6

Natural Resources

Natural resources are an important component to the Plan of Conservation and Development. Natural resources include waterways, wetlands, soils, forests, bedrock outcrops, and critical habitat areas for endangered species. It is also important to identify environmentally sensitive areas such as flood zones, steep slopes, and unique habitats containing species that are endangered, threatened, or of special concern. Protecting natural resources sustains and enhances both the aesthetic appearance of the community and quality of life.

Water Resources

Waterways

The Naugatuck River is Watertown's largest water body, running approximately 40 miles from its headwaters in Litchfield County to its confluence with the Housatonic River in Derby. Approximately 87% of the land area in Watertown drains into the Naugatuck River. The remaining 13% drains into the Pomperaug River, another tributary of the Housatonic River. Steele Brook, which is part of the Naugatuck River watershed, is the largest subregional watershed, covering just over half of the town's total land area. Other major subregional watersheds include Branch Brook, the Nonnewaug River, and Hop Brook.

The Steele Brook watershed covers over half of Watertown's total land area, including the densely populated villages of Watertown and Oakville. The lower section of Steele Brook (downstream of Heminway Pond Dam) is included on the Connecticut Department of Energy & Environmental Protection's (DEEP) Impaired Waters list. These are water bodies that do not comply with the water quality standards of the federal Clean Water Act. Two pollutants of concern have been identified in Steele Brook: E. coli and iron precipitate. In early 2007, the town partnered with DEEP and the Natural Resources Conservation Service (NRCS) to develop a watershed-based plan for Steele Brook with the primary goal of addressing pollution concerns and ultimately removing Steele Brook from the Impaired Waters list. The Watershed Plan recommends actions such as street sweeping, catch basin maintenance and improvements, waste management programs for pets and geese, agricultural nutrient management plans, septic maintenance and repair, construction of riparian buffers, and implementation of low-impact-development techniques. While some of these recommendations have been implemented, lack

of funding has prevented the plan from being fully implemented. As a result, water quality problems persist.

Watertown is home to many ponds and lakes, almost all of which are man-made. The largest surface water body is the 115-acre Lake Winnemaug, which is formed by a dam on Wattles Brook. Other large surface water bodies in town include Wigwam Reservoir (97 acres), Merriman Pond (50 acres), Judd Pond (29 acres), and Smith Pond (25 acres). All of these water bodies are man-made. The presence of so many large man-made water bodies stresses the importance of regular dam inspection and maintenance. The DEEP requires dam owners to inspect their dams every 2 to 10 years depending on the hazard class of the dam. High-hazard dams such as the Lake Winnemaug Dam and Black Rock Dam must be inspected once every 2 years as their failure may result in significant property damage or loss of life. There are several obsolete or nonfunctional dams along Steele Brook that should be removed in order to restore natural conditions and provide for fish passage. The town-owned Heminway Pond Dam located just north of Echo Lake Road is scheduled to be removed. Other dams along Steele Brook include the privately owned Pin Shop Pond Dam and the Bedrock Cascades Dam.

Public Water Supply Watersheds

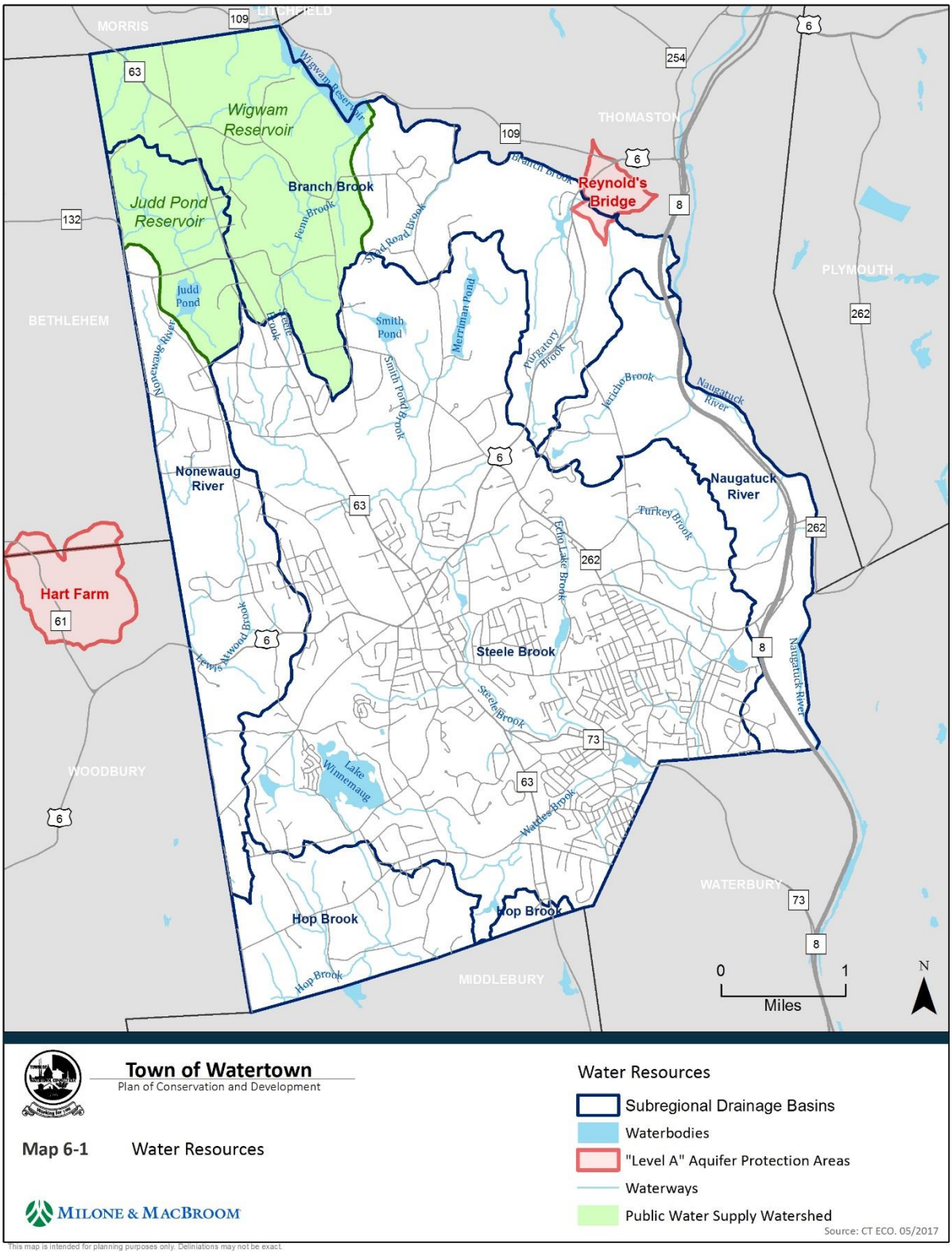
Special consideration should be given to preserving land in public water supply (PWS) watersheds. These are areas that drain directly into reservoirs that provide drinking water to the public. Watertown contains one active and one inactive PWS watershed. The active PWS watershed is for Wigwam Reservoir, which is operated by the City of Waterbury's Bureau of Water and covers about 2,085 acres in northwestern Watertown. In addition to City of Waterbury residents, the Wigwam Reservoir system provides drinking water to residents of Watertown (Water & Sewer Authority area only), Middlebury, Wolcott, and Prospect.

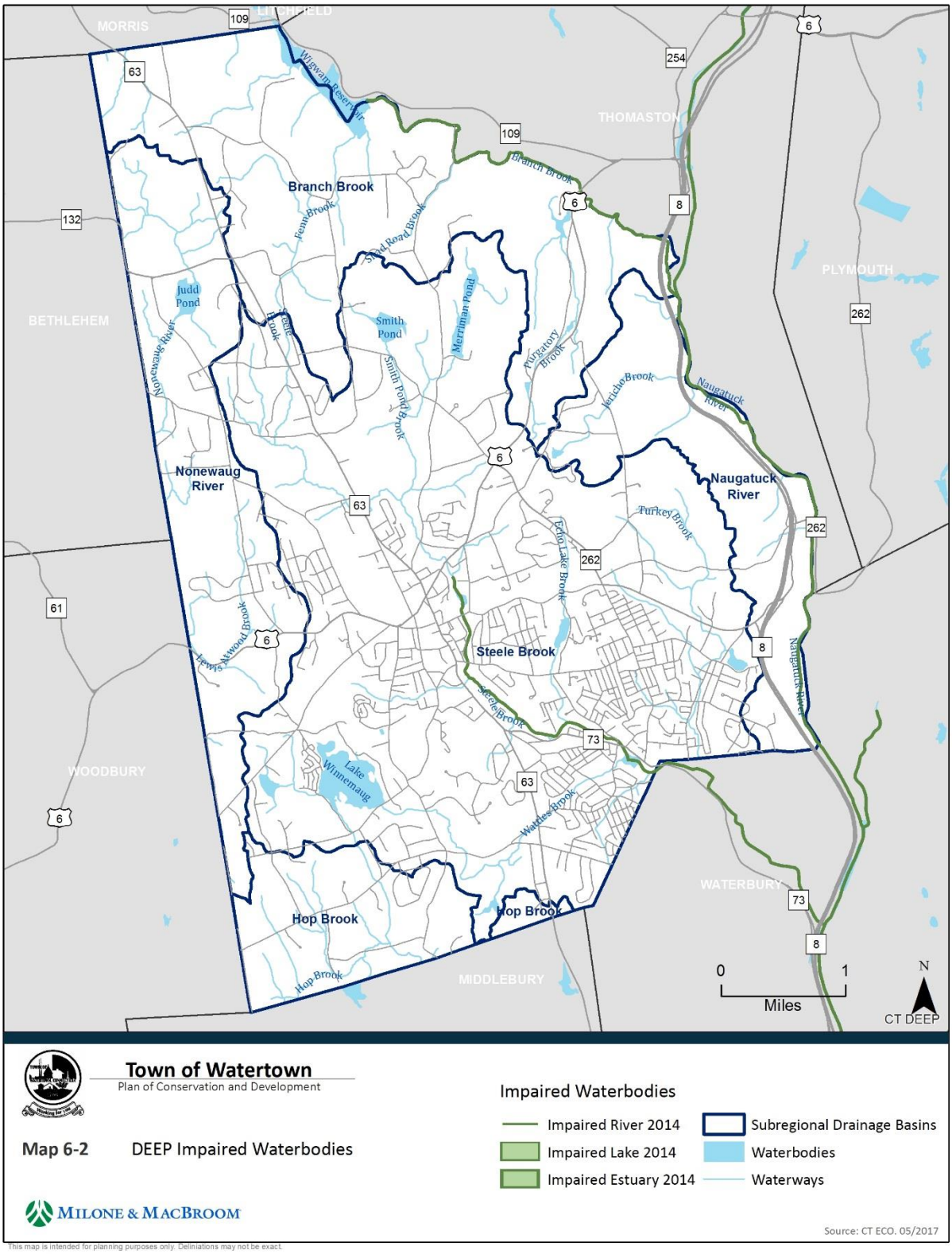
The second PWS watershed is the inactive Judd Pond Reservoir, which is owned by the Watertown Fire District. While the Judd Pond Reservoir does not provide drinking water directly to the public, it along with the nearby Lockwood Reservoir in Bethlehem is used to augment the flow of water in the Nonnewaug River to replenish the groundwater removed from the Fire District's Hart Farm Well Fields located off Route 61 in Woodbury.

Aquifer Protection Areas

Many residents rely on groundwater for their drinking water supply. Groundwater is extracted through wells from underground water supplies known as aquifers. Aquifer Protection Areas are established to protect groundwater from potential contamination. The most stringent regulations are for Aquifer Protection "Level A" areas. These are areas that directly feed public drinking groundwater supplies. There is one Level A Aquifer Protection Area in Watertown adjacent to the Reynolds Bridge well field in Thomaston. Watertown's Planning and Zoning Commission is designated as the aquifer protection agency of the town and oversees the regulatory process for Level A Aquifer Protection Areas.

The Town of Watertown has also established a local Aquifer Protection Zone (APZ) Overlay in its zoning regulations. The APZ overlay applies to areas within the larger recharge areas for the Reynolds Bridge and Hart Farm Well Fields. The APZ has special regulations for residential septic systems and fuel storage tanks. Industrial and commercial uses that produce groundwater contaminants such as gas stations, dry cleaners, and hazardous waste storage facilities are prohibited in the APZ overlay.


MORRIS
LITCHFIELD
THOMASTON
PLYMOUTH
BETHLEHEM
WOODBURY
MIDDLEBURY
WATERBURY
Wigwam Reservoir
Judd Pond Reservoir
Judd Pond
Branch Brook
Reynold's Bridge
Penn Brook
Syrd Road Brook
Smith Pond
Smith Pond Brook
Merriman Pond
Purgatory Brook
Jericho Brook
Naugatuck River
Nonewaug River
Nonewaug River
Hart Farm
Turkey Brook
Echo Lake Brook
Steele Brook
Lewis Attwood Brook
Lake Wimmenaug
Watches Brook
Hop Brook
Hop Brook
0
1
Miles
N
Town of Watertown
Plan of Conservation and Development
Map 6-1 Water Resources
MILONE & MACBROOM
This map is intended for planning purposes only. Deliniations may not be exact.
Water Resources
Subregional Drainage Basins
Waterbodies
"Level A" Aquifer Protection Areas
Waterways
Public Water Supply Watershed
Source: CT ECO. 05/2017


MORRIS
LITCHFIELD
THOMASTON
PLYMOUTH
BETHLEHEM
WOODBURY
MIDDLEBURY
WATERBURY
Branch Brook
Nonewaug River
Naugatuck River
Steele Brook
Hop Brook
Judd Pond
Smith Pond
Merriman Pond
Lake Winnemaug
Wigwam Reservoir
Fenn Brook
Sled Road Brook
Purgatory Brook
Jericho Brook
Turkey Brook
Echo Lake Brook
Lewis Atwood Brook
Watches Brook
109
63
132
254
6
8
262
61
73
0
1
Miles
N
CT DEEP
Town of Watertown
Plan of Conservation and Development
Map 6-2
DEEP Impaired Waterbodies
Impaired Waterbodies
Impaired River 2014
Impaired Lake 2014
Impaired Estuary 2014
Subregional Drainage Basins
Waterbodies
Waterways
MILONE & MACBROOM
Source: CT ECO. 05/2017
This map is intended for planning purposes only. Deliniations may not be exact.

Flood Zones

A floodplain is a broad and relatively flat area of a river or stream valley on either side of the main watercourse. Floodplains are formed by a series of flood events that spill over the riverbanks and work and rework the sediment. A 100-year flood has a 1% probability of occurring in a given year, or is likely to occur once every 100 years. A 500-year flood has a 0.2% probability of occurring in a given year. The Federal Emergency Management Agency (FEMA) has determined areas within floodplains that are susceptible to 100-year and 500-year floods and has classified them as flood zones. Floodways are those areas within the flood zones that convey the floodwaters. The floodways are subject to water being carried at relatively high velocities and forces. The floodway fringes are those areas of the flood zones outside of the floodway that are subject to inundation but do not convey the floodwaters. FEMA flood zones are delineated on the map on the following page.

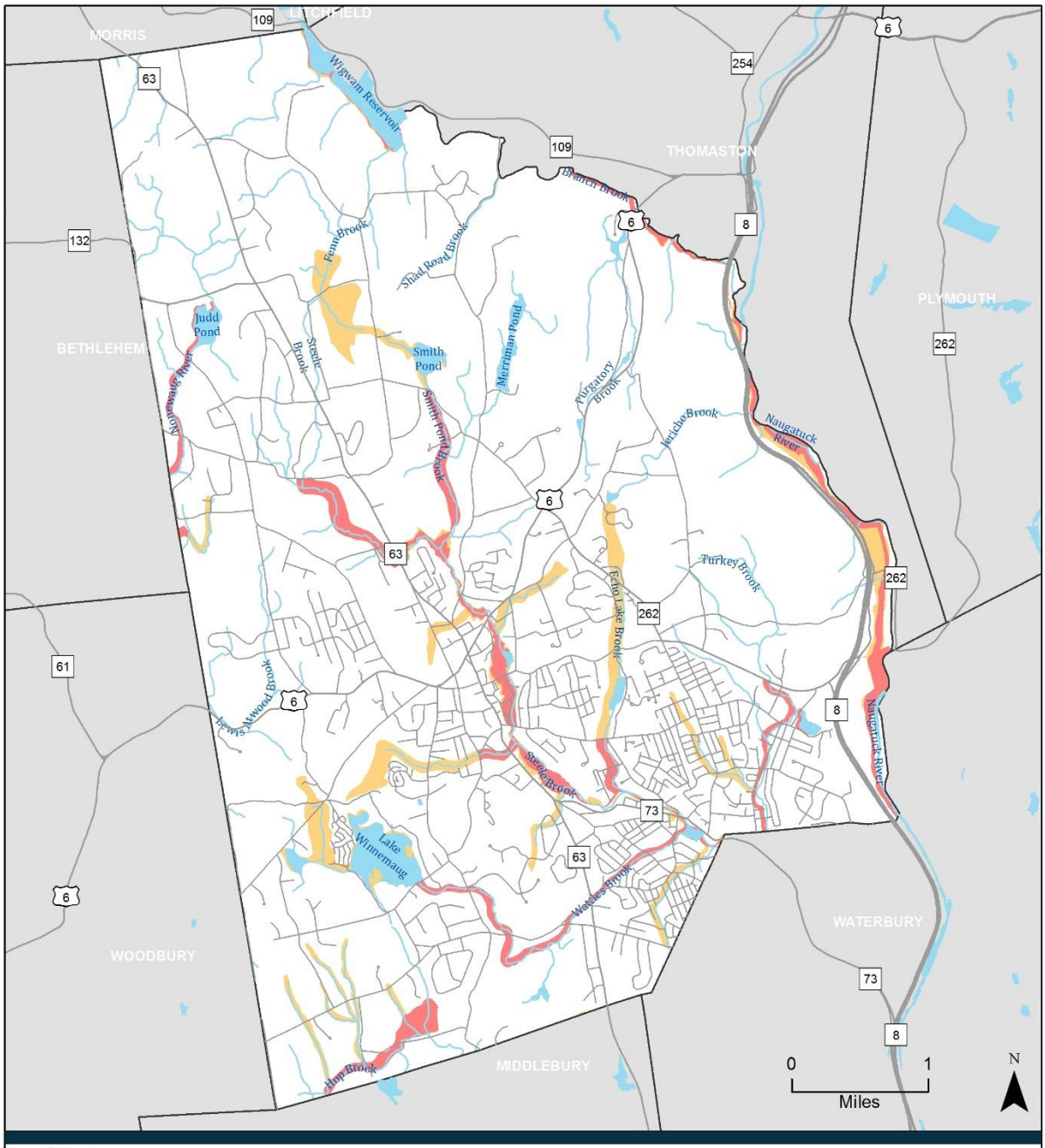
In the 1950s and 1960s, the U.S. Army Corps of Engineers built several flood control projects in the Naugatuck River watershed including Thomaston Dam 4 miles upstream and six smaller dams on tributaries within the watershed. One of these structures, Black Rock Dam, is located on Branch Brook along the Watertown-Thomaston border. The largest structure, Thomaston Dam, can store up to 13.7 billion gallons of water for flood control purposes and has greatly reduced the extent of the 100-year flood zone along the Naugatuck River.

Most of the 100-year flood zones in Watertown are along smaller brooks and streams including Steele Brook, Smith Pond Brook, Wattles Brook, Hop Brook, and Turkey Brook. Streams and brooks are not the only sources of flooding. Roadway flooding can also be caused by inadequate or nonexistent stormwater infrastructure or poor grading, which causes water to pool in low-lying areas. Roadways impacted by flooding include Falls Avenue, Sand Bank Road, Jericho Road, and White Street.

Inland Wetlands

Wetlands are defined by many distinguishing features, the most notable being the presence of standing water for a period of time during the growing season, saturated soil conditions, and organisms, especially vegetation, that are adapted to or tolerant of saturated soils. Wetlands are not easily defined, and definitions are variable between regulatory agencies. In Connecticut, wetlands are defined by soil type, specifically saturated or hydric soils, which are classified by the NRCS as poorly drained, very poorly drained, or alluvial/floodplain.

Any combination of these soil classifications is considered wetland soil and is protected under the town's inland wetland regulations.



Town of Watertown
Plan of Conservation and Development

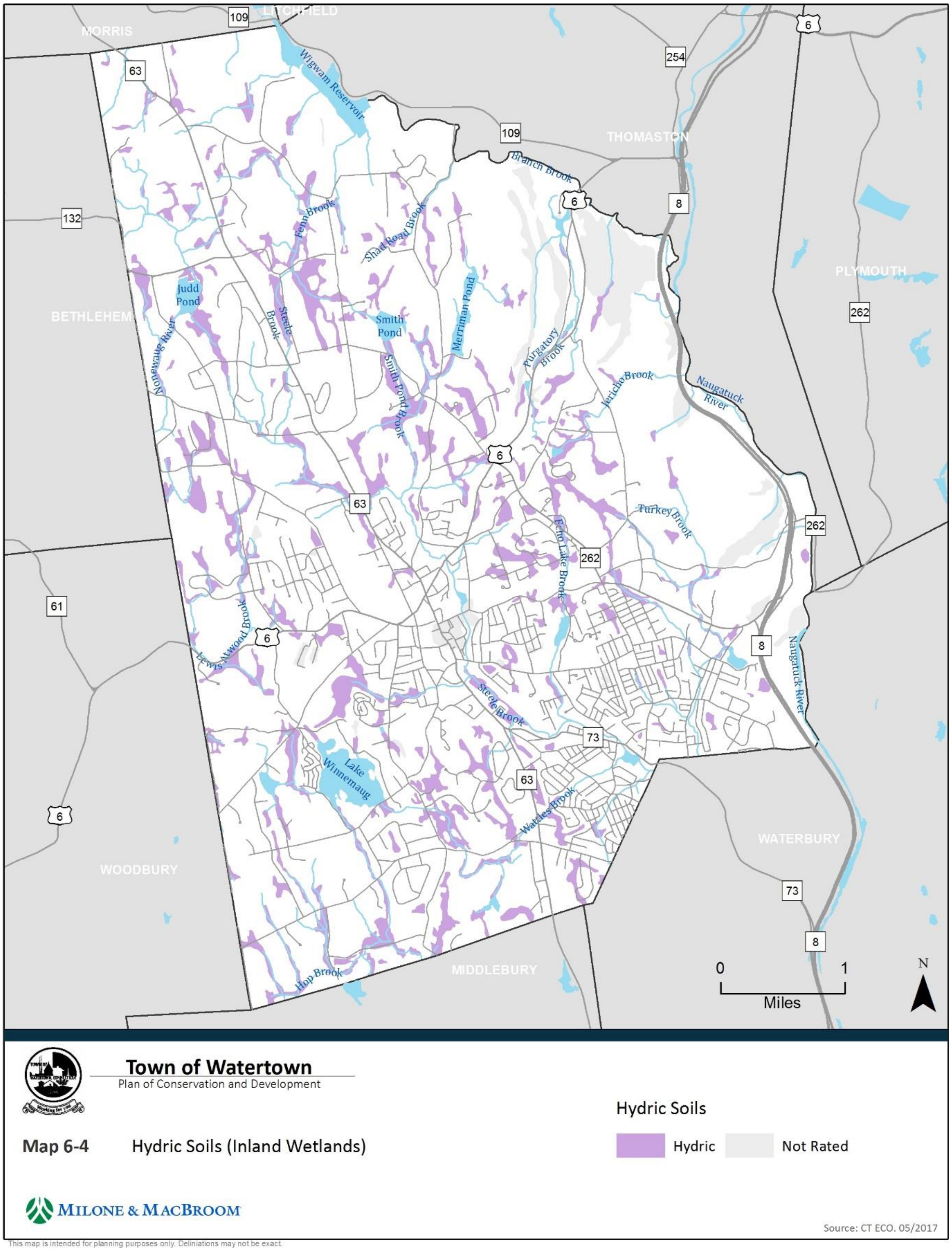
Map 6-3 FEMA Flood Zones

FEMA Flood Zone
- 500-Year FEMA Flood Zone
- 100-Year FEMA Flood Zone

MILONE & MACBROOM

Source: CT ECO. 05/2017

This map is intended for planning purposes only. Deliniations may not be exact.


MORRIS
LITCHFIELD
THOMASTON
PLYMOUTH
BETHLEHEM
WOODBURY
MIDDLEBURY
WATERBURY
Wigwam Reservoir
Branch Brook
Fenn Brook
Shad Road Brook
Judd Pond
Steele Brook
Smith Pond
Merriman Pond
Purgatory Brook
Jericho Brook
Naugatuck River
Nonewaug River
Smith Pond Brook
Turkey Brook
Fenn Lake Brook
Lewis Atwood Brook
Steele Brook
Lake Winnemaug
Wattles Brook
Hop Brook
0
1
Miles
N
Town of Watertown
Plan of Conservation and Development
Map 6-4
Hydric Soils (Inland Wetlands)
Hydric Soils
Hydric
Not Rated
Milone & MacBroom
Source: CT ECO. 05/2017
This map is intended for planning purposes only. Delineations may not be exact.

Steep Slopes

Steep slopes are areas with grades of 25% or higher (1 foot of vertical gain for every 4 feet of horizontal distance). If developed, steep slopes pose negative environmental implications such as increased erosion and surface runoff, bank destabilization, sedimentation of watercourses, and greater localized flooding. Therefore, identifying areas of steep slopes is an important component of the natural resource inventory.

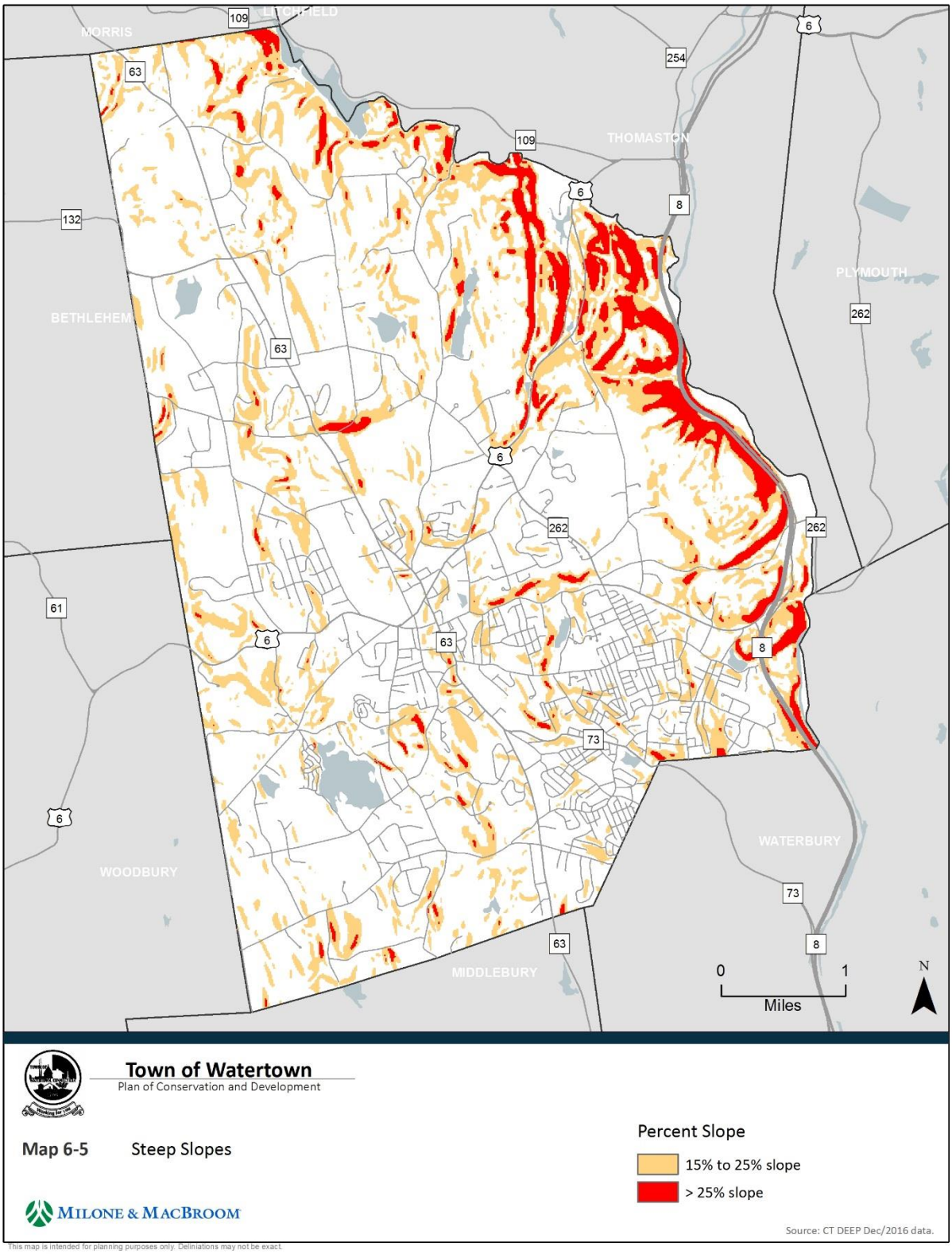
Watertown has rugged terrain. Approximately 5% of Watertown's total land area (950 acres) contains steep slopes of 25% or higher. Development and vegetation clearing should be discouraged in these areas. An additional 3,254 acres of land contains moderate slopes (grades of 15% to 24%). Steep slopes are concentrated in northern and eastern Watertown along the Naugatuck River and Branch Brook. Much of this land is protected as open space as part of Black Rock State Park, Mattatuck State Forest, and the Waterbury Bureau of Water's water utility land.

Natural Diversity Data Base Areas

The DEEP has inventoried habitats across the state that contain endangered, threatened, and special concern species. These sites are included in a special survey called the Connecticut Natural Diversity Data Base (NDDB), which is a centralized inventory of these unique habitat areas and represents the findings of many years' worth of biological surveys. The NDDB breaks down the sites into the following taxonomic groups: mammals, birds, reptiles, amphibians, fish, invertebrates, and plants. Within these groups, the species are further classified as being endangered, threatened, or special concern. NDDB areas within Watertown are shown on Map 6-6.

Invasive Species

Over the years, a variety of non-native flora and fauna have been introduced to Connecticut. These species can have detrimental impacts on the environment or human health. Because these invasive species lack natural predators, they can exhibit aggressive growth and outcompete and displace native species. Non-native species of particular concern in Connecticut include Japanese knotweed, the Asian longhorned beetle, the emerald ash borer, and gypsy moths.


MORRIS
LITCHFIELD
THOMASTON
PLYMOUTH
BETHLEHEM
WOODBURY
MIDDLEBURY
WATERBURY
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132
262
61
73
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Miles
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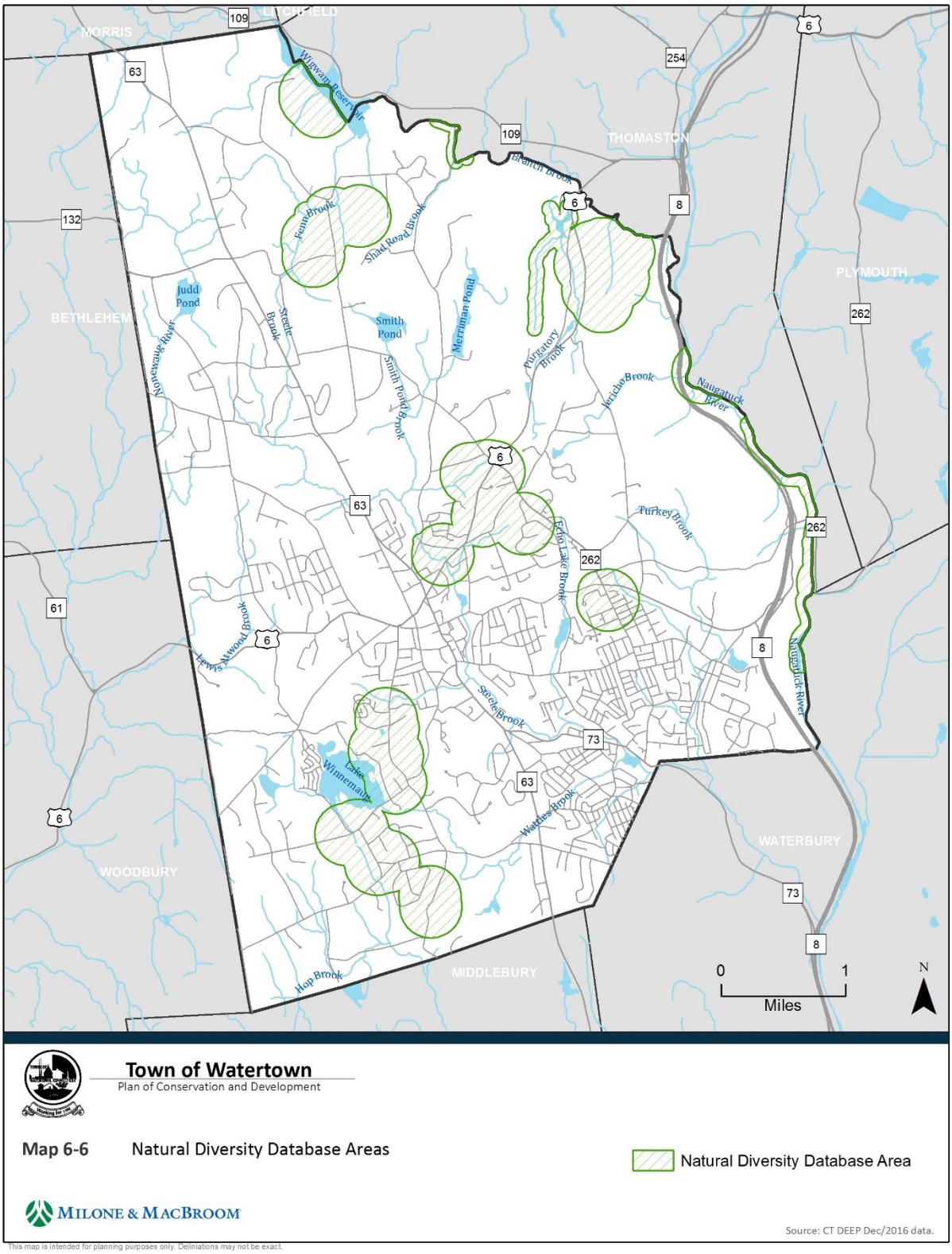
Town of Watertown
Plan of Conservation and Development
Map 6-5
Steep Slopes
Percent Slope
15% to 25% slope
> 25% slope
MILONE & MACBROOM
Source: CT DEEP Dec/2016 data.
This map is intended for planning purposes only. Deliniations may not be exact.



Town of Watertown
Plan of Conservation and Development

Map 6-6 Natural Diversity Database Areas

Natural Diversity Database Area

MILONE & MACBROOM

Source: CT DEEP Dec/2016 data.

This map is intended for planning purposes only. Deliniations may not be exact.

Soils

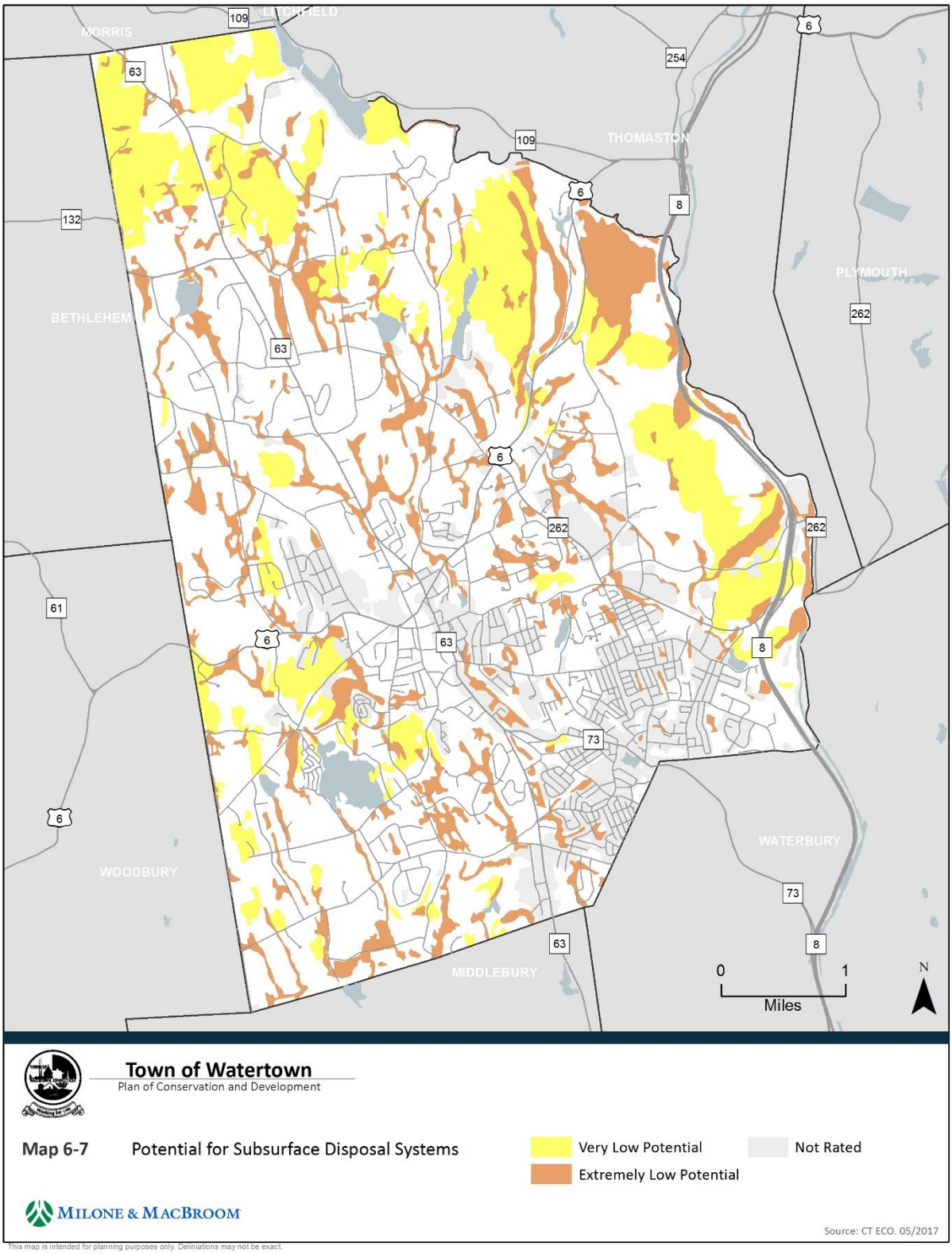
Septic Suitability

Soils can also influence the suitability of installing a residential subsurface sewage disposal systems (i.e., septic system). Septic permits may not be issued by the local health department if conditions such as slow percolation rate, high seasonal water tables, shallow-to-bedrock soils, or steeply sloped areas are present.

Connecticut Environmental Conditions Online (CT ECO) produced data rating areas based on their suitability for residential septic systems as seen in Map 6-7. Areas that are classified as having "very low" and "extremely low" suitability likely cannot be improved sufficiently to meet state health code regulations for septic systems.

Farmland Soils

Consideration should also be given to preserving farmland soils. Farmland soils include land that is defined as prime, unique, or farmlands of statewide or local importance based on soil type in accordance with the Code of Federal Regulations, CFR title 7, part 657. It identifies the location and extent of the most suitable land for producing food, feed, fiber, forage, and oilseed crops. Watertown contains over 4,100 acres of prime farmland soils. These are areas that have the most ideal physical characteristics for farming. An additional 2,650 acres of land are considered statewide important farmland soils, which are not as ideal as prime farmland soils but nonetheless have suitable conditions for farming. Farmland soils in Watertown are shown on Map 6-8. In order to protect farmland soils from development, the State of Connecticut has implemented a Farmland Preservation Program (FPP). The FPP protects farmlands by purchasing the development rights of farmland. In exchange for the state purchase of development rights, a permanent restriction of non-agricultural uses is placed on the deed to the property. These farms remain in private ownership and continue to pay local property taxes.


MORRIS
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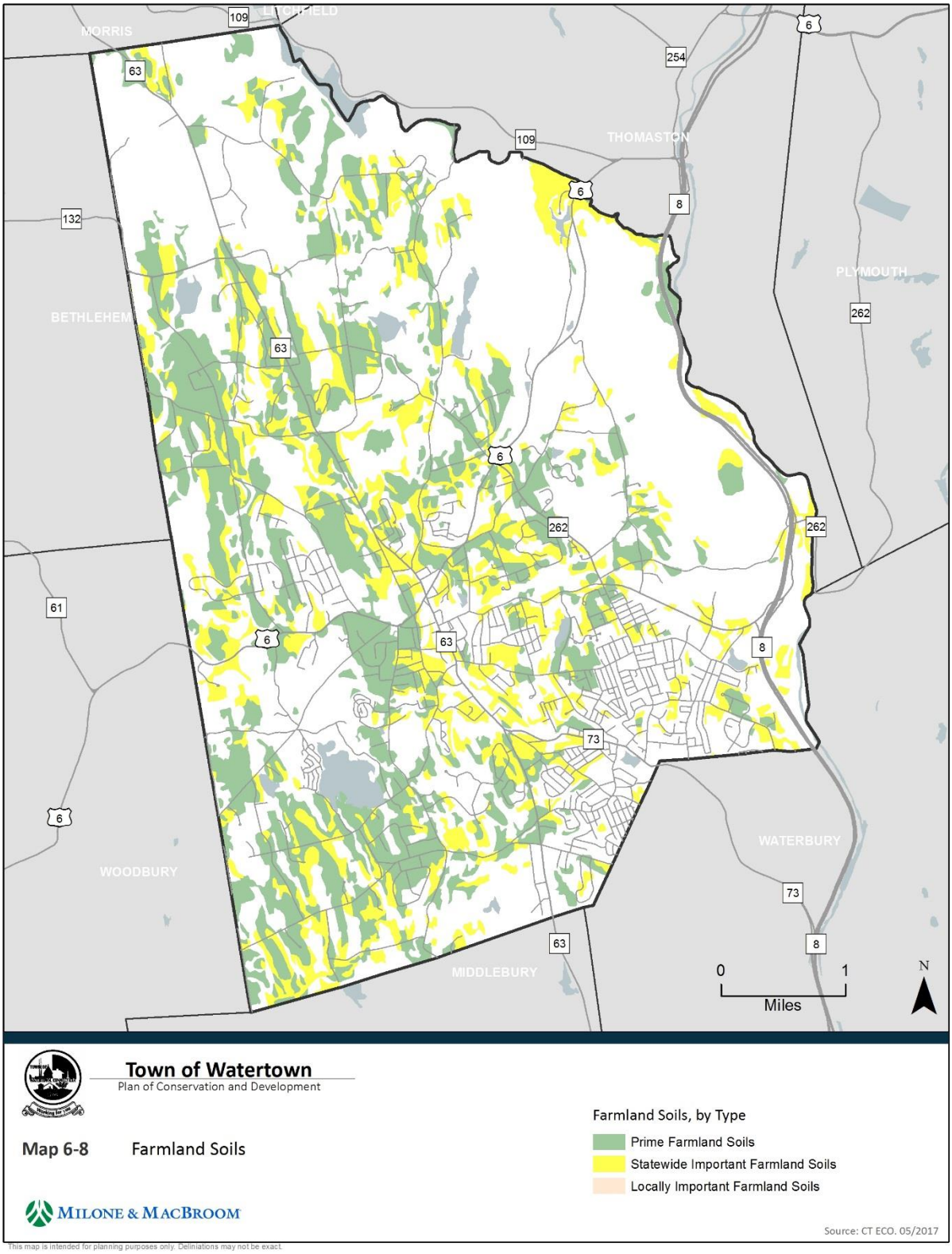
Town of Watertown
Plan of Conservation and Development
Map 6-7
Potential for Subsurface Disposal Systems
Very Low Potential
Extremely Low Potential
Not Rated
MILONE & MACBROOM
Source: CT ECO. 05/2017
This map is intended for planning purposes only. Deliniations may not be exact.



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