2000 Community Planning, An Introduction to the  
Comprehensive Plan.  
Washington, SC: Island Press



## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

- conservation and restoration of the natural environment, cultural and historical resources and existing farmlands;
  - protection of environmental assets critical to public health and safety; and
  - integration of planning across all levels of government to address issues on a local, regional and state-wide basis,
7. make provision for the development of housing opportunities, including opportunities for multifamily dwellings, consistent with soil types, terrain and infrastructure capacity, for all residents of the municipality and the planning region in which the municipality is located, as designated by the Secretary of the Office of Policy and Management under section 16a-4a,
  8. promote housing choice and economic diversity in housing, including housing for both low and moderate income households, and encourage the development of housing which will meet the housing needs identified in the housing plan prepared pursuant to section 8-37t and in the housing component and the other components of the state plan of conservation and development prepared pursuant to chapter 297. In preparing such plan the commission shall consider focusing development and revitalization in areas with existing or planned physical infrastructure.

Such plan may show the commission's and any special committee's recommendation for

1. conservation and preservation of trap rock and other ridgelines,
2. airports, parks, playgrounds and other public grounds,
3. the general location, relocation and improvement of schools and other public buildings,
4. the general location and extent of public utilities and terminals, whether publicly or privately owned, for water, sewerage, light, power, transit and other purposes,
5. the extent and location of public housing projects,
6. programs for the implementation of the plan, including:
  - a schedule,
  - a budget for public capital projects,
  - a program for enactment and enforcement of zoning and subdivision controls, building and housing codes and safety regulations,
  - plans for implementation of affordable housing,
  - plans for open space acquisition and greenways protection and development, and

"Smart growth" means economic, social and environmental development that (A) promotes, through financial and other incentives, economic competitiveness in the state while preserving natural resources, and (B) utilizes a collaborative approach to planning, decision-making and evaluation between and among all levels of government and the communities and the constituents they serve.

Public Act 09-230

## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

- plans for corridor management areas along limited access highways or rail lines, designated under section 16a-27,
7. proposed priority funding areas, and
  8. any other recommendations as will, in the commission's or any special committee's judgment, be beneficial to the municipality. The plan may include any necessary and related maps, explanatory material, photographs, charts or other pertinent data and information relative to the past, present and future trends of the municipality.

This plan is organized into two sections to address the preceding statutory requirements. The first section provides background information on the current state of the Town and potential future developments. This section of the plan includes: general demographics, housing, natural resources, education, transportation and economics. This section is intended to be amended as new information is developed or available. The next section contains the Town's goals, objectives, and policies/strategies. This section is intended to provide the policy base and direction to guide growth and development.

## Union in Perspective

Incorporated in 1734, Union was the last town settled in eastern Connecticut. Union has the smallest population in Connecticut. The initial and lasting impression of the Town is that it is rural. There are no shopping centers or large subdivisions that characterize most towns in Connecticut. There are large tracts of forests, some farms, ponds, streams, wetlands and a scattering of homes. As an upland town, Union has a fairly rough topography. During the drafting of this plan residents made clear their desire to maintain the town as a rural place.

People choose to be here [Union] for a variety of reasons. For some, Union provides a haven from the hustle and bustle of professional lives. For others it is a good place to raise children. And for still others, the personal freedom and natural beauty found in Union are great attractions. Somehow it is removed from the negative side of civilization. Union is a community ... Perhaps the best way to describe it as extended family. The natural beauty of Union is one of the major reasons why people choose to live here. It is truly beautiful, a walk through the vast woods will convince you. People who live in Union really want to be here, in spite of long commutes to work, shopping or entertainment<sup>1</sup>.

Union is located in the northeastern part of Tolland County (Map 1) and is bordered by the Connecticut towns of Willington, Woodstock, Eastford, Ashford, and Stafford and the Massachusetts towns of Wales, Holland, and Sturbridge. Union is part (one of 29 towns from Connecticut and Massachusetts) of the Quinebaug-Shetucket National Rivers Heritage Corridor (also known as the "Last Green Valley"). The Corridor was established by Congress in 1995 as a means to protect one of the last undeveloped areas within the Boston - New York Metropolitan Region.

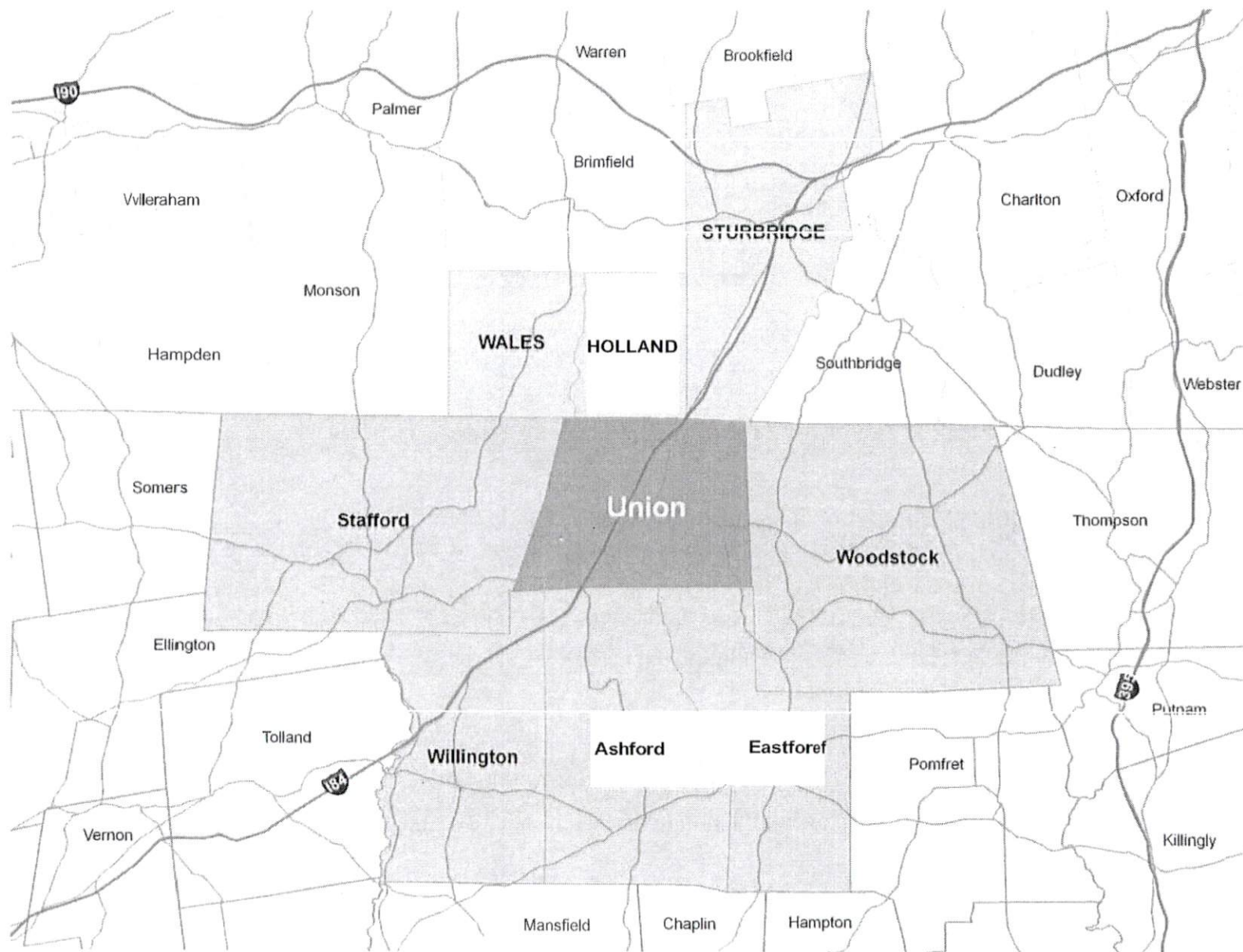
Union is a medium sized town (29.8 square miles) covering 19,056 acres making it the seventy-fourth largest community of the 169 towns in the State. Union has 25.2 persons per square mile compared to Connecticut, which has 612 persons per square mile. This makes Union one of the least densely populated towns in Connecticut. The Town is in proximity to a number of urbanized areas (map 2), standing out as one of the few remaining non-urbanized locations in southern New England.

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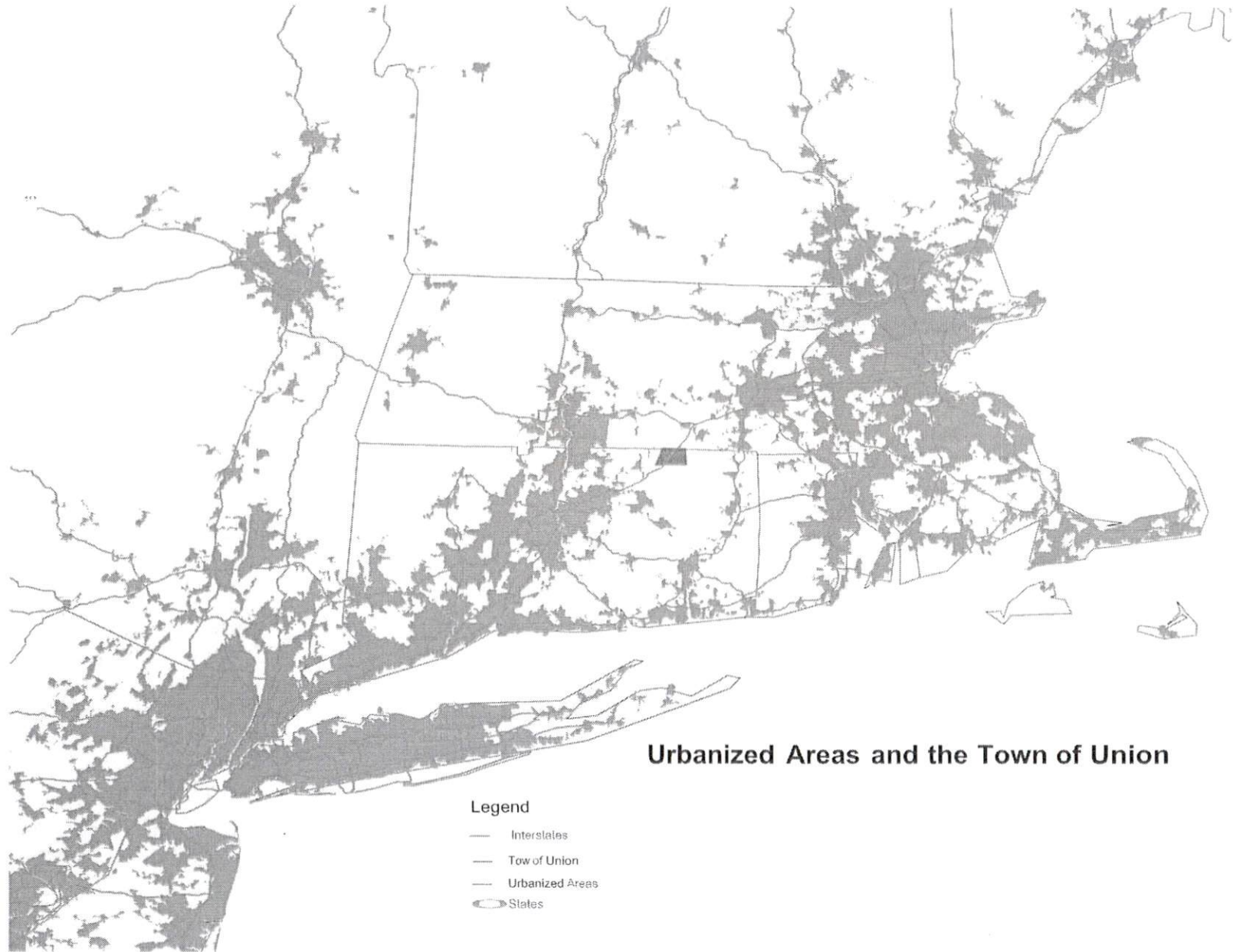
<sup>1</sup> Union Lands: A People's History, Union Historical Society, 1984, pages. 392-393



Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

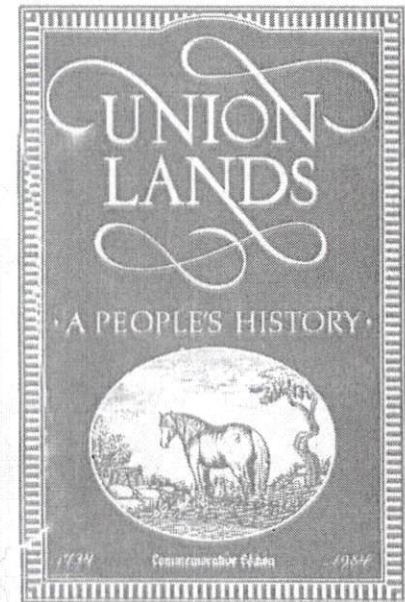




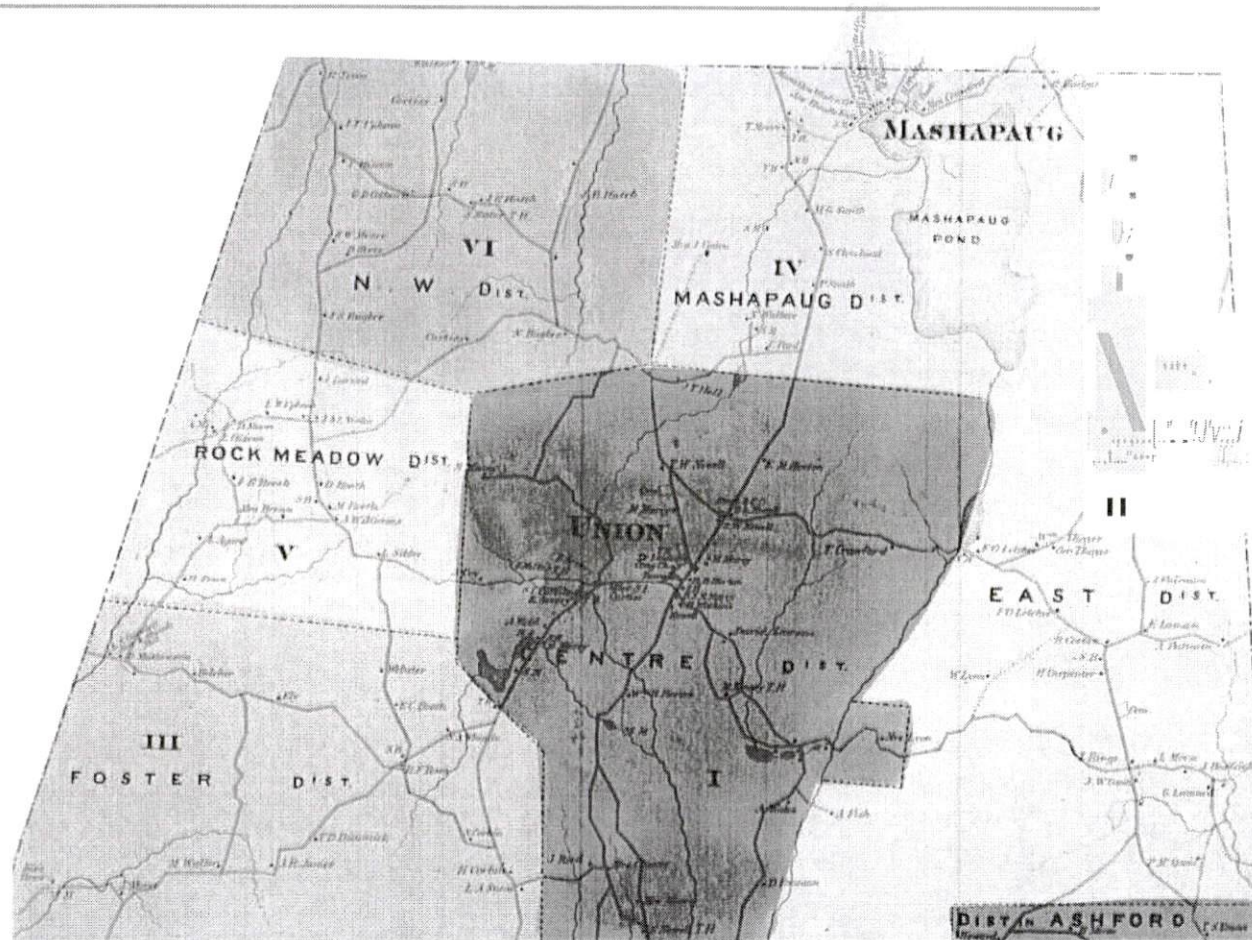


Union has the highest elevation (981 feet) than that of its surrounding towns and the highest elevation of any town found in eastern Connecticut. The Town averages 50 inches of rain and 54 inches of snow per year. The number of days with any measurable precipitation is 133. On average, there are 191 sunny days per year in the Town. The July high is around 81 degrees. The January low is 15. Total precipitation, especially for snowfall surpasses each of Union's neighboring towns. This is primarily a function of elevation compared to the other towns.

Union has a number of historic sites of significance covering its history. The Town's history is well chronicled. The History of Union, Connecticut by Charles Hammond, 1893 Quintin Publications, 2004: [www.QuintinPublications.com](http://www.QuintinPublications.com) and Union Lands: A People's History, Union Historical Society, 1984. There is a current project to accurately identify locations of historic significance using GPS technology. This work is being done by the Town's Historical society. Additionally, under the Town's Zoning Regulations there are specific protections for sites having historic or archaeological significance. Section 2.07 of the Regulations establishes the Commissions rights to suspend, revoke or modify an existing permit if the Commission "determines that the site has historical or archaeological significance<sup>2</sup>."



<sup>2</sup> Section 2.07, Town of Union Planning and Zoning Regulations



Town of Union -1850



## Demographics

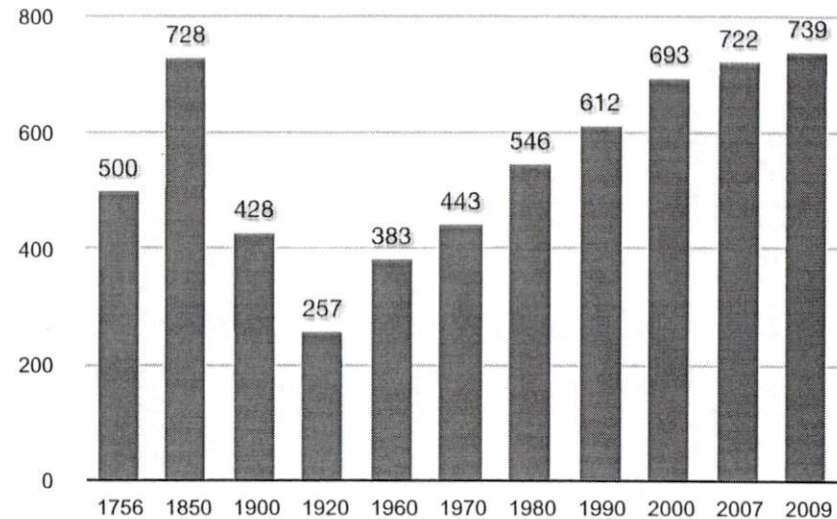
Union's population is not projected to grow significantly during the next ten to twenty years. The University of Connecticut State Data Center projects only a modest increase in the growth rate of less than one-half of one percent.

The median age of the Town's residents was 43 in 2008 - compared to 37 for the County and 40 for the State. The trend for Union is for the median age to increase at a rate higher than the State and County. UConn's projections show that the median age will increase by 13.2 years from the 2000 census level. This compares to the State's increase of just 3.6 years for the same period. Notably, the number of children and elderly dependent on working people in the town will rise significantly. The result of this growth will place more

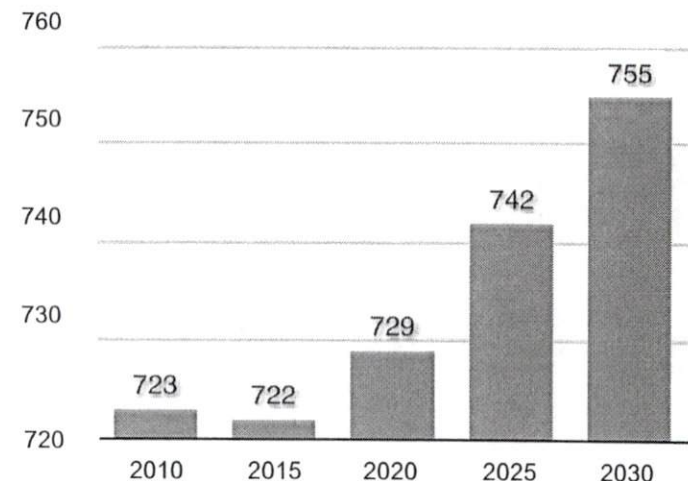
tax burden on workers within the town to provide direct and indirect services for children (education) and the elderly. The issue of housing affordability and availability may develop as the number of elderly dependent person's increases. Residents with income below the poverty level is estimated at 3.5 percent (compared to 5.6 percent for the County and 7.9 percent for the State). Children below the poverty level were at 6.1 percent (10.6 CT).

Median household income for the Town in 2009 (DECD) is estimated at \$72,428 (\$74,520 for the County and \$68,055 for the State).

Population Change

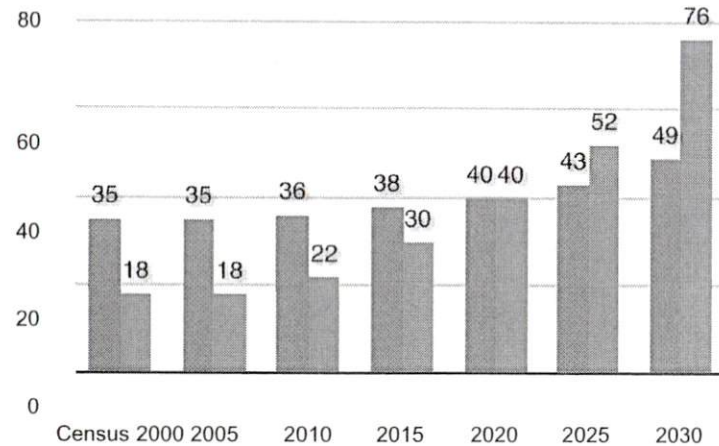


Population Projections



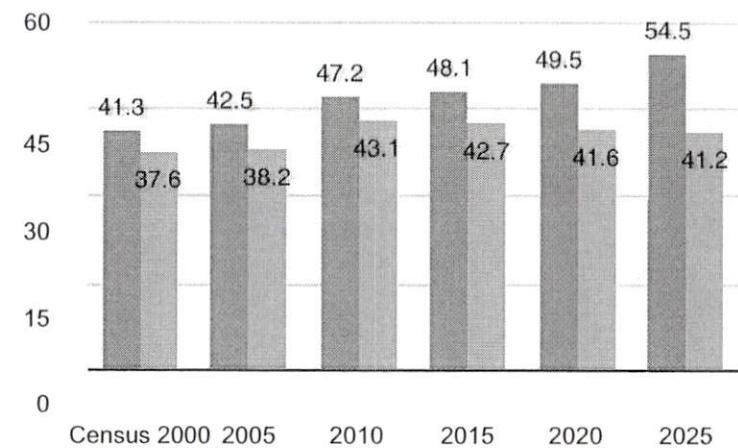
# Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

## Dependency, 2000 - 2030



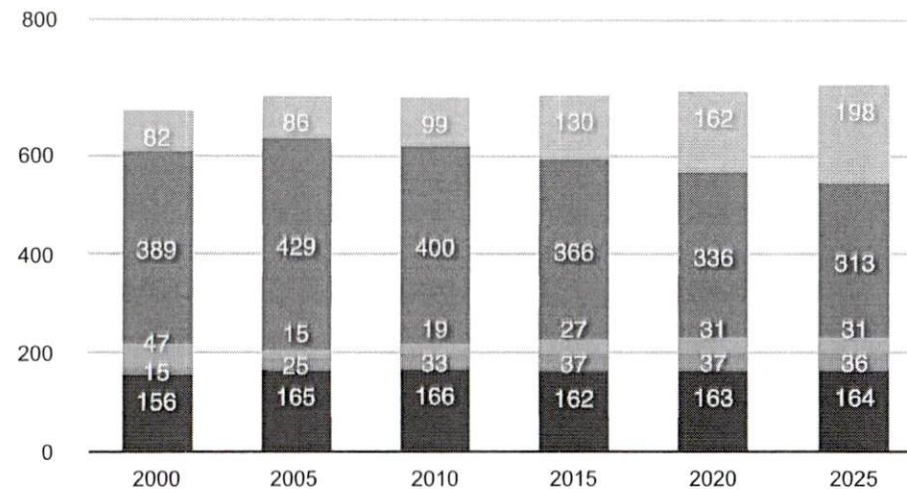
- Number of Children (age 0-19) that are dependant on 100 Workers (age 20 - 64)
- Number of Elderly (age 65 and over) that are dependant on 100 Workers (age 20 - 64)

## Median Age Change, 2000 - 2025



- Median Age of Household Population
- Connecticut

## Total Household Population by Age



## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

■ 0-19 ■ 20-24 ■ 25-29 ■ 30-64 ■ 65+



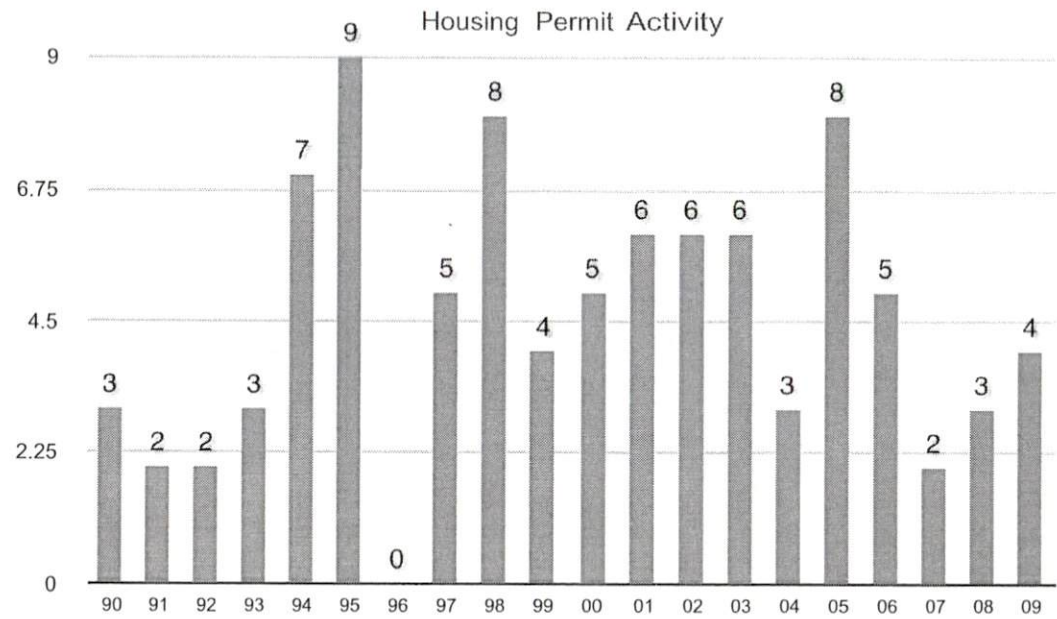
## Housing

Union contains (2008) 377 housing units (map 4); of which the vast majority (more than 96.7 percent) were single family units<sup>3</sup>. This compares to 316 housing units in 1997. Housing increase has been steady (4.8 permits per year), but modest since 1990. Unless an unanticipated event occurs or circumstances change; this rate of growth should remain unchanged.

The evidence suggests that the town will continue to contain the single family home as the dominant housing type for duration of this plan. The median price for housing in 2007

was \$236,000 compared to \$256,000 for Tolland County and Connecticut at \$295,000<sup>4</sup>.

The State of Connecticut defines affordable housing as that which does not cost a family more than 30 percent of its gross income. Once a family goes over that 30 percent threshold they often have difficulties paying other needed expenses. Average Housing prices within the Town are currently above that attainable for the median household income (\$72,428) within the Town. This means that housing costing more than \$21,728 annually (assuming the median income for the Town) would not be deemed affordable. This is true for Union and every other town in Connecticut. However, given the Town's limited total housing numbers Union "appears" more at odds with state policy than is reality. The issue is that The U.S. Department of Housing and Urban Development (HUD)



### FMR's by Unit Bedrooms

Efficiency - \$748  
 One-Bedroom - \$896  
 Two-Bedroom - \$1,095  
 Three-Bedroom - \$1,315  
 Four-Bedroom - \$1,623

Source: HUD

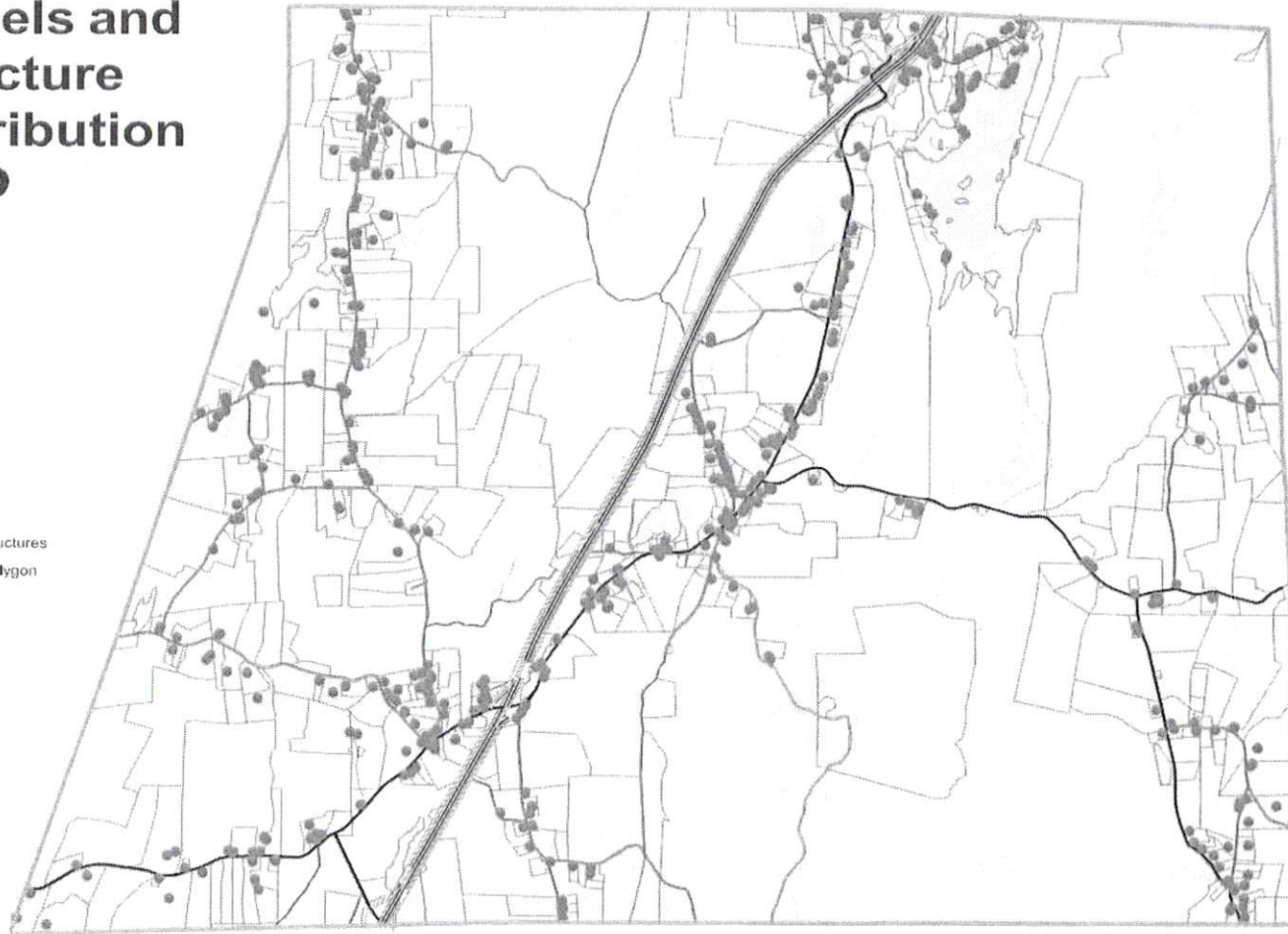
<sup>3</sup> Connecticut Economic Resource Center, 2010 Town Profile: Union, CT

<sup>4</sup> Connecticut Economic Resource Center, 2010 Town Profile: Union, CT

## Parcels and Structure Distribution 2009

### Legend

- Union Structures
- Parcel Polygon



This map is for planning purposes ONLY-- it contains NO authoritative data

0 1 2  
Miles

Source: NECCOG and Connecticut Department of Environmental Protection



has in place a system used by all states by which “Fair market Rents” (FMR) are established. This is done as a means to establish a payment standard for several federal assistance programs. HUD sets FMR’s based on unit-bedrooms. The Department of Economic and Community Development, in 2008, had Union with 2.41 percent (4 Governmentally Assisted Units and 4 CHFA Assisted Mortgages) of its housing as affordable.

Connecticut has several laws that attempt to foster housing diversity. The basic enabling statute for zoning, Section 8-2 includes the following language:

Such regulations shall also encourage the development of housing opportunities, including opportunities for multifamily dwellings, consistent with soil types, terrain and infrastructure capacity, for all residents of the municipality and the planning region in which the municipality is located, as designated by the Secretary of the Office of Policy and Management under section 16a-4a. Such regulations shall also promote housing choice and economic diversity in housing, including housing for both low and moderate income households, and shall encourage the development of housing which will meet the housing needs identified in the housing plan prepared pursuant to section 8-37t and in the housing component and the other components of the state plan of conservation and development prepared pursuant to section 16a-26.

In 1990 the Connecticut Affordable Housing Appeals Act (8-30g of the Connecticut General Statutes) was enacted that provides that a developer of “affordable housing” denied locally may appeal such ruling to the courts and have that denial overruled if such town contains less than 10 percent designated as “affordable.” Connecticut law places the burden on the local land use commission to justify an action that would deny the development of affordable housing. This law in effect can put aside the local land use rules if they interfere with the State policy goal of providing affordable housing.

The Town's zoning and subdivision regulations are not structured to discourage affordable housing. Rather, they reflect the communities desire to maintain a rural setting -- respectful of the varied natural resources found within the Town. The regulations are also a reflection of the rough, wet, and rocky conditions found throughout the Town. These realities do not lend themselves to smaller housing lots. While the Town's three acre minimum house lot may seem large it is really a necessity for well and septic location. Additionally, the Town has little or no prospect for public water or sewer -- both of which would be in conflict with the State Plan of Conservation and Development.

## Governance

Union has a Board of Selectmen, Town Meeting, Board of Finance form of government. Town government is the most personal and in many ways, the most important level of government. It is accessible; people interact with it daily – including its elected and appointed officials. Residents depend on it for a range of services that affect quality of life. The Town of Union performs a wide range of functions and services. Some of these functions or services are optional and others are mandatory. All authority granted to the Town is derived from the State.

Union is a small town by Connecticut standards. However, its obligations are essentially the same as Connecticut's largest municipalities. Elected persons hold the key administrative offices in Union. These include Chief Administrative Officer (First Selectman), Town Treasurer, Tax Collector, and Town Clerk. The Assessor, Public Works Director, Building Inspector, and Zoning Enforcement Officer, are other key administrative staff and are appointed.

Additionally, Union has commissions made up of residents that perform administrative and legislative functions. These include Board of Selectmen, Board of Finance, Planning and Zoning Inland Wetlands Commission, Zoning Board of Appeals, and Board of Education. Collectively, these individuals and boards make the Town run on a day-to-day basis.

The town has an annual budget of just over two-million dollars. Revenue is primarily

generated from the Property Tax (approximately \$1.7 million), \$382,000 received from the State, and the balance from other local sources. The average per capita tax (2007) was \$2,378 -- ranking 71 of the 169 towns. Debt per capita is at \$722 (2007 - 144/169). Only 3.8 percent of the Town's Grand List comes from commercial or industrial taxes -- the rest falls on residential properties and related taxes. Primary expenses for the Town are those related to education and roads.

"The Union Free Public Library was established during a town meeting in November of 1894. It officially opened its doors March 25, 1895. At first housed in a private home, it quickly outgrew its space, and a dedicated building was completed in 1912. The library still occupies this building. Renovations of the basement in the 1960s and 1970s opened additional space

## Town Departments

### Town Hall Offices

Assessor Building  
Office Health  
Department  
Probate  
Registrar of Voters  
Selectmen Town  
Clerk  
Tax Collector  
Treasurer

### Other Town Offices

Animal Control  
Fire Department  
Public Works  
Transfer Station  
Library

for a children's room, which now houses our collection of junior fiction, non-fiction, reference materials, and videos, and provides a great resource for our local school children who visit on a weekly basis during the school year<sup>5</sup>." The Town's Library contains 11,743 volumes (2001) and has a circulation per capita of 4.7<sup>6</sup>.

The Town has a volunteer fire department. Police protection is provided by the Connecticut State Police through Troop C in Tolland. Union has its own transfer station and animal control facility located at the Town Garage.

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<sup>5</sup> Town of Union web site

<sup>6</sup> Connecticut Economic Resource Center, Union Town Profile, 2010



## Land Use

The Connecticut Plan of Conservation and Development shows Union to be a rural community dominated by Existing Preserved Open Space and Conservation Areas. These designations are primarily the result of the Nipmuck Forest, Yale Forest, and watershed areas. The State's Plan also indicates an area in yellow that designates a traditional village area where towns services are located as well as places of worship and education (areas in and around the old Town Hall and Library). From the State's perspective, Union is a rural town containing significant tracts of undeveloped lands with a traditional town center that should remain in its current state.

Union has had zoning since 1934 and subdivision regulations since 1971. The Zoning Regulations are designed to strike a balance in protecting the Town's rural character and allowing flexibility for economic growth. The Town's zoning regulations divide the Town into five zones: Rural Residential, Retail Trade, Commercial/Industrial, Union Land, and Floodprone Areas. The largest zone is Residential<sup>7</sup>. This zone has a minimum lot size of 3 acres and 250 feet of frontage for single family homes. While the Residential Zone, as the name

Land Use Change								
Item	1985		1995		2005		Change	
	acres	% of Town	acres	% of Town	acres	% of Town	acres	% of Town
Developed	1,048	5.5	1,112	5.7	1,137	6	91.5	8.7
Turf & Grass	145	0.8	177	0.9	213	1.1	80.1	54.9
Other Grasses	51	0.3	54	0.3	89	0.5	45.6	88.2
Ag Fields	482	2.5	483	2.5	489	2.6	15.4	3.2
Deciduous Forest	4,636	24.3	4,573	24	4,541	23.9	-93.1	-2
Coniferous Forest	11,186	58.7	11,165	58.8	11,091	58.2	-130	-1.2
Water	931	4.9	924	4.9	925	4.8	-6.2	-0.7
Non-Forested Wetland	53	0.3	54	0.3	59	0.3	6.4	8.8
Forested Wetland	506	2.7	481	2.5	464	2.4	-39.9	-8.1
Barren	28	0.1	43	0.2	57	0.3	29.8	108.3
University of Connecticut Center for Landuse Education and Research								

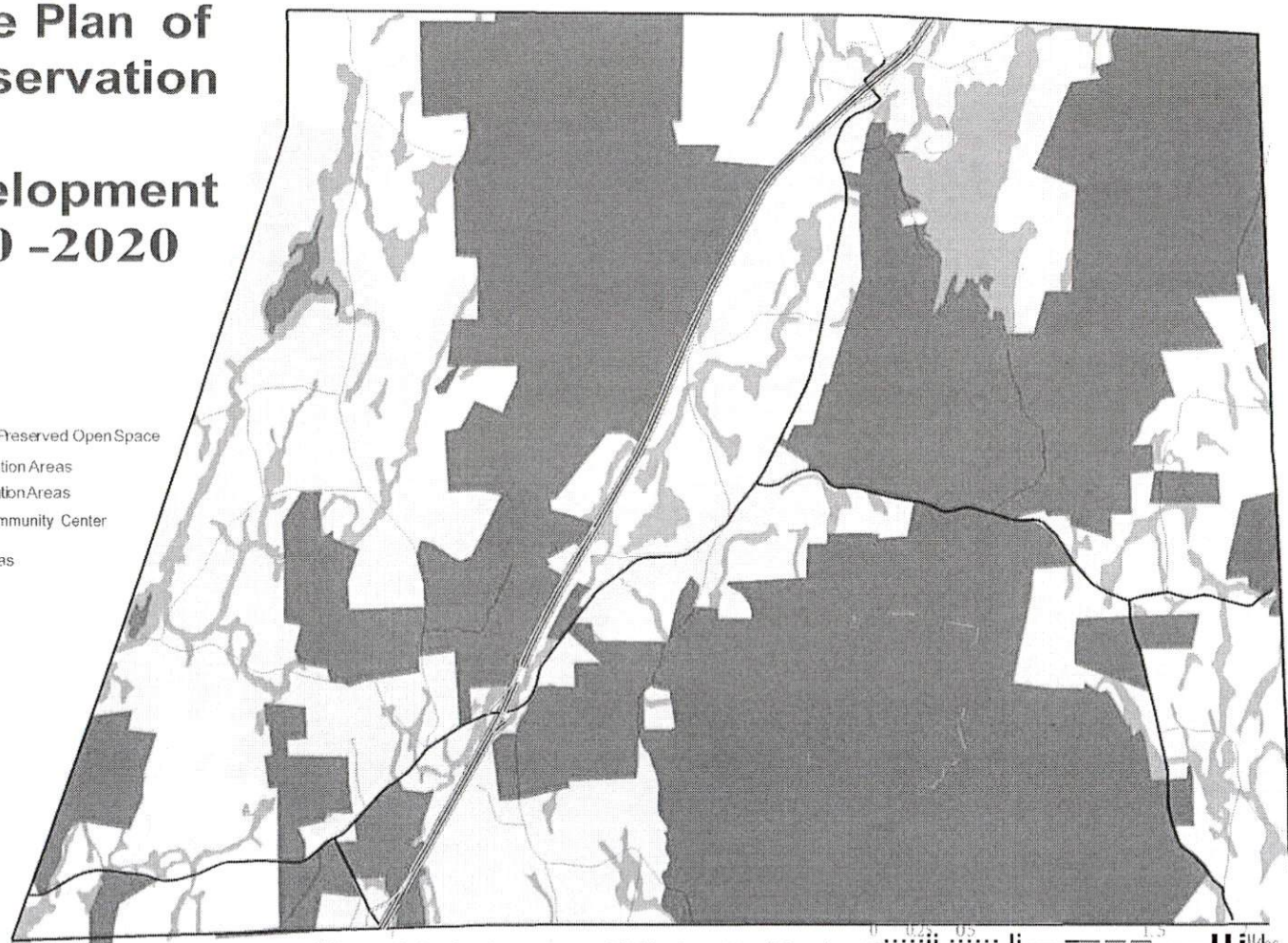
<sup>7</sup> Non-residential zones are discussed later in this section with economic development matters.

## State Plan of Conservation and Development 2010 -2020

### Legend

- Existing Preserved Open Space
- Presentation Areas
- Conservation Areas
- Rural Community Center

**D** Rural Areas



This map is for planning purposes ONLY -- it contains NO authoritative data.

Source: NECCOG and Connecticut Department of Environmental Protection



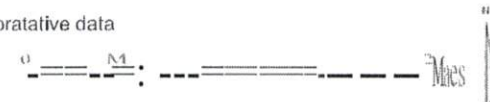
# Zoning Districts

## Legend

- Commercial/Industrial
- Retail Trade
- CJ Rural Residential
- Special Development



This map is for planning purposes ONLY – it contains NO authoritative data

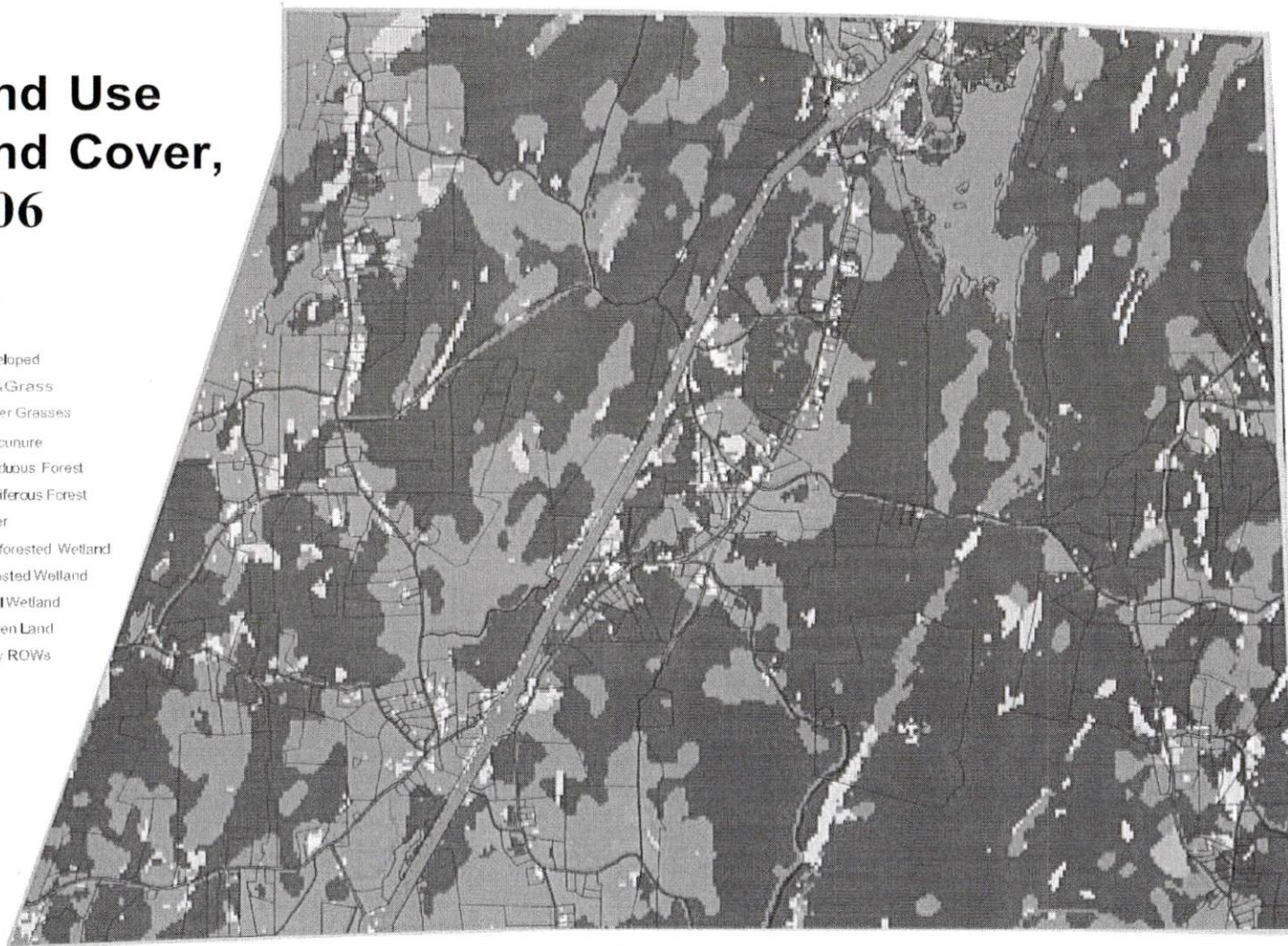


Source: NECCOG and Connecticut Department of Environmental Protection

## Land Use Land Cover, 2006

### Legend

- Developed
- Turf & Grass
- D** Other Grasses
- Agriculture
- Deciduous Forest
- Coniferous Forest
- Water
- Non-forested Wetland
- D** Forested Wetland
- C** Tidal Wetland
- C** Barren Land
- C** Only ROWs



Source: University of Connecticut Center for Land Use Education



implies permits residential uses -- a variety of compatible uses are also allowed<sup>8</sup>. These include farms, forestry and related practices, child and adult day care, open space, and a variety of accessory uses. Additionally, the Residential Zone provides the opportunity, subject to Special Permit conditions for additional uses, including: outdoor recreational uses, education/religious/philanthropic uses, riding stables, hair dressing salons, kennels, shooting range, and "Rural Industries."

According to the Center for Land Use Education and Research (CLEAR) at the University of Connecticut's Changing Landscape Project, the Town has experienced an 8.7% increase in developed lands between 1985 and 2006. CLEAR's data is based on remote sensing using spatial imagery related to land cover change. "Land cover, as its name implies, shows the 'covering' of the land. This is to be distinguished from land use, which is what is permitted, practiced or intended for a given area. For example, a "forested" land cover area as detected by the satellite may appear as "rural residential" on your town's zoning map. CLEAR's land cover information comes from remotely sensed data from satellites, in this case several of the Landsat satellite series. Sensors aboard the satellite collect (sense) radiation in a number of different wavelengths that is reflected from

the surface of the earth. The data are converted via computer programs and human expertise into land cover maps made up of many pieces, or pixels, of information that are 30 meters (or about 100 feet) square.<sup>9</sup>" This translates to a net gain of 91.5 acres of developed lands during this period. The largest loss of land cover came as deciduous forest with 93.1 acres lost. The largest gain, 129.7 acres, came from coniferous forest lands. A major concern expressed in the Town's Open Space Plan is that as lands are developed "for residential and non-residential purposes, less suitable lands begin to become more attractive. Less desirable lands are usually steeper in grade. They may be more swampy, or possess poorer percolation

#### Connecticut Comprehensive Wildlife Conservation Strategy

The most significant threats to Connecticut's land and waterscapes include habitat loss, degradation, and fragmentation from development; changes in land use; and competition from non-native, invasive species. Other threats include insufficient scientific knowledge regarding wildlife and their habitats (distribution, abundance and condition); the lack of landscape-level conservation; insufficient resources to maintain or enhance wildlife habitat; and public indifference toward conservation. In total, Connecticut's plan identifies 43 threats to wildlife species and their habitats. These threats are categorized as statewide, species-focused or habitat-focused.

Connecticut Department of Environmental Protection

<sup>8</sup> Please consult with the Town's Zoning Regulations and/or Planning and Zoning Commission for details

<sup>9</sup> University of Connecticut Center for Land Use Education and Research



qualities. Uncontrolled development upon these lands may render adverse effects to the developer, the home owner and unquestionably to the community.”<sup>10</sup>

Union is dominated by a forested (coniferous forests are the dominant type found) rugged terrain with many outcroppings of rock – interspersed with water, bogs, and wetlands. Approximately 86 percent of the Town is forested and one-third (6,300 acres) of the Town is protected forest land: including Bigelow Hollow State Park, Nipmuck State Forest and the Mountain Laurel Sanctuary. Along with protected State forest lands, there is the Yale-Meyer's Forest owned by Yale University. These lands cover approximately 3,000 acres. The Yale-Meyer's Forest covers 7,840 acres with lands in the towns of Eastford, Ashford, Woodstock, and Union -- which has the largest acreage. The entire acreage is managed by Yale for use as a large scale classroom and research laboratory. While the forest provides ongoing research and teaching opportunities for the Yale Forestry Program, it is not a self-sustaining operation and must be subsidized by Yale University. Accordingly, it must be understood that these lands are not protected lands. That is not to imply that there are development plans by Yale; but there must not be any assumption of permanent protection.

As would be expected, residential development is confined within close proximity to the Town's road system. The oldest dwellings are found along Buckley Highway near to the town center. Future development will most likely occur in proximity to the Town's existing roadways.

The privately owned and presently undeveloped lands within Union have casually but successfully combined to render the Town aesthetically pleasing and rural in character. It will be presumptuous to assume, however, that such rural and open character will remain constant or unchanged, or that development pressures will not gravitate upon the physical setting.

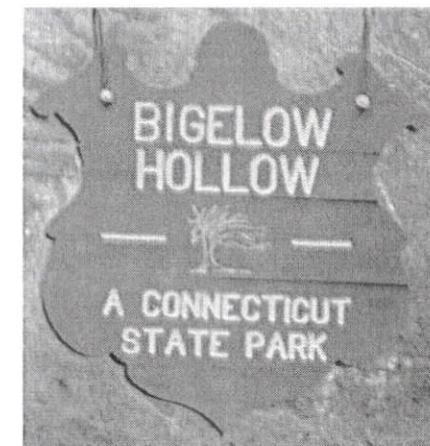
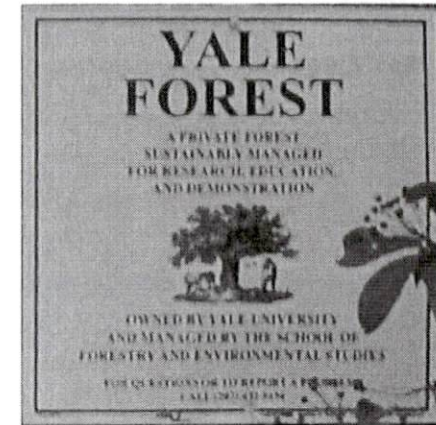
Town of Union Open Space Plan

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<sup>10</sup> Town of Union, Open Space Plan (full Plan can be found in Appendix 2)

## Natural Resources

Forests provide many benefits such as cleaning the air and water and habitat for wildlife, recreational opportunities, timber, firewood, maple syrup, and other forest products, and contribute heavily to rural character. Union's forests contain large unfragmented areas – some of the largest unfragmented areas in the state. Although from about 1730 to 1870 much of the present forest was cleared for agriculture<sup>11</sup>. Today, all that's left of that agricultural past are the stone walls that are found throughout the forest. Except for the Yale-Myers Forest, the management of forest lands within the Town is inconsistent. This includes those lands owned by the State. Yale has a detailed management approach: "In the past 15 years, the Yale Forests has embarked on a long-term silvicultural program designed to replace the old even-aged forest with a mosaic of stands with a well-distributed mixture of age classes ranging from zero to 80 or 100 years. This changeover may not be completed until about 2070<sup>12</sup>." The forest lands found in Union are largely unfragmented. While there are numerous meanings for "forest fragmentation," the general meaning is the separation/division either by ownership or physical barrier (road) into areas of 100 acres or less. The more divided a forest becomes the more susceptible it may become to inconsistent management of the forest resource and/or degrading of wildlife habitat. The long-term health of the forest and associated wildlife is enhanced with minimum fragmentation. Albert Todd in the February 1999 issue of the Journal of Forestry: "Forest fragmentation affects water quality and quantity, fish and wildlife populations, and biological health and diversity of the forest itself. When many small habitat losses occur over time, the combined effect may be as dramatic as one large loss. Forest fragmentation can disrupt animal travel corridors, increase flooding, promote the invasion of exotic vegetation, expose forest interiors, and create conflicts between people and wildlife. Habitat loss reduces the number of many species and totally eliminates others."



<sup>11</sup> Yale

<sup>12</sup> Yale



## Wildlife

The Town's wildlife includes bear, deer, beaver, fox, and a wide range of birds. This is in large part due to its large tracts of undeveloped/unfragmented lands. Additionally, the Town has multiple areas identified by the Department of Environmental Protection's Natural Diversity Data Base with unique or endangered species present. The Natural Diversity Data Base maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. Exact locations are not provided to ensure that such species are better protected. Development proposed in or near to one of these locations should have consultation made with the DEP.

The Town's roadways create barriers to wildlife movement. This is especially true for Interstate 84. Many species simply will not cross pavement. Many states and countries now provide bridges and/or tunnels for wildlife to overcome this problem.

## Soils

Soil resources are a major influence to the Town's development patterns and future development. Mining (lead) preceded agriculture in importance during the early days of what would ultimately become the Town of Union. Today, soils control the placement of septic systems for housing, road and bridge construction, wetlands are defined by soil type, productive soil-based agriculture is defined by soils and sand and gravel extraction are soil based. Union's soils are primarily "Till." Till is unsorted glacial sediment that varies from clay to sand, gravel and large boulders. Agricultural soils (Prime, Important, and Locally Significant) are the most conducive to crop production. However, these soils are scattered and limited. Much of the lands once farmed are now either forest or wet areas (wetlands, bogs, or ponds). During the early history of the town settlers would release beaver ponds and dry up other wet areas to plant

## Waterbodies

Bald Pond Bigelow	Bald Hill Brook
Pond Breakneck	Bigelow Brook
Pond Buckley Pond	Branch Brook
Forest Pond	Browns Brook
Hamilton Reservoir	Bush Meadow Brook
Harmon Pond	Gulf Brook Hatch
Kinney Pond	Brook Herridean
Lost Pond	Brook Leadmine
Mashapaug Pond	Brook Lost Pond
Morey Pond	Brook
Morse Meadow Pond	May North Ashford Brook
Morse Reservoir	North Ashford Brook
Myers Pond	Roaring Brook
Pinneys Pond	Scranton Brook
Res No 3	Sessions Brook
Res No 4	Stickney Hill Brook
Sessions Meadow Marsh Dam	Stoughton Brook
Vintons Mill Pond	Wells Brook
Walker Pond	
Wells Brook Dam	
Wells Pond	
Willis Pond	

crops. There was also the removal of forest for crop production. Much of this has now reverted to wet areas or forests.

## Water

“Indigenous of Connecticut’s uplands, Union contains numerous streams, brooks, ponds, lakes and other water bodies and wetlands which fulfill important ecological functions and contribute to a large extent in shaping the aesthetic characteristics and natural resources of the community.”<sup>13</sup> Extensive water resources are found within the Town as surface water (streams, and ponds) and groundwater. The benefits these resources provide include wildlife habitat and drinking water. Union’s water resources are also an important economic asset that increase property values and bring tourist dollars into the community. Within the Town all surface water ranks as either A or AA by the Department of Environmental Protection. This means that these water resources have “good to excellent quality.”

The Town has 23 named water bodies. The largest of these is Mashapaug Pond – which covers more than 300 acres. Mashapaug Pond (which is the Nipmuck Indian word for “Great Pond”) is unique -- it is the headwater of two major rivers: the Quinebaug River and the Shetucket River. Mashapaug Pond, which has an elevation of 702 feet, doubled in size in the mid-1880’s with the addition of two dams. One major concern raised by residents, especially by those with properties next to Mashapaug Pond, is the relatively new policy (which is under review by the Town and DEP) of the Department of Environmental Protection to not lower the level of the pond during winter months. Since this new policy went into effect there has been additional shoreline erosion and an increase in vegetation within the pond.

The Town has three major watersheds: Willimantic, Quinebaug, and Natchaug. Additionally, Union contains nine sub-regional drainage basins/watersheds. Watersheds are critical areas for water quality and habitat retention. Actions taken in one part of a watershed often have an impact on other parts of the watershed. Given that watersheds often do not conform to political boundaries, it is important to communicate with neighboring towns to prevent adverse affects originating in one part of a watershed. Currently, such communications are on an informal and random basis. This sets up the situation where decisions in one town could have an impact on another due to the nature of watersheds and the reality of political boundaries.

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<sup>13</sup> Town of Union, Open Space Plan



Potable water in Union (water used for drinking purposes) is derived from private wells. The Town has no public drinking supplies. These wells draw upon groundwater, which comes from both bedrock and stratified drift aquifers underlying the Town. Some aquifers are relatively shallow and are recharged from rainfall and stream flow. Because they are open to the surface, they are particularly susceptible to contamination from human activities such as fuel-tank leakage, sewage, oil and gas spills, and agricultural/lawn chemicals. The highest yields for wells are generally extracted from the thick course-grained deposits located near large streams. This type of aquifer is composed primarily of sand or sand and gravel overlays by fine to very fine sand, silt and clay. It may be possible to obtain relatively large volumes of groundwater from course-grained stratified drift aquifers.

According to the Water Quality Classifications Map of Connecticut, groundwater within the Town of Union is classified as GAA and GA. Groundwater classified as "GA" and "GAA" are suitable for existing or proposed public drinking water. The exception to this is a site at the intersection of Routes 171 and 190 where contamination compromising groundwater quality is located.

Floodplains or 100-year flood zones are found throughout the Town. These areas are lowlands along streams and poorly drained areas which support runoff during heavy rains. As implied these are areas subject to periodic flooding and therefore areas where development should be avoided. The Federal Emergency Management Agency (FEMA) maps these areas for the National Flood Insurance Program. The Town regulates these areas through its zoning regulations and Inland Wetlands and Watercourses Regulations. The Town's Zoning Regulations include a specific zone (Floodprone Areas Zone) which covers the Federal Emergency Management Agency Flood Insurance Rate Map for the Town. The areas covered are what are commonly referred to as the 100-year flood area.

#### Wetlands and Watercourse

Wetlands and watercourses are found throughout the Town. The Town, as an agent of the State, regulates wetlands and watercourses. Unlike many states Connecticut's inland wetlands and watercourses law are based on soils -- not vegetation or other indicators. This sometimes causes confusion with the public and commission members; especially when a visual inspection is made of a particular site that may not 'look like a wetland.' Wetlands are a natural cleansing agent -- providing pollution treatment by serving as a biological and chemical oxidation basin. They provide flood and storm control by the hydrologic absorption and storage capacity.

Wetlands provide wildlife habitat for a wide range of terrestrial and semi-aquatic animals and numerous plant species. This includes breeding, nesting, and feeding grounds -- including waterfowl, migratory birds, and rare, threatened, or endangered wildlife species. Wetlands protect subsurface water resources and provision of valuable watersheds and recharging ground water supplies. They enhance erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter. Additionally, wetlands serve as sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish. Finally, wetlands provide great recreation and education opportunities for people. It is important to note that the wetland itself is only part of the ecosystem that makes up a "wetland."

The area outside the wetland has direct and indirect influence on the quality of the wetland and those organisms that depend on the wetland. This area, known as "Upland Review" areas may vary in shape and size. Connecticut does not employ a simple buffer method around wetlands. Connecticut employs a flexible approach whereby areas or activities, regardless of their distance from a wetland, may be regulated if such area or activity may adversely influence the wetland.

#### Recreational Space

Union has an abundance of natural areas to easily serve the future needs of any natural resource based recreation (hiking, biking, fishing, hunting, etc.). Outdoor recreation activities (hunting, fishing, hiking, biking, and snowmobiling) abound in the Town. This attracts many persons outside of the Town on a year-round basis. There may be needs for organized recreational activities (soccer, baseball, tennis, etc.). There are a variety of methodologies used to calculate future recreational resource needs. The current Town Open Space Plan references several. Additionally, the Town may require an open space set-aside when subdivisions are proposed as a means of addressing the recreation/open space needs generated by that development.

#### Protecting Open Space

In 1963 the General Assembly created a new law that allow farm, forest, and open space properties to be taxed at their use value as opposed to their market value. Public Act 63-490,



## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

It is hereby declared

1. that it is in the public interest to encourage the preservation of farm land, forest land, open space land and maritime heritage land in order to maintain a readily available source of food and farm products close to the metropolitan areas of the state, to conserve the state's natural resources and to provide for the welfare and happiness of the inhabitants of the state,
2. that it is in the public interest to prevent the forced conversion of farm land, forest land, open space land and maritime heritage land to more intensive uses as the result of economic pressures caused by the assessment thereof for purposes of property taxation at values incompatible with their preservation as such farm land, forest land, open space land .... Sec. 12-107a. Declaration of Policy

Use Value Assessment law addresses the classification of land as open space, farm, and forest land. The three categories are administered differently. The forest designation has a minimum requirement of 25 acres and certification by the State Forester. The farm designation is contingent on meeting six criteria - evaluated by the town assessor. The open space designation is predicated on the town's planning commission. The statute (Section 12-107e) "the planning commission of any municipality in preparing a plan of conservation and development for such municipality may designate upon such plan areas which it recommends for preservation as areas of open space land, provided such designation is approved by a majority vote of the legislative body of such municipality." Currently, Union extends the open space designation to any property over the three acre minimum lot size established for residential use.

# Natural Data Diversity Data Base

## Legend

— NDDB Locations



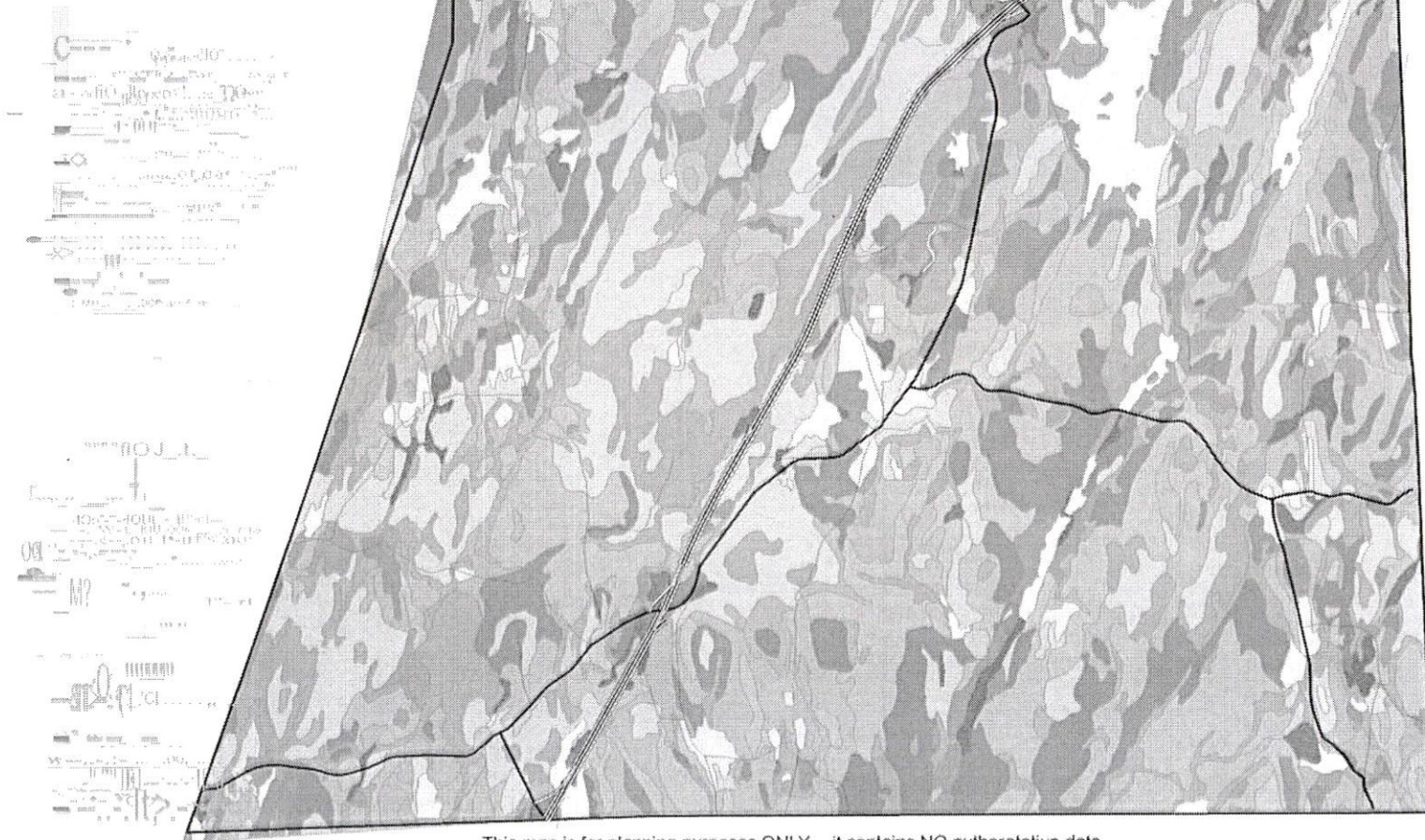
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Source: NECCOG and Connecticut Department of Environmental Protection



## Soils



This map is for planning purposes ONLY -- it contains NO authoratative data

## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

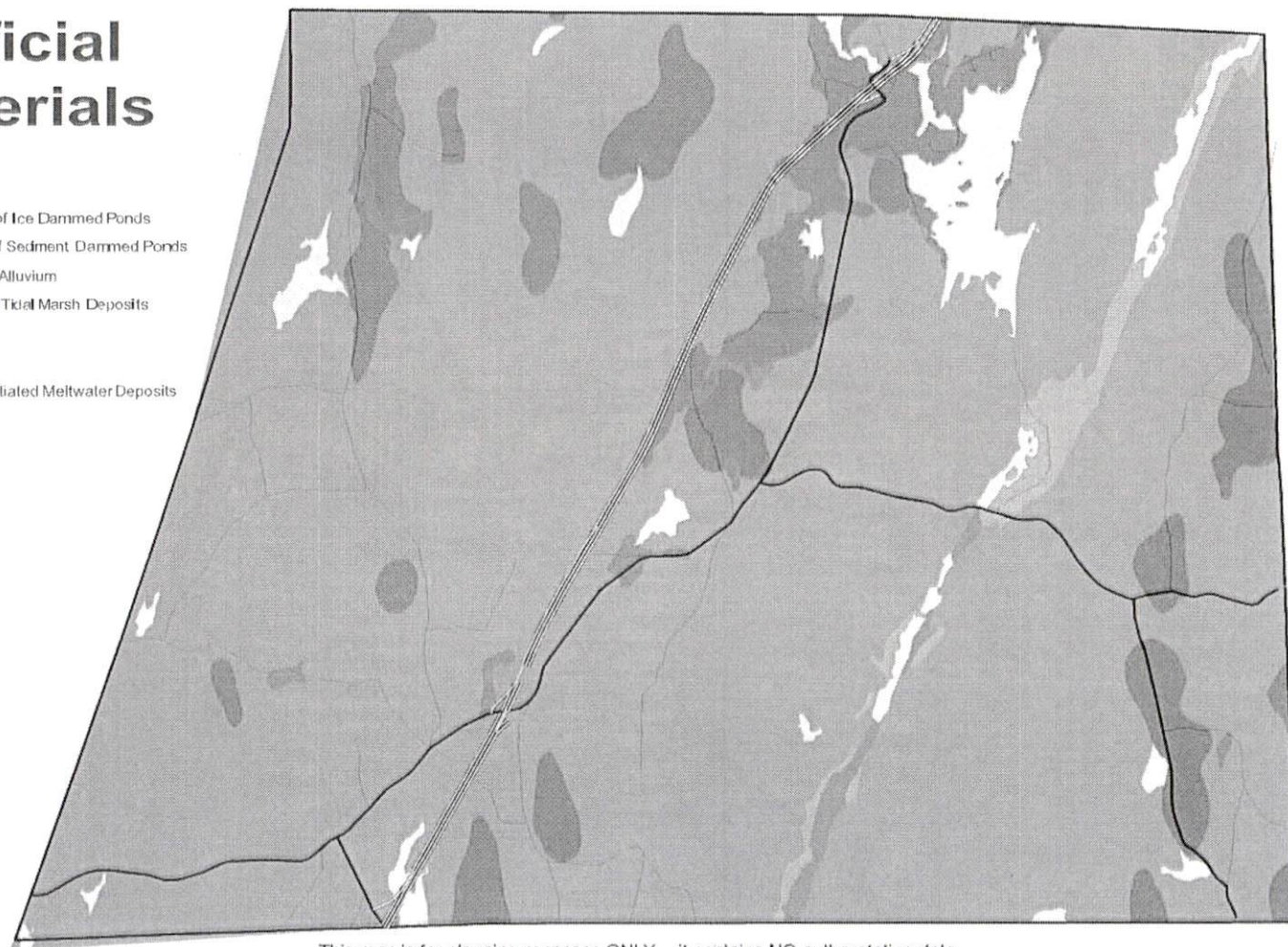
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Source: NECCOG and Connecticut Department of Environmental Protection

## Surficial Materials

### Legend

- Deposits of Ice Dammed Ponds
- ..... Deposits of Sediment Dammed Ponds
- Floodplain Alluvium
- Swamp or Tidal Marsh Deposits
- Thick Till
- ..... Till
- ..... Undifferentiated Meltwater Deposits



This map is for planning purposes ONLY -- it contains NO authoritative data



Source: NECCOG and Connecticut Department of Environmental Protection



## Ag Soils

### Legend

- IMPORTANT FARMLAND SOILS
- PRIME FARMLAND SOILS



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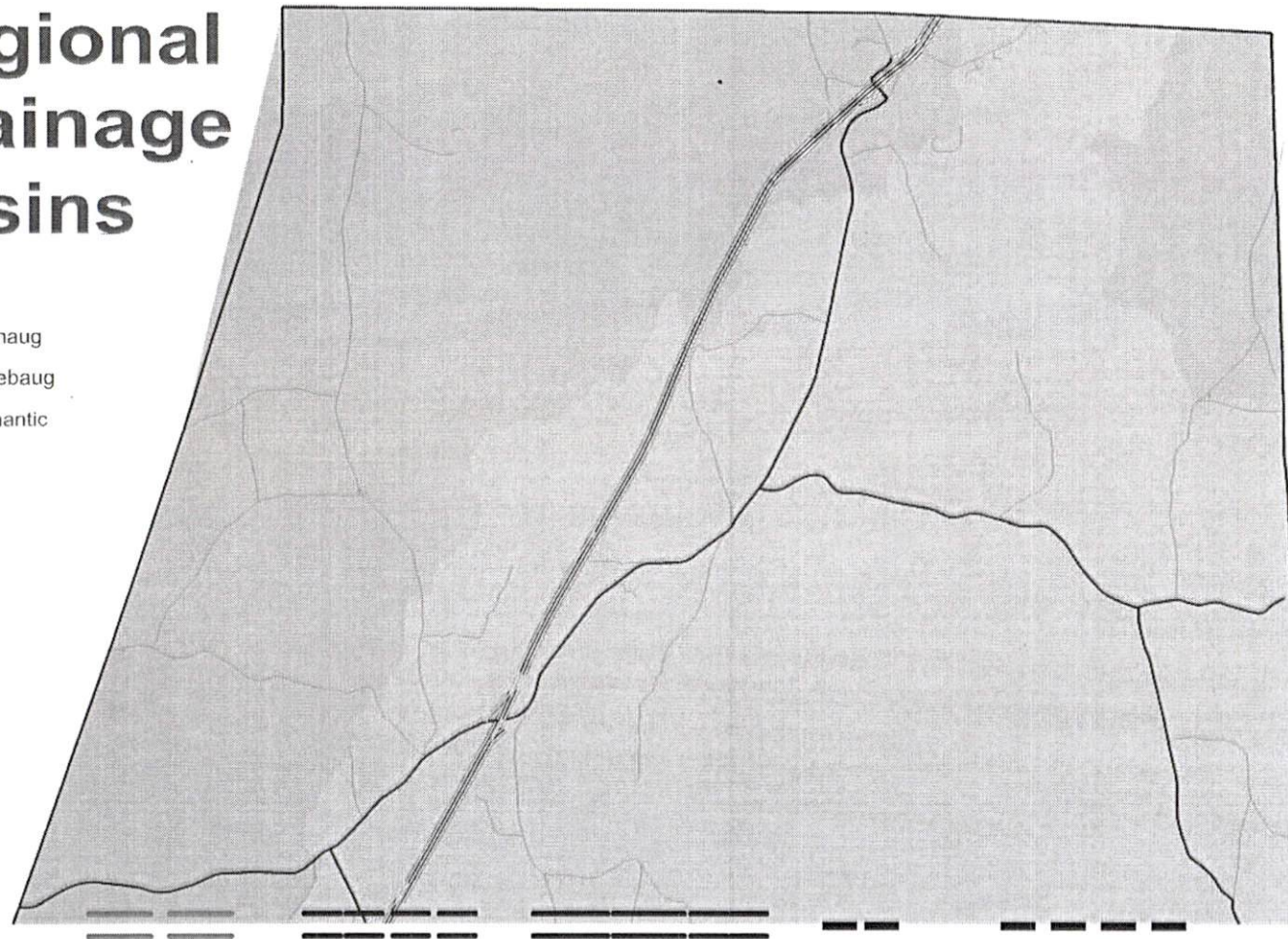
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Source: NFCCOG and Connecticut Department of Environmental Protection

# Regional Drainage Basins

## Legend

- Natchaug
- Quinebaug
- Willimantic



This map is for planning purposes ONLY—it contains NO authoritative data

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## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

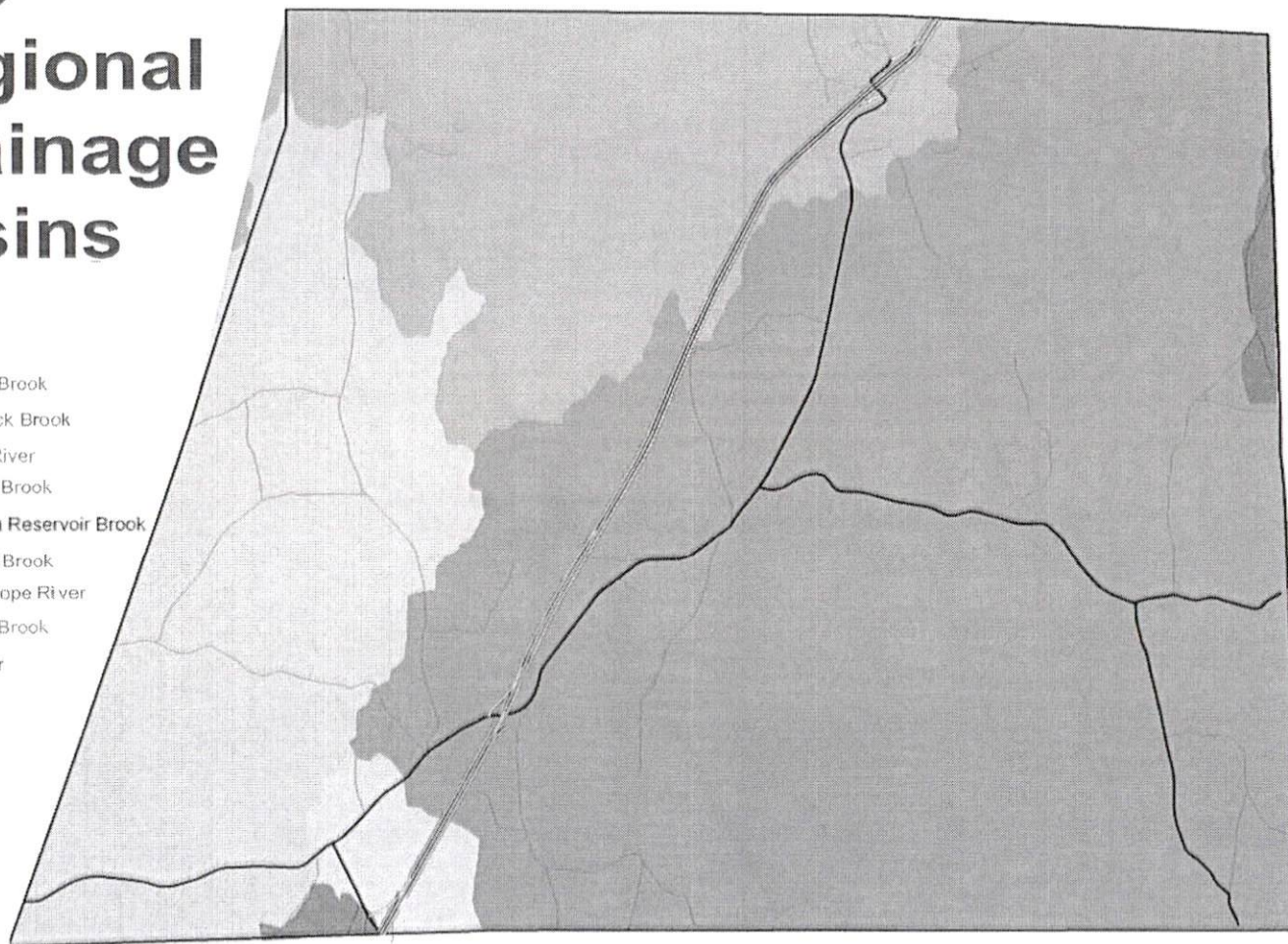
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# Sub Regional Drainage Basins

## Legend

- Bigelow Brook
- Breakneck Brook
- Fenton River
- Furnace Brook
- **Hamilton Reservoir Brook**
- Littleton Brook
- Mount Hope River
- Roaring Brook
- Still River



This map is for planning purposes ONLY -- it contains NO authoritative data

0 0.5 1 2 Miles

Source: NHCTOG and Connecticut Department of Environmental Protection

# Dams

## Legend

— Dam Locations and Name



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This map is for planning purposes ONLY --it contains NO authoritative data

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## Union, Connecticut - Plan of Conservation and Development, 2020 – 2030

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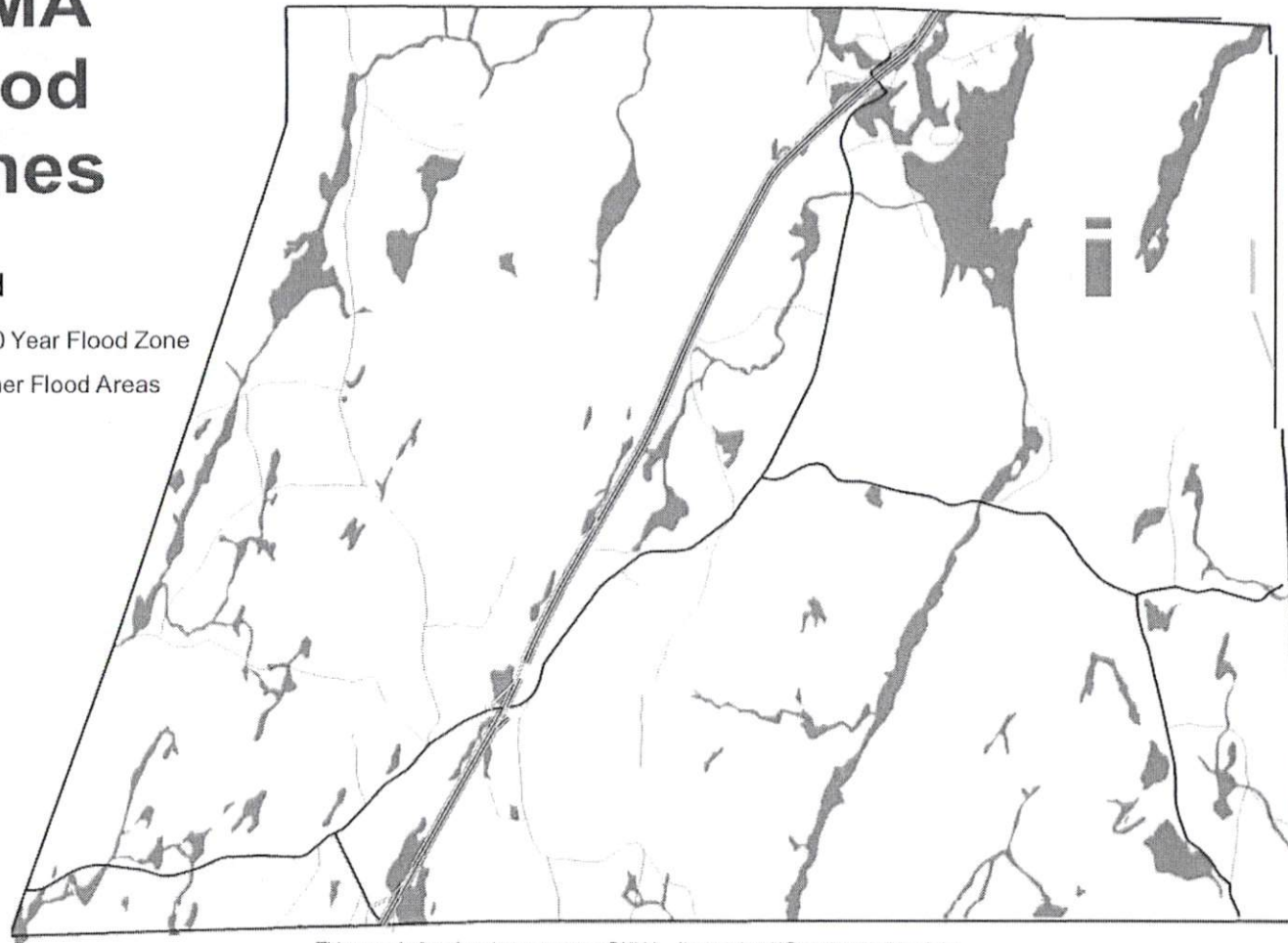
Sources: NECCOG and Connecticut Department of Environmental Protection



# FEMA Flood Zones

## Legend

- 100 Year Flood Zone
- Other Flood Areas



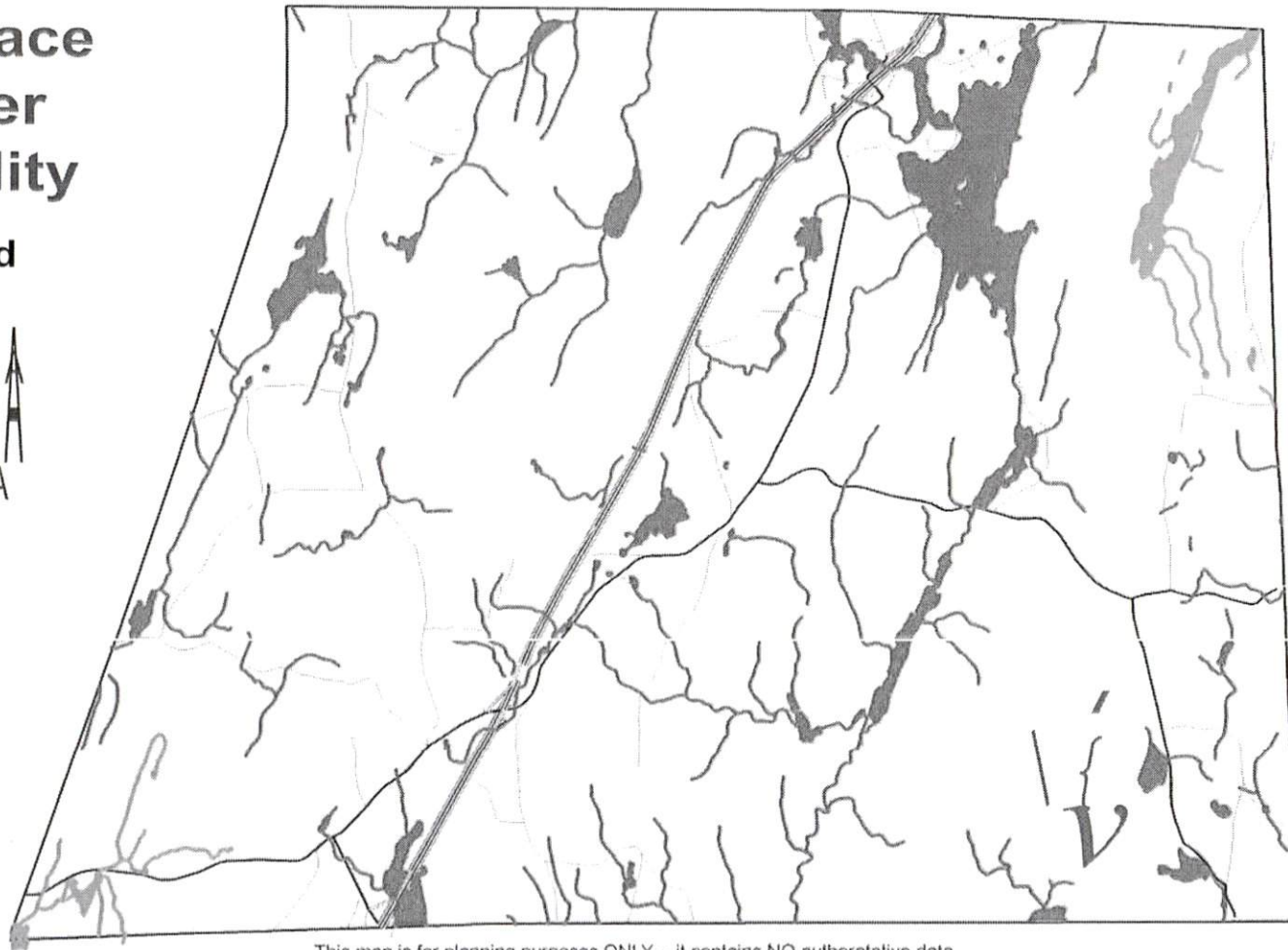
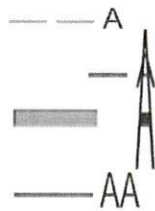
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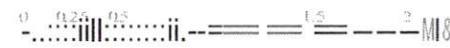
Source: NECCOG and Connecticut Department of Environmental Protection

## Surface Water Quality

### Legend



This map is for planning purposes ONLY -- it contains NO authoritative data



Source: NECCOG and Connecticut Department of Environmental Protection

## Groundwater Quality

### Legend

#### Groundwater Quality

GA

GAA, GAAs

ToGA, GAA



This map is for planning purposes ONLY -- it contains NO authoritative data

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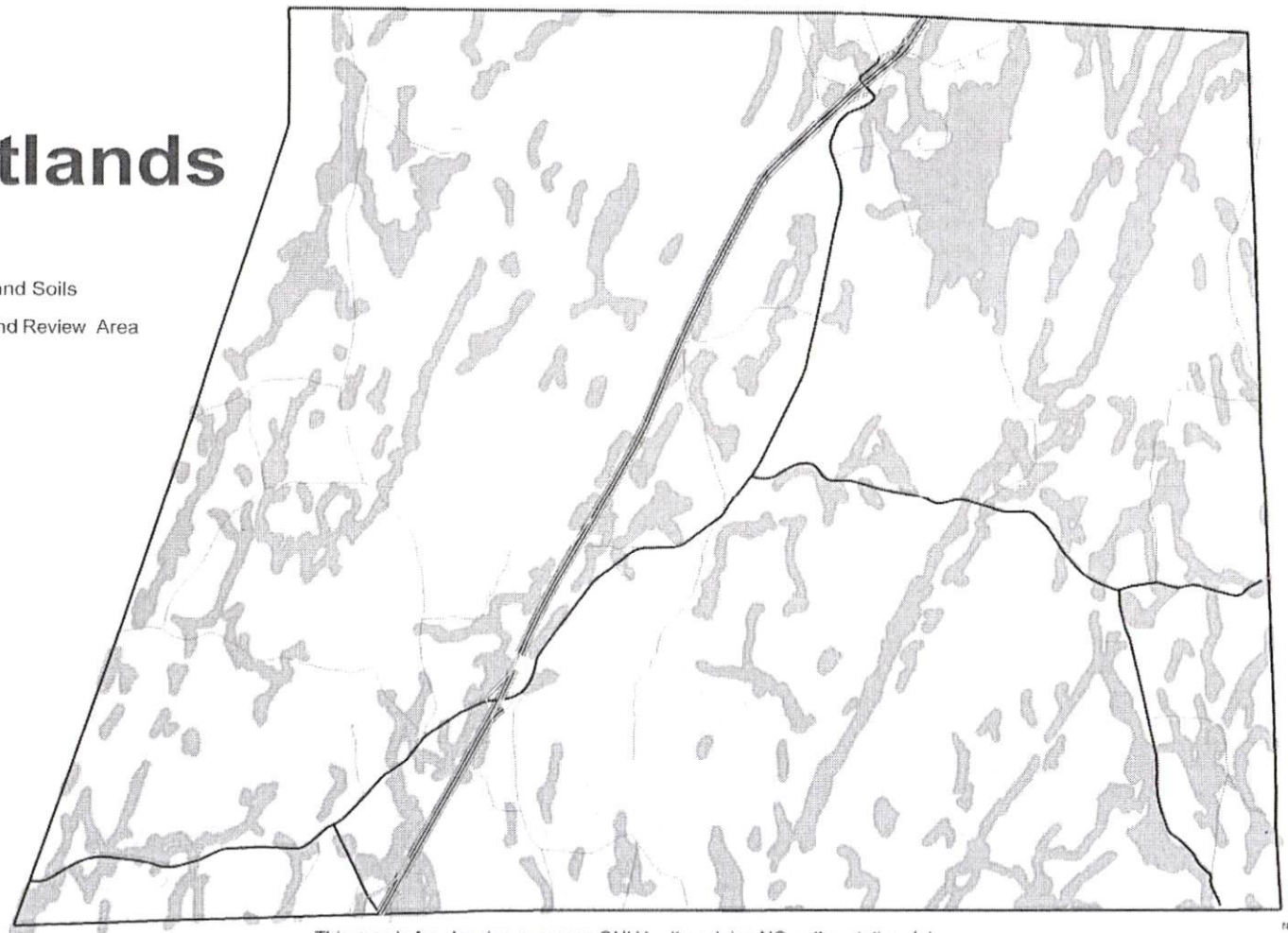
Source: NECTOG and Connecticut Department of Environmental Protection



# Wetlands

## Legend

- Wetland Soils
- Upland Review Area



This map is for planning purposes ONLY -- it contains NO authoritative data

0 0.25 0.5 1 1.5 2 Miles

Source: NECCOG and Connecticut Department of Environmental Protection

## Roads and Infrastructure

Union, like most communities (especially rural ones) is auto dependent. During the next ten years this will not change. Accordingly, maintaining the Town's road network in a safe condition is a primary objective. As of December 31, 2008, Union contained a total of 43.18 miles of maintained roads. The State maintained 19.46 miles of these roads (45 percent of the total) within the Town and the Town maintained 23.72 miles of road (55 percent). Other than drainage systems related to the Town's roadways, Union does not have any public sewers or any public water supplies. The prospect for either is remote and many residents expressed their strong desire not to allow such infrastructure in the future. The reason for this opposition is that such an introduction of infrastructure would accelerate development incompatible with the rural character of the Town.

The Town's road system and other infrastructure items are managed by the Public Works Department. Funds for road projects are primarily from State and Federal sources: Town Aid Road (TAR) program, State Economic Assistance Program (STEAP), and the Federal Collector Program. TAR funding levels dropped significantly from the 2000 fiscal year to the 2003 fiscal year. While funding for roads now has improved, road improvement options are limited to routine maintenance and limited upgrades. Costs to reconstruct a road can range up to \$150,000 per mile depending on the type of work required. The challenge for the Town, through the Public Works Director, is to earmark funds where they will gain the most benefit for the Town. The Town has decreased its investment in the Public Works Department. The majority of that reduction came from the road maintenance portion of the Public Works budget. The other line items have remained static. The Town currently has two full-time persons and secures seasonal (snowplowing and mowing primarily) help on a part-time basis. The Public Works Director, in addition to administrative duties is a working supervisor. Five years ago, the Town had three full-time workers (including the Director). The size of the staff and the overall budget are comparable to other towns in the region. The Public Works Department has responsibility for the following:



- Town Road Management: This includes mowing and brush cutting along Town rights-of-way, replacing/repairing signs and fences, plowing in the winter and sweeping in the spring, patching potholes as needed, installation of drainage, cleaning catch basins, removing road kill, cleaning and repair as the result of storm damage, and the



maintenance of equipment related to road maintenance. Currently, the Department has three dump trucks, one pick-up truck, a backhoe, a roadside brush chipper, mowing equipment, and various other smaller tools to complete their tasks. The Public Works Department does not itself build or do major reconstruction of Town roads; most of this work is subcontracted by the Town to private contractors. However, the Department is responsible for the investment strategy that decides where funds are invested. The Department, through its Director, is responsible for coordinating with Town contractors for such things as road construction, oiling, and catch basin cleaning. The Department will do some drainage work related to these projects as well as other related work as a means to save monies for the Town.

- Public Buildings, Grounds Maintenance and other Duties: Transfer Station: Public Works duties include plowing/sanding and cleaning the facility, mowing and trimming grassed areas, removal and hauling of materials (cardboard bales, batteries, and tires) in coordination with the contractor, repairs to equipment in coordination with contractor, and covering shifts when the operator is unavailable. Town Office, Public Works Building, Library, Historical Building, Town Grove, and four cemeteries: Public Works duties include plowing and sanding, mowing and trimming (including baseball and soccer fields at the school), digging and setting of foot or headstones, general maintenance of equipment, moving furniture, changing light bulbs, broken windows, etc....
- Driveway Permits: The Department issues driveway permits for all Town roads.
- State Reporting: All required State reports for roads and the Transfer Station are prepared and submitted by the Public Works Department.
- OSHA Compliance: The Department must ensure that all activities are compliant with State and/or Federal rules to protect both the public and the employees.
- Budget Preparation and Administration: Department (through the Director and in coordination with the First Selectman) is responsible for the preparation and administration.

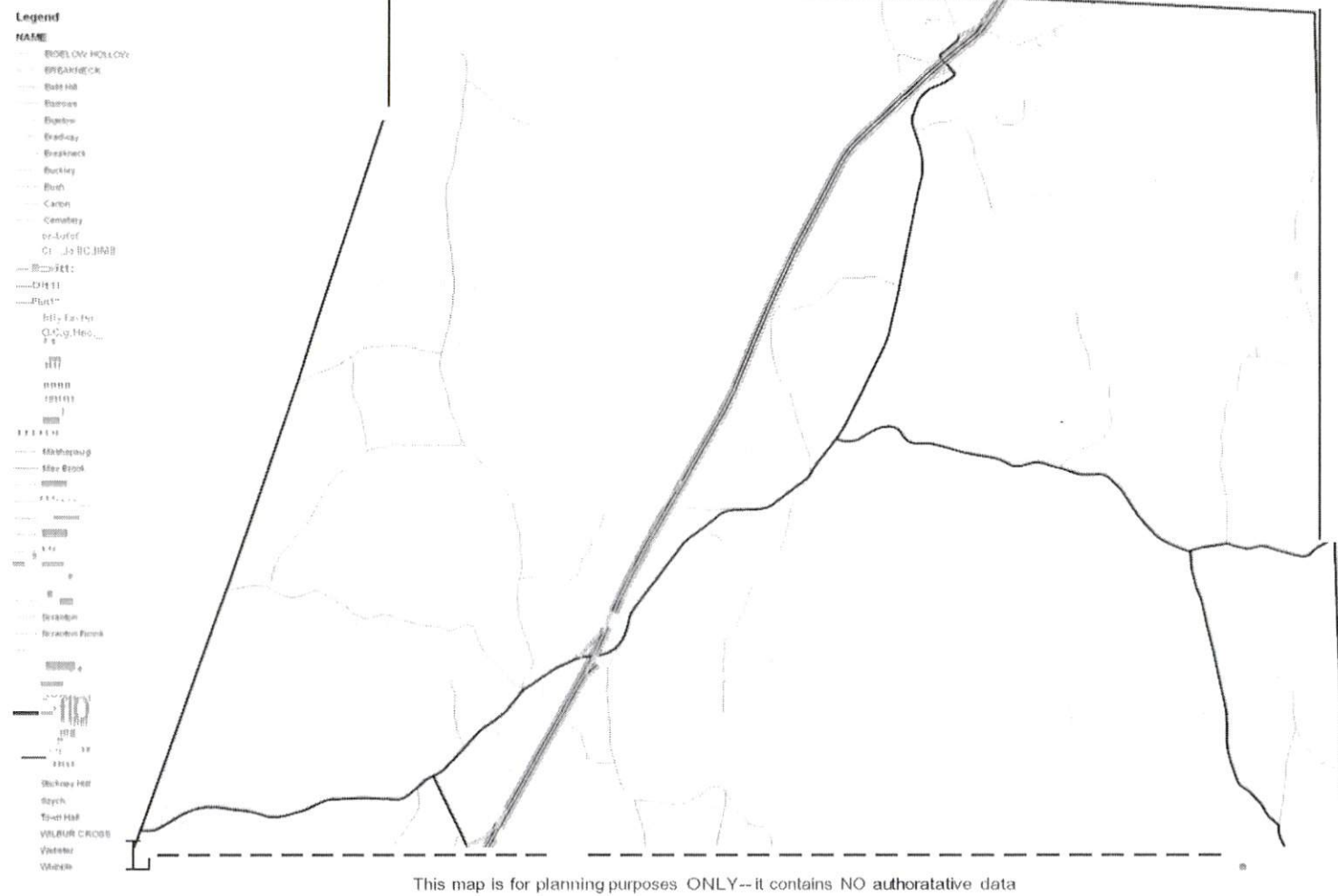


- Grant Procurement and Administration: The Department (through the Director and in coordination with the First Selectman) seeks assistance through available funding sources. If secured, then the Department is responsible for their proper usage and reporting.

Union is bisected by Interstate 84 and approximately 11 miles from the Massachusetts Turnpike (Interstate 90). The Town is within reasonable distance to the major population centers of New England: 45 miles from Springfield, MA, 33 miles from Hartford, CT, 30 miles from Worcester, MA, and 68 miles from Boston. Many of the Town's residents commute to work from Union to one of these locations. The Town also hosts hundreds of daily commutes through the Town as persons use the Town as a short-cut to Interstate 84 and back on a daily basis. All of which places additional burden on the road system.

Union has easy access to Bradley International Airport for air travel. Residents may also access airfields in Worcester, Providence, and Boston. Passenger train service is available in Hartford and Worcester; making access available to the Boston and New York metro areas.

## Streets



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Source: NECOG and Connecticut Department of Environmental Protection.

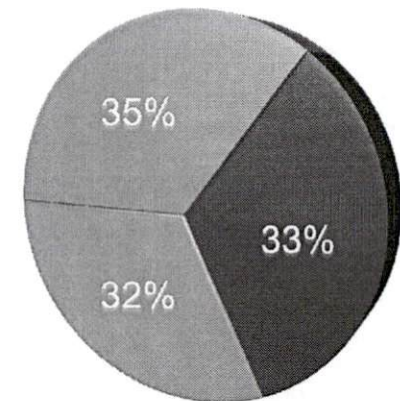
## Education

Education is a fundamental responsibility for Union. The town is mandated to supply elementary and secondary education for its residents. This charge is the most expensive obligation of the Town. Total Town expenditures per pupil for PK-12 based upon the (2007-2008) Strategic School Profile are 13,118. Expenditures for the Elementary School are \$11,628 compared to the state average of \$12,151.

The Union School provides K-8 elementary and middle school education for the town's residents. Stafford High School, Woodstock Academy, Windham Vocation Technical School, the Rockville VoAg program and the ACT magnet school provide secondary and vocational education options. The Town also provides required Special Education services to Special Needs students on an as needed basis. The Union Elementary School is fully integrated with the latest in computer technology ensuring students and staff ready access to a range of education options. Enrollments have been consistent between 70 to 80 elementary students. However, secondary enrollments have gone from 22 in 2002-3 to 39 in 2006-07. Total enrollments anticipated to be at or near 125 students (k-12). The Town completed a new school in 2010 that should meet the education needs of the Town for the future.

The Town consistently out performs students in other school systems on the Connecticut Mastery Test. The Town is also within fifty –miles of 30 colleges and universities including the University of Connecticut at Storrs.

Educational Attainment



- High School Graduate
- Some College
- Bachelors or More



## Economics

Union's economic well-being, like other municipalities, is tied to that of the State, Nation and World<sup>14</sup>. The primary purpose for the pursuit of economic development is to lower the tax burden -- especially for residential tax payers - which make up the majority of the property tax revenue in Union. The 2009-10 Mill Rate (a mill is equal to \$1.00 of tax for each \$1,000 of assessment) for Union was 22.63.

Compared to other Connecticut towns (using an equalized mill rate) Union ranks 30th with an equalized mill rate of 11.36 (2005-06). The tax burden per capita (\$2,255) ranks 65th highest in 2008. The average per capita tax burden for the state in 2008 was \$2,308. The goal, in short, is to grow the Grand List.

The money Union raises by taxing real estate, motor vehicles and business equipment toward general government operations, transportation, education and other services forms the town's "Grand List." The grand list is a compilation of all the taxable property in the town. The equalized mill rate (Towns set their tax rates in mills. Each mill equals \$1 in taxes for

Tax Burden for Median Household by Town

Town	Households	Median Household Income	Median HH Property Tax Burden	Median HH Federal Income Tax Burden	Median HH State Income Tax Burden	Median Sales & Use Tax Burden
Union	316	66,217	3,367	9,829	2,767	1,208
CT	1.33 million	67,236	na	8,021	1,758	na
Ashford	1,693	62,055	3,781	8,697	2,763	1,208
Eastford	676	64,437	3,187	9,523	2,912	1,208
Stafford	4,803	61,104	3,185	8,312	2,694	1,208
Willington	2,540	59,410	3,236	7,982	2,634	1,208
Woodstock	3,103	63,538	3,003	9,154	2,845	1,208

source: DECD

<sup>14</sup> This plan does not attempt to speak to the larger economic issues beyond the control of the Town. The focus is on what Union can do to enhance its economic well-being as a means to develop compatible businesses/jobs and ease the tax burden on business and homeowners.

every \$1,000 in assessed property), is a way to measure a community's tax burden and compare it to other towns in Connecticut. The equalized mill rate is derived from the most recent available grand levy (total taxes generated) of a town divided by the equalized net grand list (real estate, business equipment and motor vehicles) on which such levy is based. The higher the equalized mill rate, the higher the town property tax. Property values are updated on a five year basis. The process is called "Revaluation" and is mandated by State statute. The Town's last revaluation occurred in 2008.

The Town, under its zoning regulations, provides significant flexibility and opportunity for business development. Along with the three specific economic development zones (Retail Trade, Commercial/Industrial, and Special Development) the town provides a range of opportunities for commercial ventures within the Rural Residential Zone for Rural Industries. Section 3.09 of the Regulations states, in part: "The purpose of these regulations [Rural Industries] is to provide economic opportunities in rural areas by permitting the operation of small businesses and industries which, because of their limited size, large setbacks, sidelines and open space requirements, will be capable of existing in otherwise residentially zoned areas without any adverse affects on the quality of life, environment, aesthetic values and property values in such areas <sup>15</sup>." In the case of a Rural Industry, the minimum lot size is five acres - compared to three acres for a residential structure (which might also be a home occupation. In both the Retail Trade Zone and the Commercial/Industrial Zone no single building is allowed to exceed square feet in size. Currently (2009) the Town contains 15 businesses - employing 154 persons (68 of these persons are Union residents). While Union does not have a large number of businesses, these include real estate, restaurants, and specialty services. Many businesses are home-based and look to be just homes. All the surrounding towns have residents who work in Union. These range in size from one employee to several employees. The Town has no large (50 or more employee) business. In August 2008 the Town's total work force was 475 with 460 person's employed and just 15 unemployed (3.2 percent). In February 2010 the Town had a workforce of 481 persons with 447 employed and 34 persons unemployed -- which translates to an unemployment rate of 7.1 percent. This compares to Connecticut's 9.1 percent unemployment rate and the nation's 9.7 unemployment rate for February 2010.

Equalized Mill Rate, 05-06		
Town	Equalized Mill Rate	State Rank
Union	11.36	30
CT Median	14.15	--
Ashford	17.92	146
Eastford	14.76	97
Stafford	16.2	127
Willington	14.85	99
Woodstock	10.77	27
Greenwich	4.72	1
Waterbury	27.89	169

<sup>15</sup> Section 3.09.01, Town of Union Zoning Regulations



Collectively, the Town's businesses contributed less than 10 percent to the Town's Grand List. Total retail sales in Union has been in decline. In 2006 retail sales totaled just over 3.3 million dollars. Compare this to retail sales in 1997 of \$4.4 million and \$7.2 million in 1995. Most of the people that are employed outside of the Town are employed in Stafford (40) -- this is followed by Mansfield and Hartford with 23 each. While the Town may lack a bank, medical services, supermarket, fast food or gas -- these are each readily available in most of the neighboring towns. During this plan's development a recurring point was that the town should encourage business so long as it respects the special character of the Town. Due to the Town's small population base and need to provide a range of public services it is important that the Town find ways to diversify its Grand List as a means of minimizing the tax burden on its residents.

A key economic strength of Union is location. The Town has easy access to the major economic/population centers in New England and the Northeast -- including transportation resources (air, rail, and roadway). The Town is in proximity to the Massachusetts Turnpike (I-90) - a major east-west connection. However, making potential patrons of Union businesses aware of their existence is a challenge on the interstate system. One suggestion made during the Plans development was to locate a welcome/information center near or at Exit 74. Many states (notably Vermont) have such centers which can enhance awareness of local business. Interstate 84, which handles more than 18 million vehicle trips per year, bisects the Town and has three interchanges (Exits 72, 73, and 74). While the three interchanges have significant limitations due to natural resources (primarily wetlands) there are lands that could be developed in and around these sites.

- Exit 72: On the Ashford Line in the southern end of Town Exit 72 intersects with Route 89 (just south of Route 190) currently has a limited amount of commercial activity.

I-84 Traffic

Exit	Average Daily Traffic	Annual Average Traffic
72	50,500	18,432,500
73	50,300	18,359,500
74	51,500	18,797,500

Town Proximity

Place	Distance
Hartford	33 miles
Worcester	36 miles
Springfield	45 miles
Providence	62 miles
Boston	68 miles
Albany	123 miles
New York	148 miles



- Exit 73: This interchange has the greatest number of limitations in the immediate vicinity of the interchange with Route 190. However, lands to the east and west of the interchange along 190 toward Stickney Hill Road and Barrows Road may offer opportunities for development.
- Exit 74: Just south of the State line with Massachusetts, this interchange has had the most development and appears to have the most potential for additional development. Currently, a potential travel center project, located primarily in the town of Holland may bring more activity to Exit 74. However, what direct benefits to Union or unintended consequences are not known.

Another potential area for commercial development may be along Buckley Highway (Route 190) between Kinney Hollow Road and Cemetery Road. This area is the historic center of the Town and is well traveled by residents and persons using Route 190 to get to Interstate 84. Given the historic nature of the area guidelines would have to be used to ensure compatibility with existing uses and the historic aspects of the center. The average daily traffic count for this section of roadway is about 2,500 (17,500 per week or 910,000 per year).

Union is home to a number of agricultural enterprises. These include dairy farming, seed production/distribution, Christmas trees, goat products, and forestry. Residents clearly want agriculture to be part of the Union landscape and economic profile. Of special note is the remaining dairy farm (Bradway's) located on the western side of town. Dairy farming is land intensive and unique in its economics. Dairy farmers do not operate in the normal market place. The price they receive for the milk they produce is regulated by a national pricing system. The price paid for a gallon of milk has little relation to the farmer and their price to produce that gallon of milk. In Connecticut, the price paid to farmers is at or below what it costs to produce. That system has failed for years to provide a fair rate of return for our local farmers -- resulting in more than a fifty percent reduction in the number of dairy farms in Connecticut during the past 15 years. In response to this the General Assembly enacted a new law in 2009 specifically to assist dairy farmers with a financial supplement for milk produced. The

Business Profile, 2008

Sector	Establishments	Employment
Agriculture	9.1%	10.7%
Construction and Mining	18.2%	17.9%
Manufacturing	9.1%	10.7%
Trade	45.5%	50%
Finance, Insurance and Real Estate	9.1%	10.7%

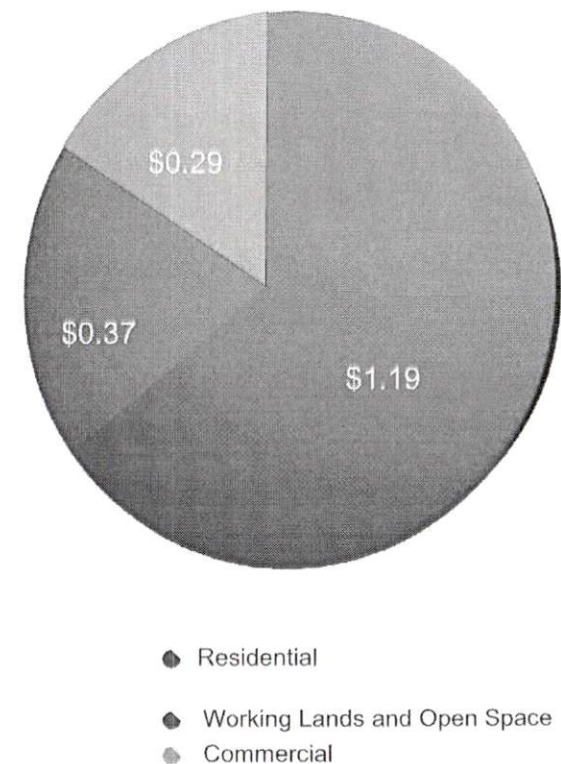
Source: DECD

Town's vast forest resources provide ongoing economic activity and much potential. This not only includes raw products, but value added products such as flooring, saw dust, pellets, and furniture blanks.

During the preparation of this plan it was suggested, due to the unique geography of the Town, that Union may be a candidate for a wind energy project. This suggestion came from a representative of Yale University. Apparently Yale has conducted some preliminary research that indicates that a wind turbine system could operate efficiently and effectively in Union. The reason for this has to do with the elevation of Union compared to surrounding areas. Union is higher than any town in the region. The economic opportunities for the Town are significant if such a project could be realized.

A significant part of the Town's economic well being relates to working lands (farm and forest production) and open space. The cost of providing town services is substantially less for these lands. This data shows clearly these differences and the reason for maintaining lands in farm, forest, or open space. "While it is true that an acre of land with a new house generates more than an acre of hay or corn, this tells us little about a community's bottom line. In areas where agriculture or forestry are major industries, it is especially important to consider the real property tax contribution of privately owned working lands. Working and other open lands may generate less revenue than residential, commercial or industrial properties, but they require little public infrastructure and few services.<sup>16</sup>" Union, because of its extensive working lands and open space, coupled with natural resource (wetlands, floodplains, ledge, etc.) has a great deal of limitation on growth. However, those same limitations work to hold down municipal service related expenses.

Cost of Community Services



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<sup>16</sup> Cost of Community Services Study, American Farmland Trust, 2005



## Future Land Use

The Union Future Land Use Map, shown on page 58, illustrates the desired pattern of land uses. The map uses the same categories as that used by the state in their plan of conservation and development Locational Guide Map. Descriptions of each land use category are provided in Appendix A. The map found on page 57 shows areas with development constraints. This map clearly demonstrates that the Town has significant limitations on future development (residential and/or commercial). Much of the land in Union either cannot be developed or has severe development constraints. These constraints include lands owned by the State (Natchaug Forest), institutional lands (Yale Forest), water resources (including wetlands), steep slopes, rights-of-way, and generally poor soil conditions not conducive for development. The reality of the landscape was one of the reasons the Town was the last town to be formed in eastern Connecticut. Today, the landscape coupled with the large areas of lands in either state or institutional ownership is why the Town has the smallest population in the State. There simply is not much available land for development (of any type) to take place.

The limitations on development has a direct correlation on the number of homes that might be built in the Town. This includes affordable housing units. The lack of developable lands also limits economic diversification. Development limitations do ensure that one of the most rural parts of Connecticut remains undeveloped. This reality is positive for wildlife, plants and other natural resources that are scarce throughout much of the State.

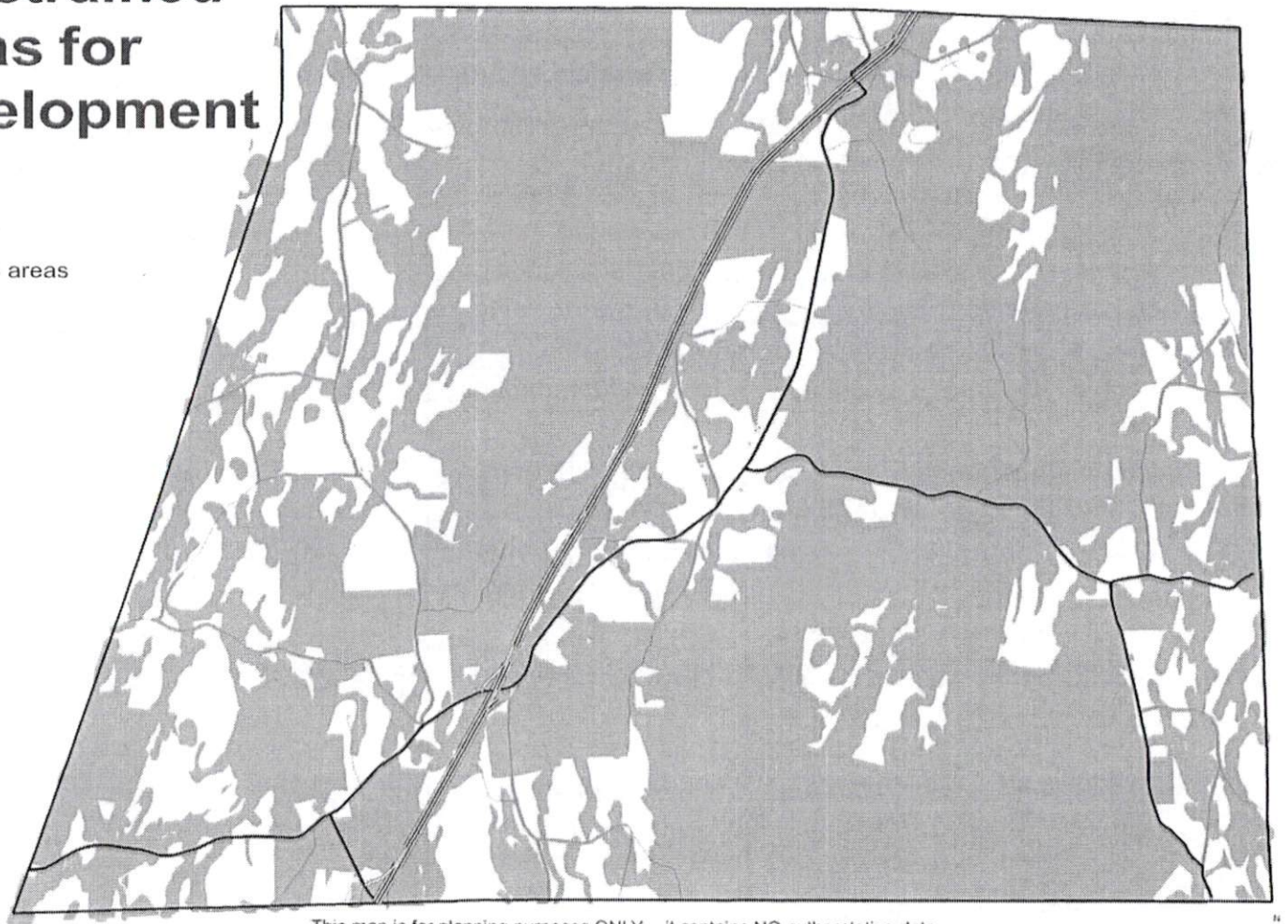
The map (page 58) shows that the state's vision of the Town's future development differs little from that of the Town. There are two differences between the two plans:

- The Union Plan shows the Yale-Meyers Forest and Boy Scout Camp as "Institutional/Non-Profit Lands" where the State shows these lands as "Existing Preserved Open Space." Neither land holding is permanently protected and have the potential to be developed. Accordingly, the Town believes that they should be shown in a more accurate state.
- The current State Plan shows no areas within the Town as "Growth Areas." Union believes that the areas in and around the three interstate interchanges are appropriate places for commercial growth. This is especially true for those lands associated with Exit 74. This plan makes no suggestion as to the type of growth that might take place at these locations. However, given the current character of the Town, abundance of natural resources and the approaches taken

## Constrained Areas for Development

### Legend

constrained areas



This map is for planning purposes ONLY -- it contains NO authoritative data



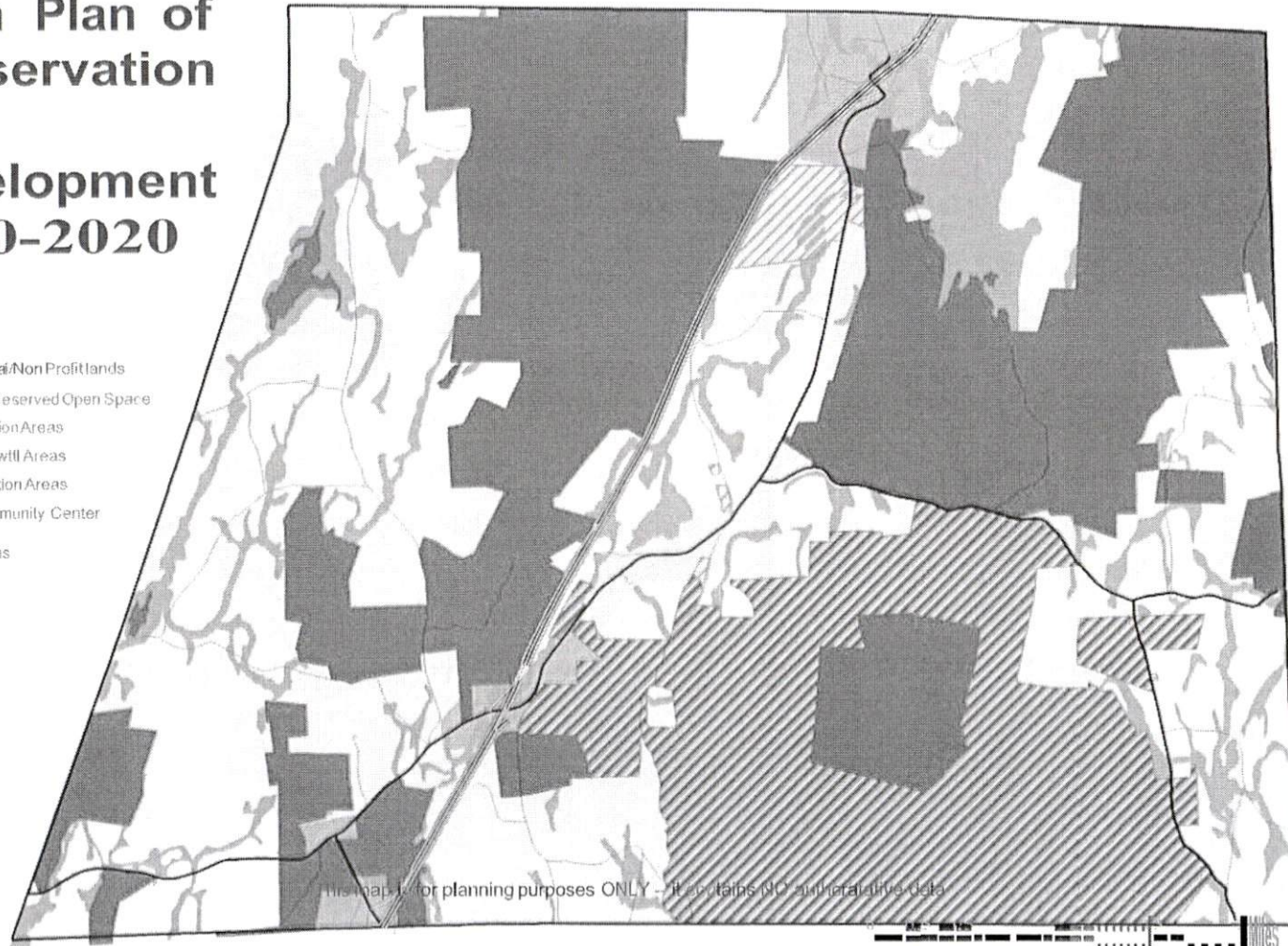
Source: NECCOG and Connecticut Department of Environmental Protection



## Town Plan of Conservation and Development 2010-2020

### Legend

-  Institutional/Non Profit lands
-  Existing Preserved Open Space
-  Preservation Areas
-  Town Growth Areas
-  Conservation Areas
-  Rural Community Center
-  Rural Areas





in the current zoning regulations (i.e. size limitations for structures) much care should be given to ensure that development does reflect the values of Union.

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## Goals, Objective, and Policies/Strategies

The goals, objectives, and policies/strategies of the Plan serve as guidelines and actions for directing future growth and planning in the Town. These guidelines are broad enough to cover all major planning areas, but are specific enough to guide and evaluate the progress of the plan.

- Goals establish the general, long-term desired policies/outcome that, if implemented, will preserve the positive aspects of the Town and improve those aspects that are less desirable.
- Objectives are the short-term policies/actions which, if achieved, will serve to implement the long-term goals. Objectives are specific, measurable, achievable and politically, legally, and financially feasible.
- Policies/Strategies describe “how” the desired outcome will be achieved. They correspond directly to the objective they serve.



## Natural Resources

### Goal:

The continuance of the unique natural characteristics of the Town that contribute to the Town's identity and quality of life of its residents.

### Objectives:

- Minimize development impacts that could affect the water quality and habitat of lakes, ponds, streams, floodplains, and wetlands.
- Protect the wildlife habitat in the Town and strive to enhance the natural diversity of the Town's plants and animals.
- Require the setting aside, as permanent open space, lands located in critical areas of Town which would serve the needs of future generations for outdoor passive and active recreational opportunities
- To protect marginal lands from uncontrolled development
- To conserve and protect environmental and ecological assets encompassed in Union's inland wetland and watercourses
- To approve or consent to tax concessions to prevent unwarranted runaway development upon undeveloped lands

### Policies/Strategies

- The outright purchase of lands with open space or conservation potentials in terms of future community goals, needs and interests.

- The acquisition of open space or conservation lands through subdivision open space set-aside option and consideration of cash in lieu of open space to place in a special fund to acquire desirable open space
- The acquisition of open space or conservation easements when such actions will protect/enhance natural resources
- The full use the so-called 490 Program (use-value assessment) for farm, forest and open space. Specifically, the open space provision should cover all lands over the minimum lot size.
- Promote sustainable development practices, in coordination with the University of Connecticut Cooperative Extension System and other agencies, including but not limited to low-impact development techniques for stormwater management
- Pursue regional solutions for the protection of natural resources, such as streams and groundwater aquifers that cross municipal boundaries.
- Encourage land owners to voluntarily restrict the development potential of property through grants of conservation easements, rights of first refusal to the town or other appropriate protections in areas designated for open space uses such as agriculture and resource conservation.

## Historic and Cultural Resources

### Goal:

The maintenance and preservation of the historic and/or cultural structures and sites that contribute to the Town's heritage and help to define its character.

### Objectives:

- The proper maintenance and continued integrity of historic resources including structures, documents and landscapes.
- The nomination and listing of qualified historic resources on the State and/or National Register of Historic Sites.
- Increase community support for historic preservation

### Policies/Strategies

- Consider modification to Subdivision and Zoning regulations to include a comprehensive archeological review and all available measures, including purchase of archaeological easements, dedication to the Town, tax relief, purchase of development rights, consideration of reasonable project alternatives, etc., should be explored to avoid development on sensitive archaeological sites.
- Continue to survey, document and evaluate historic and potentially historic resources for designation, recognition, and protection
- Modify the Town Library to meet ADA requirements
- Work with the historical society encouraging the adaptive use of historic buildings



- Additions or alterations to historically significant structures should conform to the style and period of the initial construction as much as possible. Development of adjacent properties should be encouraged to be sympathetic to listed historic sites by acknowledging and including historic forms, materials, and architectural details in their design.

## Transportation

### Goal:

A safe and efficient road system that addresses current and future needs of the Town.

### Objectives:

- Prioritize needed road and intersection improvements and create a Town road improvement program to address identified maintenance and safety issues.
- Full use of available state and federal funding
- New and existing roads in the Town are designated, designed, and maintained according to their appropriate functional classification.
- Minimize the impact of new transportation improvements on existing development and natural resources

### Strategies/Policies:

- Conduct an inventory of all pavement in terms of condition and utilize the "Best First" approach as suggested by the University of Connecticut Transportation Institute
- All Town Public Works personnel will become certified through the Connecticut Transportation Institute Road Master Program and attend training as available resources allow
- Road improvements and new road alignments will be designed to avoid or minimize disturbance to identified historical or cultural resources, where feasible

## Housing

### Goal:

Housing consistent with the rural character of Union that is affordable to all persons within the Town

### Objectives

- Protect existing residential uses from intrusion by incompatible or undesirable land use activities
- Protect natural resources from adverse impacts due to housing development
- Affordable housing for the range of economic segments and life stages

### Strategies/Policies

- Maintain land use regulations in order balance the ability to develop property with the need to protect natural resources
- The Town shall assist property owners in the identification, preservation, and protection of historical and architecturally significant housing by providing referral to the appropriate governmental and other agencies, the Town shall assist property owners in the identification of historically significant structures.
- The Planning and Zoning Commission shall study possible options to encourage affordable housing while maintaining the essential character of the Town.



## Education

### Goal:

All students will acquire the knowledge and skills necessary to achieve their highest potential.

### Objectives:

- Adequate educational facilities and programs serving local community needs should be provided as needed.
- Students will perform at or above a proficient level on tests administered by the District.
- Our students will be provided the opportunity to succeed with the guidance of a highly qualified staff.
- The District will demonstrate sound financial management in optimizing the taxpayer dollar.
- Children birth through age 5 are prepared to succeed when they enter school.

### Strategies/Policies:

- Work with the community to build a modern school building.
- Make use of the expertise, experience and networking resources of local education resource centers to provide staff support, student services, program review, organizational cohesion and economics of scale.
- Develop and implement specific service delivery models for regular student and students in need of support.

- Develop an organizational structure that fuses the best characteristics of a rural K-8 system with a middle school structure for students in grades 5,6,7,8.
- Provide the technology and training for a more efficient use of student data and teacher accountability in implementing service delivery and updated curriculum to students.
- Work with local and state officials to remove unfunded mandates and make it easier for local school districts to share resources.

## Governance

### Goal:

Cost-effective, appropriate and responsive services as required by law and those responsive to the needs, as expressed by the residents of Union

### Objectives:

- Appropriate Town services and facilities necessary to conduct the business of the Town
- Adequate fire, police, and emergency medical care for the health and welfare of citizens and property

### Strategies/Policies:

- Update the Capital Improvement Program (CIP) annually, or as determined necessary with the approval of major new developments or major POCD amendments not considered in the adopted Capital Improvement Program.
- Maintain the Town's Emergency Operations Plan
  - Coordinate with local and State Offices of Emergency Services utilizing the National Incident Management System (N.I.M.S.) in order to coordinate multi-agency emergency response.
  - Cooperate with regional approaches for the planning, construction, operation and maintenance of drainage and flood control facilities



## Economic Development

### Goal:

A strong local economy consistent with a sustainable natural environment, rural character and a high quality of life to provide:

- Employment and other economic opportunities for residents of Union
- Strong commercial areas to serve the needs of the Town
- Supportive Business Approach
- A solid tax base to support local services

### Objectives:

- A positive image of the Town as a vibrant, desirable place in which to live, work, shop, and visit.
- That Town government - its processes, staff and leadership - are welcoming and helpful to businesses seeking to start, expand or locate in the Town.

### Policies/Strategies

- Continue to support the Last Green Valley as the lead marketing organization for recruiting visitors to Union and the Quinebaug Shetucket national Rivers Heritage Corridor
- Promote farm-based retail activities to protect against the loss of agricultural lands

Union, Connecticut - Plan of Conservation and Development, 2020 - 2030

- Support regional strategies to attract visitors to the area in ways that balance the economic benefits from tourism with the economic costs of expanded traffic and use of public facilities and services

## Land Use

### Goal

Manage growth in a proactive rather than reactive way that maintains the rural character and protects the natural resources of the Town.

### Objectives

- To promote a community comprised largely of single-family neighborhoods in an open and natural setting together with logical commercial areas that serve the local community
- The continuation of production agriculture and forestry operations
- Maintain the Open Space policy as stated in the Town's Open Space Plan for the state's use-value assessment law.

### Strategies/Policies:

- Maintain current land use regulations -- modify only after demonstration that such changes will enhance the goals/objectives of this Plan and the Town's Open Space Plan
- Coordinate planning with neighboring jurisdictions in order to ensure compatible land uses.
- Maintain the Town's policy, as adopted by Town Meeting, to designated "Open Space Land" for purposes of taxation under said statutes<sup>17</sup>:

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<sup>17</sup> The following is from the Town's Open Space Plan (Appendix B) as adopted



Union, Connecticut - Plan of Conservation and Development, 2020 - 2030

1. All unimproved contiguous parcels of land held in single-unit ownership in excess of three (3) acres located within any zoning district within the Town of Union;
2. All validated wetlands, excluding house lots, as shown on the latest amended map entitled "Inland Wetland Map".

The following are excluded from Open Space Land classification:

1. Any land containing improvements such as but not limited to home sites, swimming pools, tennis courts, accessory buildings and septic systems;
2. Any land legally subdivided into residential building lots and thus filed in the Office of the Town Clerk bearing subdivision approval by the Union Planning and Zoning Commission;

"The designation as Open Space Land does not imply approval for purchase, condemnation or lease thereof by the Town."

## Appendix I

### State Plan of Conservation and Development

#### Category Description<sup>18</sup>

##### GROWTH AREAS (Map Color Code: Beige)

High priority and affirmative support toward concentration of new growth that occurs outside of Regional Centers and Neighborhood Conservation Areas into specified areas capable of supporting large-scale, mixed uses and densities in close relationship to the Regional Centers.

- Growth Areas are lands near Regional Centers or Neighborhood Conservation Areas that provide the opportunity for staged urban expansion generally in conformance with municipal or regional development plans.
- These lands reflect moderately developed areas with vacant, developable lands, existing or planned water or sewer services, and the potential for future mixed use and intensive development of areawide significance.
- Growth areas have transportation services or the opportunity to promote public transportation services and patterns of development supportive of energy conservation and air quality programs.

##### RURAL COMMUNITY CENTERS (Map Color Code: Yellow)

Cluster in locally designated centers the relatively higher intensity land uses of residential, shopping, employment, and public facilities and services occurring in rural communities.

In the state's more rural communities, Rural Community Centers reflect existing mixed use areas or places that may be suitable for future clustering of the more intensive housing, shopping, employment, and public service needs of municipalities outside of urban development areas. Rural Community Centers are areas where small-scale community systems of water supply, waste disposal, and public services are appropriate but large-scale public service systems should be avoided.

##### EXISTING PRESERVED OPEN SPACE (Map Color Code: Dark Green)

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<sup>18</sup> Material adapted from the Connecticut Office of Policy and Management Locational Guide Map Description

Support for permanent continuation as public or quasi-public open space, and discouragement of sale and structural development of such areas except as may be consistent with the open space functions served.

Existing Preserved Open Space represent areas in the state with the highest priority for conservation and permanent use as open space. They include:

- federal, state, and municipal parks, forests, trail and greenway corridors and other selected open spaces;
- major open space preserves in quasi-public ownership;
- Class I water utility owned lands and state owned lands that meet the definition for Class I land as contained in regulations of the Department of Public Health for existing and potential reservoir and diversion sites.
- Class I water utility owned lands within Aquifer Protection Areas (Sec. 22a-35h(10))

#### PRESERVATION AREAS (Map Color Code: Medium Green)

Foster the identification of significant resource, heritage, recreation, and hazardous areas of statewide significance and advocate their protection by public and quasi-public agencies in their planning and investment decisions. Avoid support of structural development except as directly consistent with the preservation values.

Preservation Areas are lands that do not reflect the level of permanence of Existing Preserved Open Space but which nevertheless represent significant resources that should be effectively managed in order to preserve the state's unique heritage. They include:

- water supply watershed lands that conform to the Department of Public Health's Class I criteria, except are not owned by a water utility or the state, as related to both existing and potential surface water supplies;
- land not in water utility or state ownership that is within 200 feet of a well in an Aquifer Protection Area;
- floodways/wave hazard areas include lands which are or may be defined under the National Flood Insurance Program/the state's Channel Encroachment Line Program/the Coastal Area Management Program;
- inland wetlands;
- tidal wetlands and other coastal resource areas as designated by the Connecticut Coastal Area Management Program;
- existing water bodies;
- agricultural or forest lands for which the development rights have been acquired;
- locations of State Endangered, Threatened and Special Concern species and their essential habitats (not currently mapped);
- potential major outdoor recreational areas including impoundments, diversion pools, recreational streams, and public beaches, as identified by the Connecticut Water Resources Planning Program and/or the Statewide Comprehensive Outdoor Recreation Plan;



- open space areas including areas designated in local plans and approved by the local legislative body to permit reduced value assessments;
- designated natural or archaeological areas of regional or statewide significance.

#### CONSERVATION AREAS (Map Color Code: Light Green)

Plan and manage, for the long-term public benefit, the lands contributing to the state's need for food, fiber, water and other resources, open space, recreation, and environmental quality and ensure that changes in use are compatible with the identified conservation values.

Conservation Areas represent a significant portion of the state and a myriad of land resources. Proper management of Conservation Area lands provides the state with its best opportunity to provide for the state's future need for food, fiber, water and other resources. They include:

- Class II public water supply watershed lands, as defined in the Department of Public Health regulations, irrespective of ownership, as related to existing and potential surface water supplies, unless designated either as a Neighborhood Conservation Area of a Growth Area;
- those portions of Level A or Level B Aquifer Protection Areas that are not classified as Existing Preserved Open Space or Preservation;
- flood fringe areas which are, or may be, defined under the National Flood Insurance Program/state's Channel Encroachment Line Program/Coastal Area Management Program as areas subjected to 100-year flood and not included in the floodway;
- scenic areas--ridgelines, scenic highways, coastal bluffs, trails; greenways or other areas associated with the protection and enhancement of existing major investments in public open space and recreation (Scenic and recreational river corridors are identified in the Plan as in previous editions. These will be superseded by stream segments to be designated under the Protected Rivers Act);
- sand and gravel resources with 50 acre feet or more of construction aggregate commodities;
- prime agricultural lands--active agricultural lands or prime soils of 25 or more acres of contiguous land;
- historic areas--sites and districts of national, state and local historic designation and other areas of statewide historic significance;
- previously identified scenic and recreational river corridors, until replaced in the future by formally designated Protected Rivers;
- potential major outdoor recreational areas, and;
- natural areas of local significance, including conservation easements.

#### Rural Lands (Map Color Code: White)

RURAL LANDS Discourage structural development forms and intensities which exceed on-site carrying capacity for water supply and sewage disposal and therefore cannot function on a permanent basis and are inconsistent with adjacent open rural character or conservation areas or which are more appropriately located in Rural Community Centers.

Rural Lands are those areas falling outside any other Guide Map category.

## Appendix II

Please note that this plan is placed in the Plan of Conservation and Development for Information Purposes ONLY -- it is not part of the POCD

### TOWN OF UNION, CONNECTICUT

#### PLANNING FINDINGS AND PROPOSALS **OPEN SPACE PLAN**

##### **A. INTRODUCTION**

The purpose of this plan is to assist community officials to secure meaningful open space areas and corridors within the Town of Union to meet the demands of future population and concurrently aid in the protection of environmentally sensitive natural resources and assets. The plan attempts to suggest methods, guidelines and criteria to secure open spaces in a progressive manner proportional to community growth and population needs. The plan emphasizes the importance of retaining, free of development and in perpetuity, sensitive areas which play important roles in sustaining ecological balance and community aesthetics.

##### **B. PRESENT AND FUTURE DEVELOPMENT PATTERN**

The privately owned and presently undeveloped lands within Union have casually but successfully combined to render the Town aesthetically pleasing and rural in character. It will be presumptuous to assume, however, that such rural and open character will remain constant or unchanged, or that development pressures will not gravitate upon its physical setting. Pressures for development will slowly but gradually increase as land values, comparative to other communities, will make it more attractive for people to seek development opportunities in Union. The inevitable growth process will thus continue and land consumption will be unavoidable.

As growth continues in its path, more and more land is gradually occupied by the various residential and non-residential land uses, an intrinsic part of the community growth process. Thus, the function of land conservation and open space retention should therefore be less and less questionable as time passes.

As lands best suited for development are consumed for residential and nonresidential purposes, less suitable lands begin to become



more attractive. Less desirable lands are usually steeper in grade. They may be more swampy, or possess poorer percolation qualities. Uncontrolled development upon these lands may render adverse effects to the developer, the home owner and unquestionably to the community. The effects are usually pollution of streams, brooks and other waterways, thus eventual contamination of sources of potable water.

### **C. SENSITIVE AREAS**

Union's present and future residents will, in all likeness, and for many years to come, depend upon subsurface water supply. Thus, mismanagement of development or sensitive areas could result in severe consequences as it has been in other areas of the state or the nation.

Indigenous of Connecticut's uplands, Union contains numerous streams, brooks, ponds, lakes and other water bodies and wetlands which fulfill important ecological functions and contribute to a large extent in shaping the aesthetic characteristics and natural resources of the community. Natural streams, brooks or water bodies play important roles in refurbishing abutting water table, chief source of potable water and these cannot be duplicated. Vegetation cover on poorly drained soils takes years to rebuild and stabilize; while scenic steep slopes and cliffs are susceptible to erosion difficult to prevent; wetlands are the natural habitat of any common or rare animal species. These ecologically sensitive assets should be retained, protected, and whenever practical, enhanced by preventing destruction or disturbance by unwarranted or uncontrolled development. Conversely, however, less desirable lands possess important environmental wealth which combined with the adverse effects resulting from abuse or misuse render its preservation and protection virtually mandatory. Thus, the very same elements which make marginal lands difficult to develop are the same elements that make these lands desirable for conservation purposes.

### **D. AREAS FOR PASSIVE AND ACTIVE OUTDOOR ACTIVITIES**

While the community is not likely to experience immediate needs to provide land for outdoor recreation opportunities due to its current open space character, planning officials should pursue the "assemblage" of open space lands for the use and enjoyment of future generations. These lands would remain open undeveloped but allocated for outdoor recreational opportunities and would serve as a "land bank" for future use.

There are various methods utilized to determine the amount of open and recreational land that a community should have. In 1940, the NRA (National Recreation Association) suggested an average of one acre of playground area and at least ten acres of recreational space for every 1,000 population. The Baltimore Regional Planning Commission devised standards which suggested 44 acres of open space per 1,000 population to satisfy the needs of various facilities. In its 1965 publication entitled "Open Space for Urban America", the Dept. of Housing and Urban Development suggested four acres of play per 1,000 population.

Reference is made to appendix A of the Plan for recreational and open space standards in terms of population needs.

Connecticut Laws (1) provide local planning and zoning commissions with legislation which enable said commissions to request the setting aside of "open spaces for parks and playgrounds when, and in places, deemed proper by the planning commission, which open spaces for parks and playgrounds shall be shown on the subdivision plan". It has been accepted by courts of jurisdiction that the amount of land that can be requested to be set aside for parks and playgrounds can be in the neighborhood of ten (10%) percent of the total acreage in the subdivision tract.

(1) Sec. 8-25 of the Connecticut General Statutes

#### **E. OPEN SPACE POLICY**

It is hereby recommended that Union Planning Officials endeavor to pursue the following open space policy:

1. To require the setting aside, as permanent open space, lands located in critical areas of town which would serve the needs of future generations for outdoor passive and active recreational opportunities;
2. To protect marginal lands from uncontrolled development;
3. To conserve and protect environmental and ecological assets encompassed in Union's inland wetland and water courses;
4. To accede to tax concessions to prevent unwarranted runaway development upon undeveloped lands.

#### **F. RECOMMENDED METHODS TO SECURE OR PROTECT OPEN SPACE OR SENSITIVE AREAS**

Several methods have been used by communities to secure open space, or to protect sensitive areas. These methods have been followed by varying degrees of success. It is hereby recommended that the Union Planning and Zoning Commission pursue the following:

1. The outright acquisition of lands with open space or conservation potentials.

From time to time, landowners prompted by personal motivation or interest, offer the sale of their lands to local government at reduced prices with the proviso that upon acquisition these lands remain open and undeveloped. Community officials should assess



the open space or conservation potentials of these lands in light of future community goals, needs and interests. Several matching grants sources are usually funded for these purposes by Federal agencies.

2. The acquisition of open space or conservation lands through subdivision procedures.

In many communities, the subdivision regulations contain sections or clauses whereby the developer or subdivider is required to exclude from the total subdivision tract a certain percentage (about 10%) for open space purposes. Open space lands may, at developer's option be conveyed to the community upon approval or filing of subdivision plans or documents. These lands are dedicated open spaces, so described on subdivision plans, and are used for recreational purposes but generally for conservation purposes. In some circumstances developers or subdividers find it more financially convenient to offer monies as donations in lieu of open space lands. Union should not ignore the advantage of this alternative, particularly when the open space which may be otherwise donated may be insignificant, isolated or meaningless. Voluntary monies contributions or donations thus received are set in special "open space funds" and utilized for the acquisition of open space or conservation areas where convenient or warranted.

3. The acquisition of open space or conservation easements.

While outright fee simple acquisition of open space or conservation lands is suggested, there may be occasions where such acquisition is unwarranted or may present a hardship to the developer or subdivider. These circumstances however, should not relieve the planning officials from their responsibilities to protect, for example, sensitive areas, wetlands, scenic or historic features, or from enlarging the community open space or conservation holdings. It is therefore suggested that in such instances, planning and zoning officials consider the securing of "open space, conservation or greenbelt easements". These easements to be filed upon subdivision approval should prescribe that lands covered 'by the easements "be retained in perpetuity in their natural state". Such easements do not usually diminish the potential development density; it simply prevents unwarranted development upon specified portions of the property.

5. The provision of tax concessions to delay unwarranted runaway development

The release of land for development purposes is usually prompted by the financial burden that maintenance of such land causes upon the landowner. Unable to sustain the financial burden, the landowner places the property on the market. The outcome may very well be development and with it the conversion of undeveloped land into development. Connecticut laws provide (1) for tax concessions by the community while the lands remain open, undeveloped. Community officials should take advantage of this opportunity and provide Union with legislation to diminish financial pressures to dispose of land for development. It is hereby submitted that while P.A. 490 entitles lower assessments for lands totaling 25 acres or more, Union should pursue to extend protection to undeveloped lands above the minimum required lot size up to 25 acres. It is also submitted that such tax concessions should be in effect on or before Union's next re-evaluation program is completed. (2)



6. The provision of legislation creating Union's Conservation Commission.

As community officials endeavor to guide development, Union should pursue the enactment of town ordinances creating a "conservation commission" as provided under Sec. 131a of the Connecticut General Statutes. To said commission, eligible and competent citizens should be appointed to assist community officials, but particularly planning and zoning officials, in arriving at major land use decisions but primarily in guarding open space or conservation lands so conveyed by donors, developers or subdividers.

(1) Conn. General Statutes, Title 12,  
Sec. 107a and 107e, and  
Sec. 504a thru 504f.

7. The provision of Zoning controls to allow development while enhancing Union's open space holdings.

Union's Zoning Regulations provide for development in lots three acres in size. Conventional development methods have a tendency to consume large tracts of lands which at best can contain 10% of open space lands. Planning and Zoning officials should assess the benefits of "cluster development" whereby developers may concentrate permissible densities in sections of the development tract while leaving as open undeveloped land greater percentages of the subdivision tract. Cluster development is not meant to allow greater density of development, (i.e. more houses than otherwise permitted) it simply allows the concentration of development in less vulnerable subdivision areas, while protecting permanently sensitive areas.

8. Protection of Sensitive Lands.

Under Chapter 440 of the Connecticut General Statutes, inland wetland and water courses within the State are protected through specific regulatory procedures. The Town of Union's Planning and Zoning Commission was appointed by the town's legislative body as the Inland Wetland Commission and duties contained in Chapter 440. *It is hereby recommended that Union's Planning and Zoning Commission in its capacity as the Inland Wetland Commission exercise its rights to protect from undue disturbance and unwarranted development of inland wetland and water courses.* These land features possess qualities and assets of irreplaceable natural value which the Commission should endeavor to retain for the benefit and enjoyment of future generations. Map entitled "Inland Wetland Map" prepared by the Tolland County Soil and Water Conservation District on file since adoption in the Union Town Clerk's office, delineates inland wetlands and water courses and should be reviewed for applicability as development occurs within Union. It is further recommended that if such inland wetlands and water courses be threatened, planning officials seek protection of same by applying any of the open space and land conservation methods outlined and described as items 1 thru 6 of Section F of this Plan.

## **CONCLUSION**

The recommendations in this Plan are made in light of the present trends, desires and population projections contained in Union's Plan of Development completed in December, 1970. These factors may change, substantially, thus each recommendation should be separately evaluated and assessed for applicability for each individual case. Union planning officials should endeavor, however, to acquire open space and conservation areas in a progressive manner as development takes place, thus ensuring that the character, beauty, and natural assets of Union are preserved and wherever possible enhanced for future generations.

**APPENDIX A  
POPULATION NEEDS  
RECREATIONAL AND OPEN SPACE STANDARDS**

Type of Recreational Activity	Space Requirements Per Population	Recommended Size of Facility
<b>1. Active Recreation</b>		
Children's Play Area	0.5 acres/1,000 pop.	1 acre
Older Children Field Sports	1.5 acres/1,000 population 1.0	15 acres
Tennis-Outdoor Basketball	acres/5,000 population 10	2 acres
Hiking, Horseback, Nature	acres/1,000 population 1-18	500 acres mm
Golfing	holes/50,000 population	120 acres
<b>1. Passive Recreation</b>		
Picnicking	4 acres/1,000 population	varies
Fishing, Rowing, Canoeing	1 lake/25,000 population	20 acres water
Zoos, arboretums, Botanical Gardens	1 acre/1,000 population	100 acres
<b>1. Other</b>		
Indoor Recreation Centers	1 acre/10,000 population	1-2 acres
Outdoor Theaters, Bandstand	1 acre/25,000 population	5 acres
<b>1. Recreation Area Standards</b>		
Playgrounds	1.5 acres/1,000 population	3 acres
Neighborhood Park	2.0 acres/1,000 population	7 acres
Playfields	1.5 acres/1,000 population	10 acres
Community Park	3.5 acres/1,000 population	70 acres

Source: George Nez, Standards for New Urban Development, Urban Land Institute, Washington, D.C.



Amendment to Open Space Plan (March 1, 1978)

**Eligibility of Open Space Land for Tax Purposes**

Pursuant to Paragraph 4, Section F of Union's Open Space Plan, it is in the public interest to prevent the forced conversion of open unimproved land to more intensive development as the result of financial pressures caused by the assessment thereof. The preservation of land should be encouraged in these situations where the tax burden has become prohibitive or unmanageable in order to prevent sudden runaway growth. Such preservation will not restrict development but it will allow for orderly planned growth over ensuing years. Therefore, pursuant to the declaration of policy enunciated by and the authority provided by Title 12, Section 107a and 107e, and Section 504a thru f of the Connecticut General Statutes as amended, the following land is designated "Open Space Land" for purposes of taxation under said statutes:

1. All unimproved contiguous parcels of land held in single-unit ownership in excess of three (3) acres located within any zoning district within the Town of Union;
2. All validated wetlands, excluding house lots, as shown on the latest amended map entitled "Inland Wetland Map".

Exclusions

The following are excluded from Open Space Land classification:

1. Any land containing improvements such as but not limited to home sites, swimming pools, tennis courts, accessory buildings and septic systems;
2. Any land legally subdivided into residential building lots and thus filed in the Office of the Town Clerk bearing subdivision approval by the Union Planning and Zoning Commission;

"The designation as Open Space Land does not imply approval for purchase, condemnation or lease thereof by the Town."

## Appendix III

Please note that this document is placed in the Plan of Conservation and Development for Information Purposes ONLY -- it is not part of the POCD

### Land Use Guidelines Commercial, Industrial and Retail Design and Appearance

#### Purpose

(A) The general appearance, style, and design of commercial, industrial and retail buildings, landscapes, streetscapes, and developments are of prime importance to the Town of Union and its citizens. Union is a small New England community that has traditionally depended upon a forest and agriculture based economy. Residents, in large part, are attracted to the natural environment, scenic beauty, and aesthetic character of the community. The guidelines contained herein are intended to ensure that the rural character for which Union is known will be maintained and perpetuated. The purposes of these guidelines are as follows:

- (1) To create a balance between the need for new development and the desire to maintain a safe, healthful, and attractive community environment.
- (2) To enhance the general welfare of the community by protecting property values and preserving the natural environment, the unique character, and the aesthetic integrity of the community.
- (3) To provide proper guidelines to ensure a high level of quality in the appearance of Union without discouraging good design by setting rigid standards that stifle a developer's or property owner's individuality, creativity, or artistic expressions at a particular site.

- (4) To aid in the preservation of natural resources by contributing to air purification, oxygen regeneration, groundwater recharge, energy conservation, and storm water runoff abatement, while reducing noise, glare, and heat.
- (5) To ensure adequate light and air and to prevent the overcrowding of land.
- (6) To preserve and improve property values and to protect public and private investment through the preservation of open space.
- (7) To preserve and protect the quality and character of Union, and to enhance the business economy attracted to the community by such factors.

#### Applicability

- (A) The design guidelines outlined are suggested for all new non-single-family development or redevelopment in Union. Non-single-family development or redevelopment includes duplexes, townhouses, condominiums, multi-family apartments, commercial buildings, industrial buildings, churches, schools, hospital buildings, all other buildings not specifically designed and used for single-family purposes, and accessory buildings associated with all these types of non-single-family developments. For the purposes of these guidelines, the expansion, alteration, or reconstruction of an existing development shall not be considered "redevelopment" unless the value of the expansion, alteration, or reconstruction is greater than 30% of the value of the existing development prior to the expansion, alteration, or reconstruction. The value of the existing development shall be based on "tax value". In the absence of tax value, the Assessor shall estimate the value based upon the best information reasonably available. The value of the expansion, alteration, or reconstruction shall be based on "construction cost".

#### Criteria for Design

- (A) The following criteria have been used in developing the items contained in this article and shall serve as guidelines for development in Union:



- (1) Livability. Buildings and outdoor spaces should be designed to fit human scale, to harmonize with the immediate environment , and to accommodate pedestrian traffic.
- (2) Visual Impact. New public and private projects should be visually appealing, compatible with a rural New England setting, and compatible with other development in the surrounding area.
- (3) Vegetation. Landscape design should preserve existing trees and vegetation and incorporate new trees and shrubbery. Landscaping should be used to screen and soften the impact of development
- (4) Mobility. Land development should provide a network of roads, bicycle paths, and sidewalks that give consideration to the safety of motorists, cyclists, joggers, and walkers.
- (5) Views. Streets, buildings, and parking lots should enhance the environment by preserving and providing pleasant views and appropriate geographic orientations.
- (6) Energy Conservation. Whenever possible buildings should be oriented so that they facilitate the construction of alternative energy installations.

#### Exterior Walls and Facades of Commercial Buildings.

- (A) The exterior walls of commercial buildings should be designed to reflect, enhance, and promote the desired image of a New England village
- (B) Except to the extent prohibited by the State building codes, the wall area on the first floor of a building fronting a street should have at least 30 percent windows and doors.
- (C) Solid walls and blank exteriors are discouraged.
- (D) Buildings should be oriented so that a principal or primary facade faces each street on which the building fronts.

- (E) Special attention should be given to the design of windows. Reflective glass is not recommended. Windows should not be flush with the building facade and should add variety to the streetscape.

#### Roof Lines

- (A) Pitched roofs with a minimum slope of 6:12 or greater are recommended. They should blend well with the terrain. Flat roofs are discouraged.
- (B) Wood or asphalt shingles, slate (natural or synthetic), steel or tile are considered appropriate roof materials.
- (C) All rooftop mechanical and electrical equipment (except for alternative energy installations) should be screened from the view of streets and adjacent property.

#### Color

Colors of paint, stains, and other finishes or materials should be "nature blending" with generally no more than three colors per building.

#### Topography

- (A) Proposed development and buildings to be situated on sloping sites should be planned and designed to minimize the grading of the site, the removal of trees and natural vegetation, and the disruption of natural water courses. Proper erosion control should be observed. Trees that are to remain on the site should be protected to safeguard the root structure.
- (B) Grading should blend gently with contours of adjacent properties, with smooth gradations around all cut-and-fill slopes, both horizontally and vertically. On sites containing slopes in excess of 12 percent, mass grading approaches should be avoided.

(C) Developments should be designed so that they do not exceed the capacity of existing topography, natural drainage ways, soils, geology, and other natural site conditions. Areas whose physical site characteristics make them unsuitable for development should be set aside as open space.

(D) Wooded perimeters or the most desirable natural site features should be protected to retain the visual character of the site. Isolated pockets of trees should be protected and used to soften the visual impact of the site.

#### Lighting

Please see Section 2.1 of the Town of Union Zoning Regulations.

#### General Landscaping

(A) Natural appearing landscape forms are strongly encouraged. The scale of the proposed landscaping should be in proportion to the building.

#### Sidewalks

See section 4.66 of the Union Subdivision regulations

#### Utility Lines.

(A) All new utility lines, with the exception of major transmission lines, should be placed underground.

(B) Utility poles (other than wooden poles erected by a public utility company) and supports should be painted neutral in color.

#### Parking Areas

(A) Parking lots should not be focal points of development. Parking areas should be located away from streets, preferably behind buildings. Parking areas should be screened by berms, trees, shrubs, walls, or fences.



- (B) Storage and loading areas should be screened with planted buffers at least six feet in height, or rising two feet above the material or equipment being stored, whichever is greater.
- (C) Twenty-five percent of the paved vehicle accommodation area should be shaded by new or existing trees.

#### Mechanical, Utility, and Trash Containment Areas

- (A) Mechanical and Utility Equipment. Conventional Heating, ventilation, air conditioning, and other mechanical and utility equipment, including but not limited to vents, fans, compressors, pumps, and heating and cooling units, which are located on, beside, or adjacent to any building or development, should be screened from the view of streets and adjacent property. The screen should exceed the height of the equipment, shall not interfere with the operation of the equipment, and should use building materials and design that are compatible with those used for the exterior of the principal building.
- (B) Suitable plant materials should be used at the base and corners of any screening wall to soften the wall's appearance.
- (C) Trash Containment Areas. All trash containment devices, including compactors and dumpsters, should be located, designed, and screened so as not to be visible from the view of adjacent streets, parking lots, and other properties.
- (D) All trash containment areas and devices should meet the following standards:
  - (1) All trash containment areas should be enclosed to contain windblown litter.
  - (2) The enclosure should exceed the height of the compactor or dumpster and should effectively screen the equipment from the view of adjacent streets and property.
  - (3) The enclosure should be made of a solid material that is compatible with the design and materials of the principal building.

- (4) All compactors and dumpsters should be placed on a concrete pad that is large enough to provide adequate support, allows for positive drainage, and conforms to health department regulations.
- (5) The enclosure should contain gates to allow for access and to provide security and screening.
- (6) The owner or occupant of the premises should maintain the solid waste containment area in good repair at all times.

#### Fences and Walls

- (A) Walls of natural rock material are a part of the community's history. Use of stone walls constructed of local stone materials is strongly encouraged.
- (B) Retaining walls should be covered with natural stone found in the area or other suitable material.
- (C) Long, solid fences or walls should contain offsets or other architectural features to break up the appearance of a continuous mass.

## Mashapaug Pond

Mashapaug Pond is a heavily-used Class AA open water resource, with nearly 7.3 miles of forested shoreline. Partially surrounded by Bigelow Hollow State Park and Nipmuck State Forest, the Pond is accessible 24/7/365 for fishing and boating via the State Park boat launch at its southern end. Owing to a Town of Union ordinance limiting boat speeds, Mashapaug Pond is a favorite of passive recreational boaters—kayakers, paddle boarders, windsurfers, and canoeists—as well as long-distance swimmers. Bass tournaments occur on many summer weekends. In winters, ice-fishermen flock to harvest the Pond's thriving population of introduced walleye, as well as pan fish and stocked and holdover trout.

In addition to numerous springs in its deeper sections, Mashapaug Pond receives inflows from Wells Brook in the southwest, and from several smaller streams draining from the surrounding forested hills and wetlands. Mashapaug Pond was once renowned for clear waters and record fish. It now faces increasing risks: algae blooms nourished by shoreline topsoil erosion; and aquatic species invasions via trailered boats and/or from existing infestations in the adjoining 50+ acre Little Mashapaug Pond and marsh. The latter have in recent decades become heavily infested with Variable Milfoil and Phragmites. These threats have become key issues for the Town of Union and its residents and visitors who frequent the Pond and/or live along its shorelines. The primary concerns are potential growth of invasive aquatic vegetation, and erosion along the Pond's shorelines.

As indicated in a previous section, Mashapaug Pond's original size was doubled in the mid-1880's by the construction of an earthen dam and a dike on its western shores (Quinebaug watershed), and a concrete floodwater spillway at its extreme southern end (Shetucket watershed), raising its surface elevation to 702 ft above sea level. These three structures were completely rebuilt in the mid-1990's, with design and operational changes to the dam and spillway that raised lake levels an additional 3-4 ft, depending on the season, and re-directed half of Mashapaug Pond's natural outflow away from the Quinebaug and into the Shetucket basin. Specifically, whereas the 1880's dam sent all of Mashapaug Pond's outflows to Little Mashapaug Pond and the Upper Quinebaug River via two large diameter "bottom-draw" penstocks, DEEP's 1990's dam and spillway are configured to split the Pond's net outflow 50/50. They both drain Mashapaug Pond's surface water. As a result, since the mid-1990's Little Mashapaug Pond has been receiving only half of the outflows from Mashapaug Pond that it did previously did, and what water it does get in the vegetation growing season is warmer. The result has been an acceleration of heavy weed growth, dominated by invasive Variable Milfoil. Because Little Mashapaug Pond is separated from Mashapaug Pond by only a few yards, the concerns about invasive vegetation and shore erosion have prompted at least two studies in the 21<sup>st</sup> century, the first in 2005 and the second in 2010. The lack of any boat hygiene facility at the State Park boat launch adds to the risk to Mashapaug Pond of invasive species introduced by trailered-boats.

As documented in a 2010 study by Lycott Environmental, Inc., Mashapaug Pond's shoreline development is light and confined to the northern and northwestern shores, because the southwestern and southern shoreline is occupied primarily by the State of Connecticut's Bigelow Hollow State Park and the Breakneck Block of Nipmuc State Forest. Mashapaug Pond's watershed encompasses approximately 4.7 square miles, most of it forested and little of it developed. The heavily forested eastern shores are privately owned and entirely undeveloped. Although the study noted that the watershed per se does not appear to contribute a large amount of detrimental runoff, it also recommended that shoreline erosion, stemming mainly from the raised water levels wearing on



previously stable shores, be addressed with water level manipulation, shoreline re-stabilization, and re-creation of a plant buffer. It was also recommended that the Town hire a soil scientist to further address causes of erosion and options for remediation.

In terms of vegetation, in 2010 Mashapaug Pond was reported by Lycott Environmental to be oligotrophic in that it then had low nutrient concentrations, low plant growth and the overall vegetative coverage throughout the pond was considered sparse to light (between 0 and 25% coverage). Aquatic Vegetation Species found in the course of that study are listed in the adjoining table. All of those species were determined to be indigenous and beneficial to the ponds ecosystem. Of the thirteen species identified, only Bladderwort (*Utricularia* spp.) and Bushy Pondweed (*Najas flexilis*) had the potential to grow to nuisance levels, although no such 'over growth' was then found in Mashapaug Pond.

Although Lycott's 2010 Study recommended continued monitoring to address and identify potential problems before they influence Mashapaug Pond, no further study has since been done. However, to reduce shore erosion and risks of invasive aquatic weeds, a partnership among the Town of Union, the Union Conservation and Safety Association, and CT DEEP has evolved a practice of drawing down Mashapaug Pond's winter levels to approximate the year-round levels that prevailed through most of the 20<sup>th</sup> century. This has slowed but not eliminated shoreline erosion and damage from storm waves, boat wakes, and moving ice. It is not known whether Variable Milfoil or other non-indigenous species have invaded Mashapaug Pond.

In addition to Mashapaug Pond, Little Mashapaug Pond and Wells Pond were included in Lycott's 2010 survey and report. While Wells Pond did not have any growth of non-indigenous vegetation and there was a healthy composition of indigenous species present, Variable Milfoil, an invasive species, was the most prevalent species observed during the survey of Little Mashapaug. Variable milfoil may reduce biodiversity by out-competing indigenous species which provide food and shelter to fish and wildlife, and dense growth of the species can result in reduced sunlight and oxygen available to beneficial, slow-growing indigenous species, as well as fish. There can ultimately be a significant decrease in availability of oxygen in the water column, which could result in fish kills and other harmful conditions for wildlife. Due to the close proximity of Little Mashapaug Pond to the larger adjacent Mashapaug Pond, the 2010 Lycott Study recommended continued monitoring for Variable Milfoil along with herbicide treatments to Little Mashapaug Pond. Pursuant to that recommendation, in 2017 Little Mashapaug was treated with one application of 2-4-D and in the ensuing winters has been drawn down to expose its shallows to sub-freezing temperatures as a further means of weed control. The effect of these measures in Little Mashapaug is unknown as of 2021.

#### GOAL:

Conserve and enhance the natural, environmental, ecological, educational and recreational values of Mashapaug Pond and its forested watersheds.

#### OBJECTIVES:

1. Partner with federal, state, regional and private organizations to establish, achieve, and sustain measurable improvements for surface and groundwater quality, wildlife habitat, recreational boating and fishing, and non-motorized uses of hiking trails.
2. Full use of grants to leverage taxpayer-sourced funding.
3. Zoning regulations that will prevent or minimize adverse impacts from unwanted commercial and/or residential development in the Mashapaug District of Union.
4. Reverse current trends toward disorderly and irresponsible uses and behaviors in Bigelow Hollow State Park, Nipmuck State Forest, Yale-Myers Forest, and on Mashapaug Pond.
5. Keep Mashapaug Lake and its watersheds free of invasive species, including non-native aquatic weeds, phragmites, Russian olive, zebra mussels, etc.

#### ACTIONS:

1. Pursuant to the Lycott Study and other expert recommendations, obtain grants and matching tax-sourced funds to initiate and sustain a rigorous water quality monitoring program for Mashapaug Pond, to establish baselines, detect trends, inform policies and guide interventions.
2. Protect public interests and enhance conservation and property values, by empowering one or more town Constables and/or Wardens to enforce relevant state and town ordinances and regulations on Mashapaug Pond and dam, Bigelow Hollow State Park, Nipmuck State Forest, and in Yale Myers Forest.
3. Work with DEEP, stakeholders such as Trout Unlimited and Cabela's, and volunteer groups to establish and sustain best hygiene practices for towed-in recreational boats at the State Boat ramp.
4. Document history and adverse consequences of DEEP's errors in the design and control operations of Mashapaug Pond dam and spillway, and advance engineering and operational solutions for implementation by a Town and DEEP collaboration.
5. Research and document the pros and cons of creating an overlay zone in support of the above.