

**Stormwater Management Plan**  
**for the**  
**Municipal Separate Storm Sewer System (MS4)**  
**Town of Wallingford, CT**

March 30, 2017

Prepared for:

Town of Wallingford  
Wallingford, CT 06492

Prepared by:

*ATC Group Services LLC*  
*290 Roberts Street*  
*Suite 301*  
*East Hartford, CT 06108*  
**Phone +1 860 282 9924**  
**Fax +1 860 282 9826**



ENVIRONMENTAL • GEOTECHNICAL  
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## **I. INTRODUCTION**

### **1.1 Implementation**

It is required that the permittee develop, implement and administer a Stormwater Management Plan (the Plan) in compliance with the new General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer System (MS4) issued by the Connecticut Department of Energy and Environmental Protection (CTDEEP) Bureau of Materials Management and Compliance Assurance Water Permitting and Enforcement Division, issued January 20, 2016 with an effective date of July 1, 2017. The Plan is designed to reduce the pollutants from the Small MS4 to the Maximum Extent Practicable (MEP). The Town of Wallingford, Connecticut (permittee under this Plan) has operated as a Small MS4 using the best practices in its Stormwater Management Plan, dated January 14, 2014 (revised), as an existing 2004 MS4 permittee. This Plan incorporates best practices under the minimum control measures that are allowed to carry over the existing 2004 permittee requirements, and this updated Plan also incorporates the necessary additions and changes required and gives provides the goals and milestones that are specified in the new permit. The required Annual Report will be submitted at the end of each year providing relevant stormwater data (screening and sampling for illicit discharges), other relevant data or observations, updates and revisions on outfall and catchment inventory/mapping, updates on additional best practices being used, and the overall progress of the Stormwater Management Plan with goals and milestones highlighted.

In addition, the permittee is required as part of the Plan to protect water quality and to fulfill the applicable water quality requirements of the Clean Water Act. Under the CTDEEP General Permit for the Discharge of Stormwater for Small MS4s, the permittee must prepare the Plan in compliance with Section 5(b) and Section 6 of this General Permit. The permittee must continue to implement the Plan and all Minimum Control Measures until the end of the permit (June 30, 2022) or the next reissuance.

### **1.2 Town Information**

The Town of Wallingford is comprised of approximately 40 square miles of land located in New Haven County in the south central section of Connecticut (See Figures 1a, 1b, 1c and 1d for the Contour Maps for the Town of Wallingford, CT - Southwest, Southeast, Northwest and Northeast sections). With a population of approximately 45,000, the Town of Wallingford is the twenty-third most populous community of Connecticut's one hundred sixty-nine cities and Towns.

The Town of Wallingford meets the definition as a Small Municipality and operates and maintains the Town storm water sewer system. Operation, maintenance and system improvements of the MS4 are the responsibility the Town of Wallingford Department of Public Works, along with collaborative efforts of other Town Departments and residents of the Town of Wallingford. The permittee for the Stormwater Management Plan is the Town of Wallingford DPW.

### **1.3 Town of Wallingford Sub-Regional Watersheds**

The Sub-Regional Watersheds that lie within the Town of Wallingford for the South Central Coast Drainage Basin are listed below and are shown on Figure 2 - Wallingford, Connecticut Sub-Regional Basins and Surface Water Flow Directions:

- Sub-basin #5112 Farm River
- Sub-basin #5200 Quinnipiac River
- Sub-basin #5204 Broad Brook
- Sub-basin #5206 Harbor Brook
- Sub-basin #5207 Wharton Brook
- Sub-basin #5208 Muddy River
- Sub-basin #5302 Mill River
- Sub-basin #4606 Coginchaug River
- Sub-basin #4607 Coginchaug River

The above Sub-Regional Basins are all listed with the CTDEEP as Impaired Waters. Only the Quinnipiac River and Wharton Brook drainage basins are entirely indicated as “impaired”, and have a specific impairment indicated for bacteria (E. Coli). The remaining drainage basins listed above are listed as “impaired”, but are only impaired outside the MS4 with a potential influence from the MS4. Monitoring under Section 6 of this Permit addresses the required screening and monitoring for Impaired Waters that are directly affected by the MS4. The screening and monitoring will focus on Impaired Waters directly affected by the MS4 and also the potential influences to Impaired Waters for drainage basins outside the MS4.

#### **1.4 Permittee Contacts**

The following contacts for the Permittee are as follows:

Robert V. Baltramaitis, P.E., Town Engineer  
 Phone Number: 203-294-2035  
 Fax Number: 203-284-4012  
 Email: towngov@wallingfordct.gov  
 Town of Wallingford Department of Engineering  
 45 South Main Street  
 Wallingford, CT 06492

Henry McCully, Public Works Director  
 Phone Number: 203-294-2105  
 Fax Number: 203-294-2107  
 Email: publicworks@wallingfordct.gov  
 Town of Wallingford Department of Public Works  
 29 Town Farm Road  
 Wallingford, CT 06492

#### **1.5 Town of Wallingford Department of Public Works Duties**

The Town of Wallingford DPW’s main day-to-day duties are as follows:

1. Roads:
  - Clean, repair and/or install drainage and catch basins.
  - Pave, chip seal, reconstruct and patch roads.
  - Plow and salt and removal of snow.
  - Remove snow from Town-owned sidewalks and parking lots.
  - Repair and/or install curbs.
  - Roadside mowing, line striping and street sweeping.

- 2. Maintenance of Parks and Buildings:
  - Maintain Municipal buildings.
  - Maintain all parks, open space and Linear Trail.
  - Set up viewing stands for parades.
  
- 3. Solid Waste:
  - Christmas tree pickup and recycling.
  - Issue Commercial Hauler Permits.
  - Issue Senior Citizen Permits and Coupons.
  - Leaf pickup and recycling.
  - Spring cleanup.
  
- 4. Other:
  - Assist Sheriff with evictions.
  - General trash removal from Town properties only.
  - Maintenance of Fire, Police, Public Works Department and car pool vehicles.
  - Tree and stump removal on Town property.

### **1.6 Town of Wallingford Department of Engineering**

The Department of Engineering oversees the design, permitting and construction of major Town infrastructure elements including roads, bridges, dams, traffic signals, etc. The Department of Engineering administers the public sidewalk repair program and the Street Excavation Permit process.

The Department of Engineering assists several other municipal departments:

- Designs, permits and lays out construction of municipal improvement projects for construction by DPW;
- Provides technical comments on land use applications to P&ZC, IWWC and ZBA;
- Provides technical assistance to the Quinnipiac River Linear Trail Advisory Committee and the Conservation Commission and other non-regulatory agencies;
- Makes adjustments and edits to the Tax Assessor's maps;
- Provides surveying, mapping and engineering services as required;
- Prepares and reproduces maps and other professional graphics as required;

The Department of Engineering also provides services to the public, including:

- Survey and field delineate rights-of-way (streetlines) and Town properties;
- Investigate and respond to complaints on storm drainage, intersection sight lines, etc.

### **1.7 Development, Registration and Availability**

This Stormwater Management Plan is required to document and implement certain Minimum Control Measures of the Regulated Small MS4. Certain measures are

required to be implemented throughout the MS4 while others are required in the Urbanized Area (Figure 3).

The permittee must register the Small MS4 for the new Permit on the CTDEEP Registration Form with the applicable registration fee 90 days prior to the effective date of the new Permit.

The Plan must be made available publicly for public review at least 90 days prior to the effective date of the general permit. The Town of Wallingford has provided the Plan on its Town website at [www.Town.wallingford.ct.us/Content/Stormwater\\_and\\_You.asp](http://www.Town.wallingford.ct.us/Content/Stormwater_and_You.asp) for purposes of this public notice requirement. The Plan will also be posted on the CTDEEP website.

## **II. MINIMUM CONTROL MEASURES**

The Permittee (Town) has developed a Stormwater Management Plan that is intended to reduce the discharge of pollutants from the Small MS4 to the maximum extent practicable (MEP), to protect water quality and to satisfy the appropriate water quality requirements of the federal Clean Water Act. MEP is a technology based standard that the Clean Water Act promulgated. Best Management Practices (BMPs) will be used to reduce pollutants to the waters of the Town. When reducing pollutants to MEP many factors need to be evaluated. These factors are the condition of the receiving waters, specific local concerns, implementation timeframes, current ability to finance the program, beneficial uses of the receiving waters, hydrology, geology and capacity to perform operations and maintenance. All these factors should be considered in determining compliance with this general permit to the MEP. Further, the magnitude of the scope of work over the term of the Permit cannot be determined until work has progressed. The Town's ability to perform all of the work specified herein may be altered by such magnitude and other factors, including funding availability. The following required Minimum Control Measures are detailed in Section 2 of the Plan.

### **2.1 Public Education and Outreach on Stormwater Impacts**

The Public Education and Outreach is addressed with the following BMPs, including existing and planned activities. The goal is to communicate to the public common sources of stormwater pollution and the impact of polluted stormwater to the public. The Plan looks to distribute educational materials and conduct outreach activities to raise awareness. These programs are presently active and will continue throughout the Permit. Any changes or additional programs will be referenced in each Annual Report.

2.1.1 Marker kits have been made available by the CTDEEP and have been placed on approximately 5,000 storm water catch basins to date. The marker kits have been placed by the Town and by high school students as part of the Town's Adopt-A-Road Program. The Town of Wallingford has approximately 6,500 public storm water catch basins. Marker kits placed on the remaining catchbasins for the MS4 are planned to be installed in the spring of 2017. When the Town replaces a catch basin, the Town will have "Drains to Watercourses" cast directly into the concrete of the catch basin, making it permanent. This is anticipated to begin in the Spring of 2017.

2.1.2 A dedicated Town website about stormwater management information, entitled "Stormwater and You" is now available at [www.Town.wallingford.ct.us/Content/Stormwater\\_and\\_You.asp](http://www.Town.wallingford.ct.us/Content/Stormwater_and_You.asp) for educating and updating the public on how the Town is managing stormwater. The contents of the page are under development and are expected to be completed by July 1, 2018. The website

now includes several links to websites with additional information on stormwater related issues and the Town will look to add additional links where feasible.

2.1.3 Educational materials (brochures) have been distributed in the past with the marker kits and are available at the DPW office at 29 Town Farm Road, Wallingford, CT. The brochures are also available at the Environmental Planning Office and Planning and Zoning Office at the Wallingford Town Hall, 45 South Main Street, Wallingford, CT.

The Town is planning on adding information pamphlets on key potential pollutants (phosphorus, nitrogen, bacteria and mercury) by July 1, 2018 and will be available in key Town Departments, including the Health Department and the Planning/Environmental Planning Office. Educational materials will include those published by DEEP and other sources.

2.1.4 The Town currently features an environmental film series throughout the year at the Town Library open to the public. Some of the films are centered on preserving water quality and protecting watercourses. The film series is planned to continue in the coming years.

2.1.5 A governmental access tv program is planned by the Town about stormwater and the ways to encourage the protection of stormwater discharges. The plan is to complete and air this program by July 1, 2018.

2.1.6 The Wallingford Water Division has a Program on the Town website that encourages residents to implement low impact garden designs. Using seven basic principles of sound landscaping practice (“Xeriscap” design) a homeowner can manage and enjoy an investment in a beautiful and drought-tolerant garden environment. The benefits to the gardener include the ease and pleasure of a healthy, natural environment, while reducing run-off and water consumption compared to conventional landscaping.

The Town Water Division also promotes education on the Town website for watershed protection. The Water Division annually conducts a watershed survey by visual inspection of all premises within the Town’s watershed area. The Water Division sends out approximately 1,250 letters each spring to property owners within the Town’s drinking water supply watersheds. The yearly inspection program is performed, to the best of their ability, in April-May. An educational brochure is distributed to the owners with the letter. Of concern are the operation of on-site sewage disposal systems, animal keeping activities, erosion and other potential sources of pollution that may harm the quality of our water supply and environment. The Water Division stresses the importance of conserving water and reducing the six (6) major pollutant types that can negatively affect the water quality of lakes, rivers, streams and ground water.

The six (6) major pollutants are detailed below:

- **Sediment:** Dirt and sand are natural substances that become pollutants when they end up in the water in excessive quantities. Sediment changes the shape of streambeds, smothers feeding and nursery areas of aquatic animals, and carries other pollutants into the water. Erosion from poorly managed construction sites, agricultural fields, or suburban gardens are major sources of sediment pollution.
- **Debris:** Non-degradable trash, mostly plastic, when carelessly disposed of, will often end up in a nearby water body. Humans find it ugly, as well as hazardous when it entangles boat propellers. Aquatic animals can also become entangled, or mistake plastic for food, and strangle or starve.



- **Pathogens:** Pathogens are the bacteria and viruses that cause disease. They generally come from fecal material from humans and their pets, or from wild animals and birds. When the potential concentration of pathogens in the water exceeds certain limits, areas must be closed to shell fishing or swimming in order to prevent infections or disease outbreaks. Major sources of pathogens include: failing septic systems, leaky sewer lines, and concentrations of animal waste from pets, farm animals or wildlife.
- **Nutrients:** Materials that are necessary for plant growth, primarily forms of nitrogen or phosphorus, are known as nutrients. When too many nutrients end up in an aquatic system, they alter the natural plant community and can cause massive plant growth known as algal "blooms" which deplete oxygen concentrations in the water. Excess nitrates in drinking water have been linked to human health problems, including heart conditions and birth defects.
- **Thermal Pollution:** During summer months, thermal pollution can make the water in critical aquatic habitats too warm for sensitive native plants and animals to survive, as well as allowing the spread of non-native species. Overheated water can result from the removal of vegetation that shaded the stream, runoff from hot roofs and parking lots, or the collection of water in shallow un-shaded ponds.
- **Toxic Contaminants:** Many of the tens of thousands of chemicals in use today are harmful to both humans and aquatic organisms. Some of these chemicals can be passed through the food chain and concentrate in top predators (like humans). Extremely small concentrations of some toxic materials in the water can kill the eggs and larvae of many animals. Sources of toxic contaminants range from the exhaust and fluids that come from automobiles to the cleaning and disinfectant products used in homes to the pesticides used in yards, farms and parks.

2.1.7 At the Town's annual Celebrate Wallingford festival, held in October, the Department of Public Works and the Program Planning Office had a "Stormwater and You" booth to provide information and answer questions about the subject. The Town will look to continue this program.

2.1.8 The Town of Wallingford has a Household Hazardous Waste Program. This Program is through an organization called HazWaste Central organized by the South Central Region Water Authority. The residents of the Town can dispose of household hazardous waste during Wallingford's Home Town Day (posted on the Wallingford Town website) and at any of the other participating towns in the area during their Home Town Day for free. This Household Hazardous Waste Program will continue to be supported by the Town and an annual review of its success will be conducted by DPW to consider any possible improvements.

2.1.9 Composting materials can be dropped off by residents at the 157 John Street Recycling Center where the Town accepts brush, leaves and Christmas trees. We Care Organics, LLC operates the leaf composting facility in conjunction with the Town DPW. Continued use of the Recycling Center and implementation of possible improvements at the facility will be reviewed by DPW staff on an annual basis.

2.1.10 Several Community Clean-up Programs currently are held in the Town:

- Cleanup of the Quinnipiac River by the Quinnipiac River Watershed Association involves trash and debris pickup along the river corridor once per year. Public is invited to participate.

- Cleanup of the Tyler Mill Preserve by Conservation Commission volunteers that conduct continual trash and debris pickup in coordination with Public Works.
- The Town has an Adopt-a-Road Program which cleans up trash and debris along roadways.
- Recycling bins are provided by the Town during all Town events.
- The Town has a Mini-Grant Program (subject to funding) which provides grants up to \$150.00 to local youth groups and organizations that implement or support recycling programs/activities in schools, churches, clubs and neighborhoods.

2.1.11 These programs are ongoing and will continue for the permit duration. The Annual Report will reference the programs held and any changes/additions. The lead department is the Department of Public Works. Additional/revised elements of the program to target pollutants of concern will be implemented by July 1, 2018 and continue until permit expires.

## **2.2 Public Involvement/Participation**

Public Involvement/Participation in the Town's Stormwater Management efforts shall include:

The Town will publish a public notice of the Plan as required by the Permit, including notice on the Town's website. A copy will be available for public inspection and copying at the Town Clerk's Office, Town Hall, 45 South Main Street, Wallingford, CT 06492.

The Town website has a dedicated page about stormwater management information, entitled "Stormwater and You" (under construction) at [www.Town.wallingford.ct.us/Content/Stormwater\\_and\\_You.asp](http://www.Town.wallingford.ct.us/Content/Stormwater_and_You.asp) and has a link to this Stormwater Management Plan with contacts to whom the public can send comments about the Plan. The Annual Report will also be up-loaded to this website by the end of January for each previous year's Stormwater Management progress.

This Permit requirement will be the responsibility of the Department of Public Works.

## **2.3 Illicit Discharge Detection and Elimination (IDDE) Program**

The IDDE Program for the Town of Wallingford was modeled after Section 6(a)(3)(A) and Appendix B in the CTDEEP General Permit for the Discharge of Stormwater from Small MS4 (effective July 1, 2017). The focus is implementing the IDDE program elements for the Urbanized Area in the Town and the catchment areas of the MS4 with Directly Connected Impervious Area (DCIA) of greater than 11% or which discharge to impaired waters (Priority Areas) in the MS4. The Town will develop a written IDDE Plan to detect, locate and eliminate illicit discharges (to the maximum extent practicable, as permitted by law) from the MS4 within the priority areas. The IDDE Plan, to the extent permitted by law, will provide enforceable legal authority to eliminate illicit discharges, assign responsibilities and develop a citizen reporting program. The Plan will also outline the outfall screening and IDDE protocols consistent with the Permit requirements, and investigate MS4 catchments for suspected illicit discharge pollutants, to the MEP. Also, the IDDE Plan will outline follow-up screening and illicit discharge prevention procedures.

### 2.3.1 Legal Authority

Currently, the Department of Public Works responds to complaints of potential illicit discharges. Such complaints are investigated and, if warranted, a referral to DEEP is

made. The Town of Wallingford has a law against littering, with signs posted along roadways saying “Wallingford Enforces Litter Laws \$500 Fine”. In addition, marker kits do indicate that dumping into catchments will discharge and pollute the waters of the Town.

Additionally, the Environmental Planner (Inland Wetlands and Watercourses Commissioner’s Agent) investigates questionable discharges to streams, wetlands, etc. Certain discharges trigger a wetlands violation notice or cease and desist order. Prompt corrective action is ordered as required.

The development of a local ordinance, by-law or other regulatory action is being developed by the Town of Wallingford Law Department in consultation with Engineering, Public Works, land use staff and the Water and Sewer Division. The development of an ordinance and/or other regulatory mechanisms to prohibit illicit discharges, provide for compliance with law and provide sanctions for non-compliance, to the extent permitted by law, will be developed. As per the new MS4 permit, the ordinance, by-law or other regulatory action shall be developed, to the MEP, and included in this plan within one year of the effective date of this Permit (by July 1, 2018). Once implemented, the specific ordinance will be included in this Stormwater Management Plan.

2.3.2 Illicit Discharge Detection and Elimination Schedule

The Town, to the MEP, shall perform the BMPs in accordance with the following schedule:

<u>BMP</u>	<u>Lead Department/ Individual</u>	<u>Month/Year of Implementation</u>
Develop written IDDE Program	DPW/Engineering	July 1, 2018
Develop list and maps of all MS4 stormwater outfalls in priority areas	Engineering/ Rob Baltramaitis, Town Engineer	July 1, 2019
Develop citizen reporting program	Engineering/ Rob Baltramaitis, Town Engineer	July 1, 2018
Establish legal authority to prohibit illicit discharges	DPW/Engineering/ Law	July 1, 2018
Develop record keeping system for IDDE tracking	Engineering/ Rob Baltramaitis, Town Engineer	July 1, 2017

Address IDDE in areas with pollutants of concern	DPW/Engineering Henry McCully, PWD Rob Baltramaitis, Town Engineer	July 1, 2017
Detailed MS4 infrastructure Mapping	Engineering Rob Baltramaitis, Town Engineer	July 1, 2020
Complete list and maps of all MS4 stormwater outfalls throughout municipality	Engineering Rob Baltramaitis, Town Engineer	July 1, 2022

### 2.3.3 Citizen Reporting

Citizens may report incidents of illicit discharges to the Town website at [www.Town.wallingford.ct.us/Content/Stormwater\\_and\\_You.asp](http://www.Town.wallingford.ct.us/Content/Stormwater_and_You.asp) and/or contact Robert V. Baltramaitis, P.E., Town Engineer at 203-294-2035 or by email at [towngov@wallingfordct.gov](mailto:towngov@wallingfordct.gov). A complaint form is available on the website. Once the citizen report has been documented with the date, time and location, the Engineering Department with the assistance from Public Works and other departments deemed necessary at the time will investigate the alleged illicit discharge within a timely fashion. The record keeping will be the responsibility of the Engineering Department.

Upon an actual detection of an illicit discharge, the Town will perform further investigation, as permitted by law and to the MEP, and will attempt to eliminate the discharge or cause the discharge to be eliminated by the responsible party within 60 days of its confirmation. If the discharge cannot be eliminated within the 60 day period, then a schedule will be developed to document additional attempts to eliminate the discharge, but shall not exceed 180 days from the time of the confirmation of the illicit discharge.

Records will be maintained by the Town for illicit discharge abatement activities and will include the following, as applicable: location, description, date(s) of inspection, sampling data, action(s) taken, date of removal or repair and responsible party(ies). The illicit discharge abatement activities will be included in the Town's Annual Report.

### 2.3.4 Development of List and Map for the MS4 Owned or Operated Stormwater Discharges

The Engineering Department has been updating and keeping current electronic drawings of the Town's features including buildings, roads, parking areas, driveways and other ground cover characteristics. Additionally, the Town has compiled a comprehensive map of all stormwater collection system components, now in hand-drafted format and available at the Town Engineering Department. Within 2 years of the effective date of the permit, the list and maps of all MS4 stormwater outfalls in the Urbanized Area and priority areas will be complete. Complete mapping, in accordance with the Permit Requirements, will be completed by June 30, 2022.

Each year the Annual Report will update the progress of the updated database and mapping of stormwater discharges.

1. For phosphorus, nitrogen and bacteria this Stormwater Plan will address these pollutants under the IDDE Program to address septic system failures. Within one year of the effective date of this permit, the Town will review existing policies, procedures and ordinances relating to sanitary sewer overflows. It should be noted that the Town does not have any combined sewers.
2. The Town has an existing Subsurface Sewage Disposal System Ordinance. The Town also has an Inflow Infiltration into Sanitary Sewer Systems Ordinance which looks to prevent overflows by reducing stormwater running into the sewers. The program and involves educational materials, inspections (including inspections at the time of sale of the properties), seminars for local realtors to advise them of the requirements and a grant program for portions of the cost of removal by homeowners.
3. The Health Department for the Town will be consulted to identify historic on-site sanitary sewer failures and their proximity to bacteria impaired waters, areas of low infiltration soils, and shallow ground water.
4. The Annual Report will summarize this septic system failure assessment program each year and identify failing systems and actions taken to reduce pollutants.

In addition, the Town has Aquifer Protection Regulations and the Town Water and Sewer Division has an active inspection program to prevent pollutants from entering water sources both on its watershed and land around its well fields in the Aquifer Protection Area.

#### 2.3.5 Statement of IDDE Program Responsibilities

The Town of Wallingford departments will collectively work together to prohibit, and encourage the elimination of illicit discharges to the MS4, as permitted by law. The following departments/persons have responsibilities for the IDDE program.

- Wallingford Department of Public Works (203-294-2105), Henry McCully, DPW Director – Main Permitted Contact.
- Wallingford Engineering Department (203-294-2035), Robert Baltramaitis, P.E., Town Engineer – Stormwater Discharge Inventory and Mapping; Illicit Discharge Complaints
- Town of Wallingford Planning and Zoning Department (203-294-2090), Kacie Costello, Town Planner/Zoning Enforcement Officer – Planning and Zoning Approvals/Enforcement
- Town of Wallingford Inland Wetlands and Watercourses Commission (203-294-2093), Erin O'Hare, Environmental and Natural Resources Planner – Compliance with Wetlands Approvals/Enforcement
- Town of Wallingford Health Department (203-294-2065), Eloise Hazelwood, R.S., M.P.H., Director of Health Department – Septic System Compliance.
- Wallingford Law Department (203-294-2140), Janis Small, Corporation Counsel – Legal Authority Liaison

### 2.3.6 Assessment and Priority Ranking of Catchments

The assessment and priority ranking for catchments is based on their potential to contain illicit discharges and sanitary sewer overflows (SSOs) and the potential/actual public health significances. The ranking uses a prioritized system for screening/sampling of outfalls and interconnections, catchment investigations of evidence of illicit discharges and SSOs and the basis for determining milestones in the IDDE Program. The Town will, to the MEP, during the inventory process classify each catchment in the MS4 into the following categories:

- Excluded Catchments – with no potential for illicit discharges and may be excluded from the IDDE Program.
- Problem Catchments – known or suspected of contribution to illicit discharge based on existing data and are designated as “Problem Catchments”. Problem Catchments do not need to be screened, but need to be scheduled for catchment investigation. Include Problem Catchments in initial ranking.
- High Priority Catchments – already designated as “Problem Catchments” and are discharging to an area of concern to public health due to proximity to sensitive receptors (public beaches, recreational areas, drinking water supplies or shellfish beds). Based on determination made by the Town in accordance with the Permit outfall/interconnection screening and characteristic assessment\*.
- Low Priority Catchments – determined by the Town as low priority based on outfall/interconnection screening and catchment characteristic assessment in accordance with the Permit.

Characteristic Assessment is based on considering the following factors to determine High Priority or Low Priority:

- Past discharge complaints and reports.
- Poor dry weather receiving water quality (high potential of illicit discharge – exceeding water quality standards for bacteria; ammonia level above 0.5 milligrams per liter; surfactant levels greater than or equal to 0.25 milligrams per liter).
- Density of generating sites (e.g., car dealers, car washes, gas stations, garden centers, and industrial and manufacturing areas).
- Age of surrounding development and infrastructure (industrial areas greater than 40 years and sanitary sewer systems older than 40 years).
- Sewer conversion-catchments once serviced by septic systems.
- Historic combined sewer system.
- Density of aging septic systems (30 years or older in residential land use areas are prone to have failures).
- Culverted streams.

The Town will use its best efforts to complete the initial assessment and priority ranking of catchments within 2 years from the effective date of the permit (July 1, 2019). The Town will update the assessment and priority ranking on an annual basis and include

the information in the Annual Report. For each catchment being investigated the Annual Report will include evidence of the known illicit discharge or SSO, on-going or planned corrective actions and a schedule for completing and verifying correcting the confirmed illicit discharge or SSO.

### 2.3.7 Outfall Screening and Sampling – Procedures

The following procedures will be implemented, to the MEP, for the dry weather and wet weather screening and sampling for evidence of illicit discharges and SSOs.

Baseline outfall and interconnection screening for dry weather (no more than 0.1 inches of rainfall has occurred in the previous 24 hours) shall be performed for the High and Low Priority Catchments. When flow is observed, a sample of the flow will be collected for ammonia, chloride, conductivity, salinity, *E. coli.*, surfactants and temperature. Field instruments may be used for the analysis, with the exception of bacteria, which must be analyzed at an approved analytical laboratory. If no flow is observed then a re-visit to this same suspected illicit location should be performed within a week of the initial screening. A second dry weather screening and sampling may be warranted based on the initial or re-visit depending on the specific circumstances and the need for additional information/analytical data. The Annual Report will identify other follow-up actions to the apparent source of intermittent flow not sampled.

Wet weather screening and sampling will be performed when confirmation of an illicit is likely and the identification of an illicit may be more evident during wet weather. Wet weather screening is when a measurable amount of rainfall has occurred to produce stormwater discharge, but only during the spring time (March to June).

Catchments where there is information indicating possible sewer input to the MS4 or sampling results indicate ammonia greater than or equal to 0.5 milligrams per liter, surfactants greater than or equal to 0.25 milligrams per liter and bacteria levels greater than water quality criteria or the same exceedances on ammonia and surfactants and any detectable concentrations of chlorine, the catchment shall be considered to be a “High Priority” and ranked at the top for investigation.

### 2.3.8 Catchment Investigation Procedures

Catchments that are ranked as “Problem” or “High Priority” shall undergo procedure for catchment investigation. This will include review of mapping and historic records of the area of concern, a manhole inspection and procedures to isolate and confirm the source(s) of the illicit discharge. The procedures will follow the System Vulnerability Factors that indicate a risk of sanitary or septic system inputs to the MS4 under wet weather conditions. The System Vulnerability Factors to be considered are as follows:

- History of SSOs.
- Sewer pump/lift stations, siphons or known sanitary sewer restrictions which could result in SSOs.
- Inadequate sanitary sewer level of service resulting in customer back-ups.
- Twin-invert manholes or common trench construction serving both storm and sanitary sewer alignments.
- Crossing of storm and sanitary sewer alignments.

- Sanitary sewer alignments known or suspected to have been constructed with an underlain system.
- Sanitary sewer infrastructure detects.
- Areas formerly serviced by combined sewer systems.
- Any sanitary or storm drainage system greater than 40 years old.
- Widespread code-required septic system upgrades required at property transfers.
- History of multiple local health department or sanitarian actions addressing widespread septic system failures.

The Town will document the presence or absence of System Vulnerability Factors for each catchment, retain the documentation in the IDDE program and report the information in the Annual Report. If System Vulnerability Factors are present, then the catchment shall be investigated in accordance with the Manhole Inspections in this Plan.

### 2.3.10 Manhole Inspection Methodology

For catchments where System Vulnerability Factors are present, manhole inspections will be performed to investigate the storm drain network for these areas catchments of suspected illicit discharges or SSOs. Observation and sampling will be the key for evaluating the suspected illicit discharges or SSOs. Investigation and sampling will follow the wet weather observations and sampling previously detailed in this Plan. Manholes that are selected due to catchments meeting the System Vulnerability Factors will be appropriate to ensure a thorough assessment of the system. The manhole inspections will start at the outfall and move up the system or start from the upper portions and move down to the outfall(s).

Catchment investigation procedures for the key junction manholes will be opened and examined for dry weather investigation. Observe in the open manhole for signs of unusual odors or visible signs of an illicit connection (e.g., excrement, toilet paper, gray bacterial growth, or sanitary products present). If flow is present the flow will be sampled for ammonia, surfactants and chloride (field kits may be used or samples will be sent to an approved analytical laboratory). Bacteria and/or conductivity analysis may be done on a case by case basis for indications of sanitary flows or tidal backwash. Where visual/olfactory or sampling indicate a potential illicit discharge or SSO, the area draining the manhole shall be flagged and investigated further by upstream manhole investigation and/or isolation in a similar fashion as described above.

Manhole shall also be inspected for wet weather investigation where System Vulnerability Factors are present. Wet weather investigations will be a review of mapping and historical plans/records and manhole inspections to determine whether wet weather-induced flows in sanitary sewers or high ground water in areas serviced by septic systems result in discharges of sanitary flow to the MS4. At least one wet weather screening and sampling at the outfall for any catchment Where on or more System Vulnerability Factors are present. The sampling will be done once the dry weather investigation has been completed. All dry weather and wet weather screening and sampling under the System Vulnerability Factors category will be documented in the Annual Report.



### 2.3.11 Removal and Confirmation of Illicit Discharges or SSOs

When sources of illicit discharges or SSOs are confirmed, the Town will look for the discharge. The Annual Report will include following information for the confirmed Illicit discharges or SSOs: location of the discharge and the source(s), description of the discharge, methods of discovery, date of discovery, date of elimination, mitigation or enforcement action and estimated volume of flow removed.

Within one year of all the identified illicit discharges or SSOs, follow-up screening will be conducted in dry weather. Wet weather follow-up confirmatory screening will also be done if System Vulnerability Factors have been identified.

Once initial catchment investigations have been completed and illicit discharge removal and confirmation has been completed (if necessary), follow-up screening within 5 years will be done based on the catchment illicit discharge prioritization.

The Town will encourage applicable departments to prevent illicit discharges and SSOs. These methods are currently used and will continue to be used for spill prevention procedures, for identification of spills, reporting (contacting the CTDEEP at 860-424-3338), containment procedures (for applicable facilities – Town DPW, Town Recycling Center), documentation (for applicable facilities), public awareness (covered under Public Participation and Outreach in this Plan), citizen complaint process (under Town website) and training (given to specific Town employees).

### 2.3.12 IDDE Program Implementation Goals and Milestones

The Town will make reasonable efforts for the following IDDE goals and milestones:

- Dry weather screening and sampling (where flowing) of every MS4 outfall and interconnection (except Excluded and Problem Catchments) within 3 years of the effective date of this permit (July 1, 2020). All data is presented in the Annual Reports to update the status.
- Investigations for the screening and sampling within 3 months of investigation procedures and no later than 15 months from the effective date of this permit.
- Catchment Investigation Procedures in every catchment of the MS4 for Problem Catchments and those with the highest ranking in the Assessment of Priority Catchments; with 80% of the Problem Catchments within 3 years of the permit effective date and 100% of the Problem Catchments within 5 years of the permit effective date.
- Catchment Investigation Procedures in every catchment of the MS4 where sewer input has evidence by visual/olfactory or sample data has ammonia greater than or equal to 0.5 milligrams per liter, surfactants greater than or equal to 0.25 milligrams per liter and bacteria is greater than water quality standards or ammonia and surfactants have data exceeding the above levels and any detectable concentration of chloride within 5 years of the effective date of this permit (July 1, 2022).
- Catchment Investigation Procedures in 40% of the area served by all MS4 catchments within 5 years of the permit effective date, and in 100% of the area served by the MS4 catchments within 10 years of the permit effective date.

- Catchments that do not contain junction manholes, dry weather screening and sampling can be done and meet the manhole inspection requirements. Investigations are considered complete in these manholes when dry weather screening reveals no flow; no evidence of illicit discharge or SSOs is indicated by sampling or visual/olfactory methods; and no wet weather System Vulnerability Factors are identified.
- Indicators of the tracking program efforts will be documented by the Town in the Annual Reports by indicating the number of illicit discharges and SSOs and the number that have been removed, percent and area in acres of the catchment area served by the MS4 evaluated using the catchment investigation procedure and volume of sewage removed (estimated).
- Training will be done on an annual basis to appropriate employees of the Town that are involved in the IDDE Program. The Annual Report will provide the type of training that was performed.

## **2.4 Construction Site Stormwater Runoff Control**

The Construction Site Stormwater Runoff Control for the Town of Wallingford is to control stormwater discharges associated with land disturbance or development with one acre or more of land disturbance. The goal is to establish procedures for minimizing polluted stormwater runoff from such activities. All construction activities are to be conducted in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and any construction activities that disturb greater than 1 acre must be conducted in accordance with the State of Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.

### **2.4.1 Legal Authority**

Currently, regulations for runoff from construction activities exist in Zoning Regulations, Subdivision Regulations and Inland Wetlands and Watercourses Regulations (IWWC) requiring silt control devices to be installed and maintained at all sites as part of the land use approval, where required. Applicants must comply with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control at this time. A Sediment and Erosion Control Plan is required and a Sediment and Erosion Control Bond is also required as part of the Planning and Zoning approval. The Town will review existing regulations and, if necessary, update or enact regulations, standards, or other legal authority requiring developers, construction site operators or contractors to maintain consistency with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Connecticut Stormwater Quality Manual and other applicable stormwater discharge permits issued by the CTDEEP. The legal authority will also consider additional measures to protect/improve water quality, carry out inspections where appropriate and based on availability of personnel, receive long term maintenance programs from developers for privately-owned retention ponds, detention ponds and other stormwater basins and the permittee will consider inter-jurisdictional agreements that may contribute to pollutants between the Town MS4 owned and the MS4 owned or operated by others (e.g., State of Connecticut).

With respect to improving water quality, the zoning/subdivisions regulations provide:

- There is a required greenbelt/buffer of 25 ft. to 100 ft. (depending on the body of water and the zoning district) – Section 6.4.

- Section 7.2.I references a general drainage requirement for Site Plan applications (new development or additions/significant modifications to a site), and states that the Commission can prescribe “reasonable conditions . . . to ensure the accomplishment” of that objective.
- Section VI.C of the Subdivision Regulations has more specific requirements for retention and treatment for subdivisions of land.
- Section 4.13 of the Wallingford Zoning Regulations is the “Watershed Protection” overlay District, which has stormwater runoff treatment requirements for properties located in any designated Public Water Supply Watershed.
- Aquifer Protection Regulations for the Aquifer Protection District prohibit new uses involving certain hazardous materials, and require a hazardous materials management plan for existing uses involving certain hazardous materials.

The Town will look to review, upgrade (if needed) and continue to enforce their land use regulations within 2 years from the start of the Town’s first fiscal year that begins after the effective date of this permit.

Current regulations regarding runoff provide:

- Section 6.18.C of the Zoning and Subdivision Regulations require a Certified Soil Erosion and Sediment Control Plan (Soil Plan) for development when the disturbed area of such development is more than ½ acre.
- However, single-family homes are exempt from this requirement.
- The current regulation references the Connecticut Guidelines for Soil Erosion and Sediment Control of 1985 as amended.
- There are exceptions and allowances for alternative methods.

The review and revisions to be examined and adopted by the Planning and Zoning Commission include:

- Remove exemptions, exceptions, alternative methods
- Update the Zoning and Subdivision Regulations to reference the “2002 Guidelines for Sedimentation and Erosion Control, CT Stormwater Quality Manual and all applicable CTDEEP Stormwater Permits.
- Add language to the effect that the Stormwater Pollution Control Plan that is part of their application to for CTDEEP’s General Permit for Discharge of Stormwater and dewatering Wastewaters Associated with Construction Activities for disturbances over 1 acre.

#### 2.4.2 Interdepartmental Coordination, Site Plan Review & Inspection and Public Involvement

An interdepartmental approach is used to review, permit or approve land disturbance and development projects. All applications for development of any sort are referred to the applicable departments for review, and a meeting is held prior to each meeting with

all of those staff members to discuss any plan issues, including stormwater controls. Building permit applications are currently referred to applicable departments by the Building Department. Site inspections re: S & E control installation/maintenance is done routinely inspected by the Inland Wetlands and Watercourses Commission and on an as-needed basis by Planning and Zoning.

The Planning Department will look to coordinate with the Building Department so that any disturbance of 1 acre or more is referred to Planning and Zoning, at which point the applicant can be notified about the required DEEP Permit, and require that they submit their Stormwater Pollution Control Plan to the Town.

A review of these regulations will be undertaken and will include:

- Revisions to the Subdivision Regulations to strengthen the requirements and provide more specificity.
- The Town is in the process of updating the Watershed Protection District to be more specific and to prohibit activities involving hazardous materials in the Public Water Supply Watersheds, and to update treatment requirements. It will also include other specific requirements relating to Watershed Protection Elements.

Currently, if there is a project approved by Planning and Zoning, the Town Planner performs inspections prior to the release of the Sediment and Erosion Control Bond. Sediment and Erosion Control enforcement is also performed by the Town Planner when there is a specific complaint.

Further, the Inland Wetlands and Watercourses Commission conditions permit approval with the requirement of the proper installation of required erosion control measures. In large projects, an erosion control performance bond is required. The Environmental Planner periodically inspects sites during land disturbance and post construction phase in order to determine compliance with the requirements.

Additionally, the IWWC requires stormwater management maintenance plan documents as part of the application process. The plan requirements are sometimes required to be incorporated into recorded deeds on the land records. As part of the inspections of the erosion and sediment control measures the Town staff would check for obvious signs of improper waste stream management.

Procedures for Site Plan review that incorporate potential water quality impacts are currently being implemented. A review of the Site Plan is completed by the Town Planner, Town Engineer and Environmental Planner, and then is approved by the Planning and Zoning Commission. A monthly inter-departmental meeting is held with representatives from the Health Department, Engineering Department, Water and Sewer Division, Fire Marshal, Wetlands Department and Planning Department to discuss issues on pending permit applications.

Procedures for receipt and consideration of information submitted by the public for Planning and Zoning matters are the responsibility of the Planning Department. The responsibility for the IWWC is the Environmental Planner. A main responsibility of both departments is to answer questions or field complaints from residents, businesses, consultants, various state agencies and developers pertaining to land use and development in the Town of Wallingford. Public notice is also achieved by publication in the newspaper and posting of the agendas in the Town Clerk's office and on the Town's website.

The interdepartmental coordination for permitting, site plan reviews, inspections and public comment under Construction Site Stormwater Runoff Control are currently in-place.

#### 2.4.3 State Permit Notification

The Town will make available a notification (posting at the Planning and Inland Wetlands Departments) to developers that they are obligated to obtain authorization under the CTDEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities if their development or redevelopment disturbs more than one acre of land. The notification also informs the developer of their obligation to provide a copy of their Storm Water Pollution Control Plan upon request by the Town. The Department will add the notice to the application forms.

### **2.5 Post-Construction Stormwater Management in New Developments and Redevelopments**

#### 2.5.1 Legal Authority

The development of an ordinance, by-law, regulation, standard condition or approval or other appropriate legal authority by the Town, to the MEP, requiring developers to consider low impact development (LID) and runoff reduction site planning and development practices prior to the consideration of other practices. The goal is to include the land use regulations requirements to meet or exceed the LID and runoff-reduction practices in the Stormwater Quality Manual.

Currently, LID measures are a requirement/recommendation in a few of the zones under the Zoning Regulations. A review and update will be conducted to expand this as a requirement/consideration where appropriate. This review will involve the Land Use staff, and commissions and the Department of Engineering.

The legal authority will make efforts to include redevelopment of sites that are currently developed with a Directly Connected Impervious Area (DCIA) of 40% or more, retain on-site half the water quality volume for the site, and for new developments and redevelopments of sites with less than 40% DCIA, retain that water quality volume for the site. An alternative retention standard is allowed under this permit and may be considered by the Town depending on the specific circumstances.

Currently post-construction runoff controls are required as a condition of approval for construction permits. In certain cases The Town's Subdivision Regulations (based on subdivision overall size – small subdivisions excluded) require on-site detention basins to slow peak flow. A management plan for detention/retention basins is now required as part of the Site Plan. For residential developments, the applicant is required to place a notice on the Land Records indicating that the property owner is required to maintain the basins. A review of the regulations will be undertaken to provide more specificity in the requirements of the plan. The review will also include an implementation of notice to owners of existing basins regarding their responsibilities and best management practices. The Town also requires in some areas of new development in-line sediment chambers as the final structure prior to final discharge to the surface waters. The Town's overall goal is to update the design and construction standards, land use regulations, permit application and plan review process, construction inspection and enforcement program to incorporate post-construction stormwater management practices.

In the establishment of the legal authority under Post-Construction Stormwater Management, the Town will consider the following:

- Minimize the amount of impervious surfaces.
- Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits.
- Implement stormwater management practices that prevent or reduce thermal impacts to streams.
- Seek to avoid or prevent hydromodification of streams or other waterways.
- Implement standards or other means to protect trees and other vegetation.
- Implement standards or other means to protect native soils.

The Town will review and enact revised and/or additional legal authority for Post-Construction Stormwater Management within the permit requirements (as needed) by June 30, 2021.

#### 2.5.2 Runoff Reduction and LID Measures

Runoff Reduction and LID Measures to be implemented by the Town and required to be used by the developer or other responsible party for developments and redevelopments in the MS4 where applicable for the DCIA locations are to be implemented to the MEP within 2 years after the effective date of this permit. Other consideration that may be implemented by the Town are limiting turf areas to those necessary to construct buildings, utilities, stormwater management measures, parking, access ways, reasonable lawn areas and contouring necessary to prevent erosion, maintain consistency with the Connecticut Stormwater Quality Manual, and for areas serviced by septic systems, coordinate with the Town Health Department to make sure of proper construction methods of these systems (consistent with CTDPH's Technical Standards for Subsurface Sewage Disposal Systems).

#### 2.5.3 DCIA Calculations and Tracking

The Town will, to the MEP, calculate the DCIAs contributing to stormwater runoff to each MS4 outfall within 3 years of the effective date of this permit. The calculations will be made by the Town Engineering Department or other Town designated department based on guidelines provided by CTDEEP. The Annual Report will provide each prior year's calculations and revise the DCIA estimates as developments, redevelopments, or retrofit projects effectively add or remove DCIA in the MS4.

#### 2.5.4 Long Term Maintenance

Efforts to implement a long term maintenance plan on retention or detention ponds, owned by the Town or private ponds where the Town has an easement and obligation to maintain and located in the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to or receive stormwater from the MS4 will be made by the Town. To the best of the Town's ability, annual inspections will be done for those retention and detention ponds and removal of accumulated sediment will done to restore full solids capacity where sediment is found to be in excess of 50% design capacity.

The long term maintenance plan includes stormwater structures for swirl concentrators, oil/grit separators, water quality wetlands or swales installed within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters. These efforts are limited to the long term maintenance plan are structures owned by the Town and privately-owned structures where the Town has an easement and maintenance obligation. To the best of the Town's ability, annual inspections will be done for those structures and removal of accumulated sediment will be done to restore full solids capacity where sediment is found to be in excess of 50% design capacity.

Implementation of the above long term maintenance plan is within 2 years of the effective date of this permit.

For impaired waters (Nitrogen, Phosphorus or Bacteria) for potential erosion and sediment problems the Town will look to implement a plan for these problems under the Retrofit Program addressed in the next section of this Plan (Pollution Prevention and Good Housekeeping).

## **2.6 Pollution Prevention/Good Housekeeping for Municipal Operations**

The goal of an operation and maintenance plan for Pollution Prevention and Good Housekeeping is to prevent and reduce pollutant runoff for the MS4. The Town will implement an operations and maintenance program to prevent or reduce pollutant runoff from town facilities and protect water quality.

### **2.6.1 Employee Training**

Town staff is currently trained when they are hired by the Director of Public Works on illicit discharge programs related to personnel who perform roadway maintenance. This program will continue. Illicit discharge training will be reviewed and expanded to personnel that perform routine inspections and Winter Projects maintenance on stormwater structures and outfall locations. In addition, Town Garage Maintenance staff are trained in proper indoor maintenance and in procedures for proper spill prevention, control and countermeasures. The training covers the minimum control measures. The above training under this control measure will continue throughout the permit and will be documented in the Annual Report.

### **2.6.2 Infrastructure Repair, Rehabilitation and Retrofit Program**

The goal of the repair and rehabilitation program is to reduce and eliminate the discharge of pollutants from its MS4. Priority areas may be where outfalls are discharging pollutants, to impaired waters, inspections observations made during outfall mapping and other factors. Stormwater structures are inspected during routine maintenance. In addition, a Winter Projects list is generated for Town and privately owned drainage structures (where the Town has the legal obligation to maintain) where problem areas for storm water discharge are inspected, maintained and/or upgraded for improved system operation. Upgrades and repairs are dependent in part on the Town's annual budget. The Town of Wallingford has already begun modifying the way that it constructs roadway improvements. Efforts are being made to encourage low impact techniques and encourage overland flow and vegetated swales in lieu of traditional drainage structures and storm sewer pipe. The Town will continue to identify areas where storm water retrofits can be implemented. During the summer of 2017, the Town plans to reconstruct a large municipal parking lot within the urbanized area. The plan is

to retrofit the existing storm water drainage system to enhance the quality and encourage groundwater recharge, through the use of rain gardens.

### 2.6.3 Retrofit Program

The goal of the Retrofit Program under this permit is to disconnect existing DCIA. The DCIA is considered disconnected when the appropriate Water Quality Volume has been retained as previously discussed in section 2.5 of this Plan. This may be accomplished with retrofits or redevelopment projects (both public and private) that utilize LID and runoff reduction measures or any other means by which stormwater is infiltrated into the ground or is reused without a surface or storm sewer discharge. A redevelopment project is one that modifies an existing developed site for the purpose of enhancing or expanding. A retrofit project is one that modifies an existing developed site for disconnecting DCIA. The Planning and Zoning Department will create a list of approved redevelopment/retrofit approvals for the past five (5) years and the Department of Engineering will assist with this requirement.

The Town of Wallingford has been encouraging DCIA disconnection through its land use boards. On re-development projects, where feasible, the Town has required infiltration and water quality enhancement measures. During the course of the Permit, the Town intends to formally require low impact development (LID) techniques as a preferred method of development/re-development by modifying its land use regulations. The Town will make efforts to track DCIA disconnection on an annual basis starting at the effective date of this permit. The tracking will be the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Data from 5 years prior to the effective date of this permit can be used for disconnections of DCIA from redevelopments or retrofit projects. The total amount of DCIA that has been disconnected will be summarized in the Annual Report for the past year and will continue throughout the permit term.

Retrofit planning is a goal in the permit that identifies and prioritizes sites that may be suitable for retrofits. Prioritization may be based on outfalls that discharge to impaired waters, areas within the Urbanized Area of the MS4, or catchment areas with greater than 11% DCIA. In the Annual Report for the third year of this permit, the identification and prioritization of the retrofits will be discussed with the rationale for the selection of the retrofits.

Retrofit scheduling will be discussed by the end of the permit term and implementation of the retrofit projects identified in the retrofit planning phase will begin. The Town will make efforts to meet the goal of 1% per year of the Town's DCIA for the fourth and fifth year of the permit or a total of 2%. If the above goal cannot be met, the Annual Report will discuss what percentage of DCIA will be disconnected and why the goal could not be reached. The Annual Report for the fifth year will discuss the continuation goals of the retrofit program with a probable goal of 1% of DCIA in each year thereafter to the best of the Town's ability.

### 2.6.5 MS4 Property and Operations Maintenance

Town owned or operated properties, parks and other facilities will consider revisions to implementation of maintenance that minimizes the discharge of pollutants to the MS4. Maintenance includes the following:



- Proper application of fertilizers by Town employees or hired contractors on Town-owned land. Town parks in the Watershed follow an integrated pest management plan as required by the CT Department of Public Health.
- The Town does not accept grass clippings. There is a Town-wide leaf pick-up in the first week of November and a Town-wide brush pick-up in the spring. The Town DPW has the authority to issue a summons if a property owner rakes leaves into the street.
- Pet waste management efforts will be looked at to identify where inappropriate pet waste management practices are apparent and pose a threat to water quality. Increased public education and possible enforcement will be considered by the Town (e.g., signage, fines, etc.) The Town's Linear Trail property has signage.
- Waterfowl management areas where feeding by the public occurs should be identified and awareness to the public considered by posting signs to discourage the feeding of birds.
- Buildings and facilities owned by the Town are implementing best management practices for the use, storage and disposal of petroleum and non-petroleum products. The Town currently has staff that are trained in the proper spill prevention, control and countermeasure (SPCC) procedures for certain Town facilities. The proper SPCC procedures are followed by the Town for vehicles and equipment that are repaired and maintained at the Town's DPW facility on Town Farm Road for the indoor maintenance garage.

#### 2.6.6 Street, Parking and MS4 Maintenance

Street sweeping is performed annually between April and September by the Town DPW with two street sweepers. MS4 priority areas will be included as a priority. Any areas determined to have increased pollutant potential will be included as a priority. The goal is to sweep all the streets within the year, to the MEP. The Director of DPW and the roadway maintenance staff does an annual evaluation for prioritizing those streets that may require sweeping more than once per year.

Stormwater structures are inspected during routine maintenance. Upgrades and repairs are dependent in part on the Town's annual budget. For new road construction projects, the Town will now implement "sheet flow" drainage to eliminate the use of catch basins, where possible. This will allow the flow of rain water to go directly to the adjacent vegetation along the roadway.

De-icing used for icy and snow covered roads has been changed to magnesium chloride (since 2008). Previously the Town used calcium chloride for snow and ice events. No sand is used on roadways during snow and ice events in the Town of Wallingford.

The Town DPW continues to have a catch basin cleaning and inspection plan. In this plan, the catch basins for inspection and cleaning are first to be concentrated on in the Urbanized Area. Any catch basin found to be greater than 50% full of sediment is scheduled to be cleaned. Records are being kept and will continue to be kept of the inspections and cleaning frequency including the following information: date, streets inspected, address of catch basins to be cleaned and personnel assigned for the cleaning.

Mapped Outfall requirements under this General Permit are addressed in Section 2.3 of this Plan and the maps for the stormwater outfall drainage are included in Attachment A.

Town staff is currently trained when they are hired by the Director of Public Works on illicit discharge programs related to personnel who perform roadway maintenance. This program will continue, but illicit discharge training should be expanded to personnel that perform routine inspections and Winter Projects maintenance on storm water structures and outfall locations. In addition, Town Garage Maintenance staff are trained in proper indoor maintenance and in procedures for proper spill prevention, control and countermeasures.

The above Street, Parking and MS4 Maintenance control measures will continue to be implemented throughout the permit term and updates of each years data, progress, changes and other relevant information will be provided in the Annual Report.

#### 2.6.7 Interconnected MS4s

As part of the interagency agreements for operators of interconnected MS4s (neighboring Towns, institution and DOT) regarding the potential pollutants from storm sewer systems, contributing land use areas and stormwater control measures, the Town will make efforts to coordinate with these other operators regarding their operation and maintenance procedures.

#### 2.6.8 Sources Contributing Pollutants to the MS4

To control the contribution of pollutants to the MS4 the Town will sample for stormwater pollutant parameters including nitrogen, phosphorus and bacteria. The locations, outfall characteristics, observations and analytical data will be provided in the Annual Report for the previous year's sampling data.

### **III. SHARING RESPONSIBILITY**

#### 3.1 Qualifying Local Programs

The efforts of third party organizations for the annual trash and debris clean-ups are implemented as a BMP under Public Involvement/Participation. If a third party is implementing one or more BMPs, then the permittee will indicate that on the registration and Annual Report. In addition, third party sub-contractors are responsible for BMPs related to the Household Hazardous Waste Program, Electronics Recycling Program and the Composting Facility, as these sub-contractors are under contract to the Town to provide the implementation of the services.

#### 3.2 Qualifying State and Federal Programs

For facilities in the Town that are required to be permitted under the General Permit for the Discharge of Stormwater Associated with Commercial Activity or Industrial Activity as regulated by the CTDEEP, the permittee shall annually confirm that these facilities are performing BMPs, such as Good Housekeeping and Pollution Prevention Minimum Control Measures. Efforts by the permittee to check BMP implementation for facilities in the Town of Wallingford that have the General Permit for the Discharge of Stormwater Associated with Commercial Activity or Industrial Activity is dependent on assistance that can be provided by the CTDEEP.

### 3.3 Coordination of Permit Responsibilities

The Connecticut Department of Transportation (CTDOT) operates the MS4 on state highways located in the Town of Wallingford. Implementation of BMPs on the state highways, such as debris removal, sweeping and cleaning of catch basins is the responsibility of CTDOT. The coordination efforts between the Town of Wallingford and the CTDOT are particularly important at the interface between the two storm sewer systems. The Town will engage DOT and abutting towns in discussions on how to properly coordinate their activities to ensure compliance with the permit requirements.

## **IV. OPERATION AND MAINTENANCE**

### 4.1 Proper Operation and Maintenance

The Town of Wallingford DPW along with other Town departments operate facilities and systems for treatment and control of chemicals and maintenance on vehicles and other equipment within containment systems and under the direction of qualified staff. No maintenance or washing activities are performed outdoors.

## **V. PLAN REQUIREMENTS**

### 5.1 Keeping the Plan Current

The Permittee shall amend the Plan whenever; (1) there is a change which has the potential to cause pollution to the waters of the State of Connecticut; or (2) the actions required by the Plan fail to ensure or adequately protect against pollution of the waters of the state; or (3) the Commissioner requests modification to the Plan. The amended Plan shall be completed and all actions required by such Plan shall be completed within a time period determined by the Commissioner.

The Commissioner may notify the permittee in writing at any time that the Plan does not meet one or more of the requirements of the General Permit. Within 30 days of such notification, unless otherwise specified by the Commissioner in writing, the permittee shall respond to the Commissioner indicating how they plan to modify the Plan to address the requirements. Within 90 days of this response or within 120 days of the original notification, whichever is less, unless otherwise specified by the Commissioner in writing, the permittee shall then revise the Plan, perform all actions required by the revised Plan, and shall certify to the Commissioner that the requested changes have been made and implemented. The permittee shall provide such information as the Commissioner requires for the evaluation of the Plan and its implementation.

### 5.2 Failure to Prepare or Revise

In no event shall failure to complete or amend a Plan in accordance with Sections 5(b) and 6 of the General Permit relieve a permittee's responsibility to implement actions required to protect the waters of the state and comply with all conditions of the General Permit.

## VI. MONITORING

### 6.1 Monitoring Requirements

#### 6.1.1 Impaired Waters Outfall Investigation and Monitoring

The Town will, to the MEP, comply with the screening and monitoring requirements for impaired waters outfall investigation and monitoring. The MS4 should be evaluated for its impaired waters for nitrogen, phosphorus, bacteria or mercury (not of concern for the MS4). A list and mapping of outfall to the impaired waters will be updated under the Illicit Discharge, Detection and Elimination (IDDE) Program (section 3) of this Plan, and will be utilized to prioritize the outfall to impaired waters for nitrogen, phosphorus and bacteria. Currently monitoring has been completed in the past for the MS4 by various consultants. The most recent annual MS4 monitoring was completed in 2016 for the two (2) commercial, two (2) residential and two (2) industrial zoned stormwater outfalls. These outfalls that have been investigated and monitored in the past need not be included in the proposed monitoring of priority outfalls, since these outfalls had wet weather sampling done in the past.

Outfall screening for phosphorus and nitrogen is proposed to be done for outfalls to impaired waters where phosphorus and nitrogen are the pollutants of concern. The sampling should be done during a qualifying rain event. The screening should be done at least once during the term of this permit for impaired waters where phosphorus and nitrogen are the pollutants of concern. Nitrogen and phosphorus screening can be done with field instrumentation or by sending a sample for laboratory analysis by a certified laboratory. If the nitrogen or phosphorus screening exceeds the threshold of >2.5 and >0.3 milligrams per liter, respectively, then follow-up investigation should be evaluated.

Outfall screening for bacteria should be performed for the MS4 for discharges to impaired waters where bacteria is the pollutant of concern. The samples should be taken during a qualifying rain event and submitted to a certified laboratory for E. coli and total coliform analysis (fresh water discharges). Follow-up investigation should be evaluated for E. coli >235 colonies per 100 milliliters (col/100ml) for swimming areas and >410 col/100ml for all others, and total coliforms >500 col/100ml. If the permittee can document that the bacteria is from natural sources where there is an exceedance, then the permittee is not required to perform follow-up investigation for this outfall(s).

If warranted outfall screening for other pollutants of concern other than nitrogen, phosphorus and bacteria for impaired waters may be required depending on the specific information provided during the listing/mapping of impaired waters. In these cases, turbidity samples should be taken at the outfall and in-stream immediately up stream or otherwise outside the influence of the outfall. Turbidity screening can be performed by field instrumentation or samples sent to a certified laboratory for analysis. If the outfall sample is more than 5 NTU greater than the in-stream sample, then the outfall should be identified for follow-up evaluation.

Outfall screening for other pollutant parameters with Total Maximum Daily Load (TMDL) allocations will be evaluated by the Town where present and make their best faith effort to implement appropriate BMPs to achieve Waste Load Allocations in the specific TMDL or Water Quality Targets. Outfall screening for the highest priority discharge shall commence by June 30, 2019.

### 6.1.2 Follow-up Investigations

Follow-up investigations for outfalls to impaired waters for exceedances of nitrogen, phosphorus, bacteria, and turbidity should be investigated in accordance with the permit in following suggested manner:

- Drainage Area Investigation – factors and activities that contribute to each outfall identified for follow-up. Such factors may include: land use or development patterns, business or commercial activities, industrial activities, DCIA, natural contributions, MS4 maintenance issues, residential activities, and other activities that could cause the impairment(s).
- Control Measure Implementation – each outfall drainage area identified for follow-up investigation, the Town will make attempts to implement BMPs focusing on the impaired waters and look at the control measures of this Plan.

### 6.1.3 Prioritized Monitoring

Once the Town has attempted to screen half the outfalls of the impaired waters monitoring, the Town will attempt to utilize the screening results to select six (6) of the highest contributors of any pollutant of concern. These six (6) outfalls shall be sampled annually for the appropriate pollutants of concern.

### 6.1.4 Schedule

Listing and mapping of impaired waters should be prepared within 2 years of the effective date of this permit.

Outfall screening should begin within one year of the effective date of this permit. The goal, to the MEP, is to have 50% of these outfalls to impaired waters screened no later than the end of the third year following the effective date of this permit. All such outfalls to impaired waters have a goal of being screened by the end of the term of this permit.

Follow-up investigations that would warranted as per the permit requirements, should begin no later than 2 years following the effective date of this permit.

The annual prioritized outfall monitoring of the six (6) outfalls to impaired waters should begin no later than the fourth year following the effective date of this permit.

Reporting will be completed by submitting the Annual Report each year for the data, observations and progress of the previous year's screening and monitoring for impaired waters.

### 6.1.5 Wet Weather Stormwater Monitoring Procedures

Samples shall be collected from the discharge outfalls from a storm event that produces a discharge from the outfall(s) and that occurs at least 48 hours after any previous storm event. Grab samples shall be used for all the monitoring. The samples shall be collected during the first 6 hours of a storm event discharge. Samples for all the discharges shall be taken during the same storm event.

#### 6.1.6 Storm Event Information

The following information must be documented for the storm events monitored:

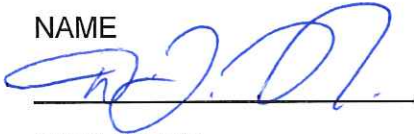
- The date, temperature, time of the start of discharge, time of sampling, and magnitude (inches) of the storm event;
- The pH of the uncontaminated rainfall (no contact with the ground); and
- The duration between storm event sampled and the end of the previous measureable storm event.

**VII. CERTIFICATION OF DOCUMENTS**


In preparation of this Stormwater Management Plan for the Town of Wallingford, CT under the General Permit for Small MS4 the following certification is made:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

**Preparer:**

<u>Douglas J. Rhoads</u>	<u>Certified Hazardous Materials Manager</u>
NAME	TITLE
	<u>3-30-17</u>
SIGNATURE	DATE

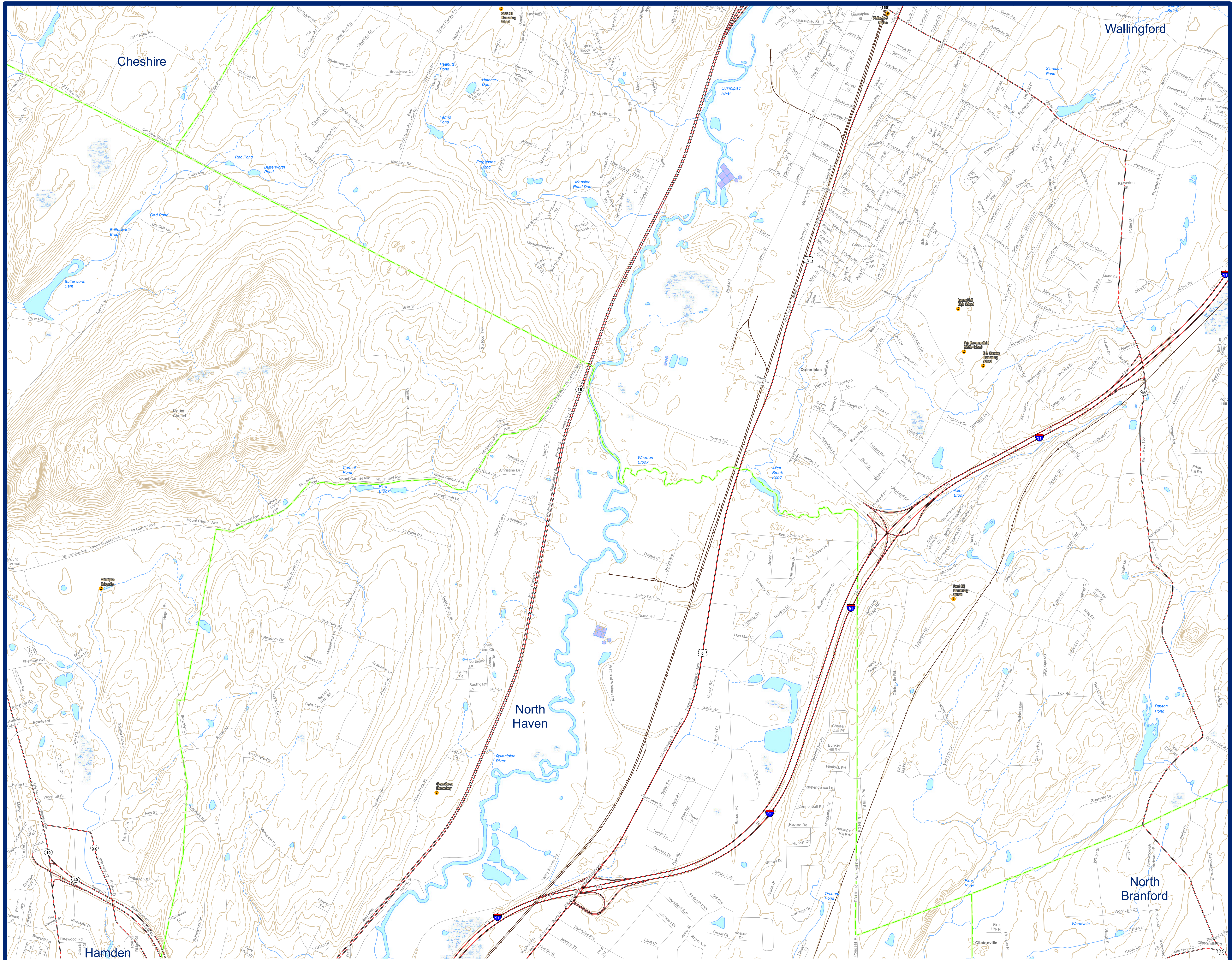
**Municipal Representative:**

<u>HENRY McCULLY</u>	<u>Dir Public Works.</u>
NAME	TITLE
	<u>3-30-17</u>
SIGNATURE	DATE

**Figure 1a**

**Town of Wallingford Contour Map – Southwest Portion**





# CONTOUR MAP Wallingford, CT (Southwest)

## EXPLANATION

Contour lines are used to denote elevation above sea level. This map displays 20 foot contour lines based on information from a statewide collection of ground elevation LIDAR data for the year 2000. This information is only suitable for general planning and informational purposes. It is not intended for exact determinations of elevation where a survey is normally required, or for detailed engineering, building, or design purposes. The Connecticut LIDAR dataset for 2000 captured ground elevation every 20 feet at a horizontal accuracy of approximately 3 feet on the ground.

For unknown reasons, data was collected unevenly in some areas. This resulted in data gaps that affect the overall accuracy and appropriate use of derived data products such as these contour lines. With this information, a general sense of the lay of the land can be ascertained. Gentle slopes are characterized by widely spaced contour lines, while steep slopes are represented by closely spaced contour lines. Contour lines that cross streams flowing through valleys of noticeable relief will form a V-shaped deflection with the apex of the V pointing upstream.

## DATA SOURCES

**BASE MAP DATA** - All data is based on 1:24,000 scale and displays geographic names, places and their symbols, town boundaries, railroads, airports, and hydrography. Base map data is neither current nor complete.

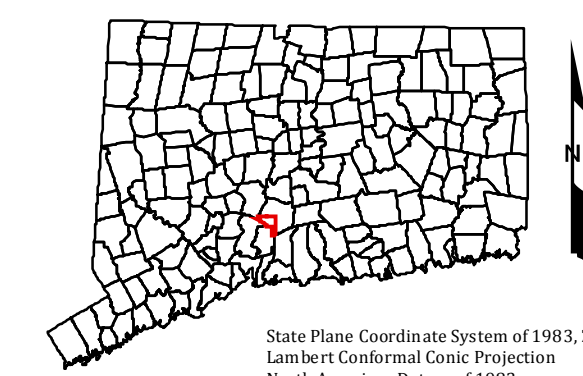
**STREET DATA** - Based on TeleAtlas copyrighted data.

**CONTOUR DATA** - Derived from a statewide 10-foot Digital Elevation Model (DEM) surface based

on the Connecticut 2000 LIDAR ground elevation data. The University of Connecticut, Center for Land Use Education and Research (CLEAR) created the DEM and edited it to fill in data gaps with information from contour lines on USGS 1:24,000-scale topographic maps.

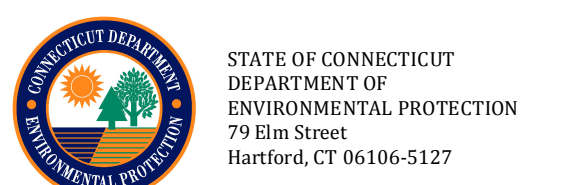
**MAPS AND DIGITAL DATA** - Visit the CT ECO website for this map and a variety of others in PDF format. Visit the CT DEP website to download the base map digital spatial data shown on this map.

0 0.05 0.1 0.2 0.3 0.4 Miles



State Plane Coordinate System of 1983, Zone 3526  
Lambert Conformal Conic Projection  
North American Datum of 1983

Map prepared by CT DEP, May 2011.  
This map replaces a similar contour map that was dated August 2010.

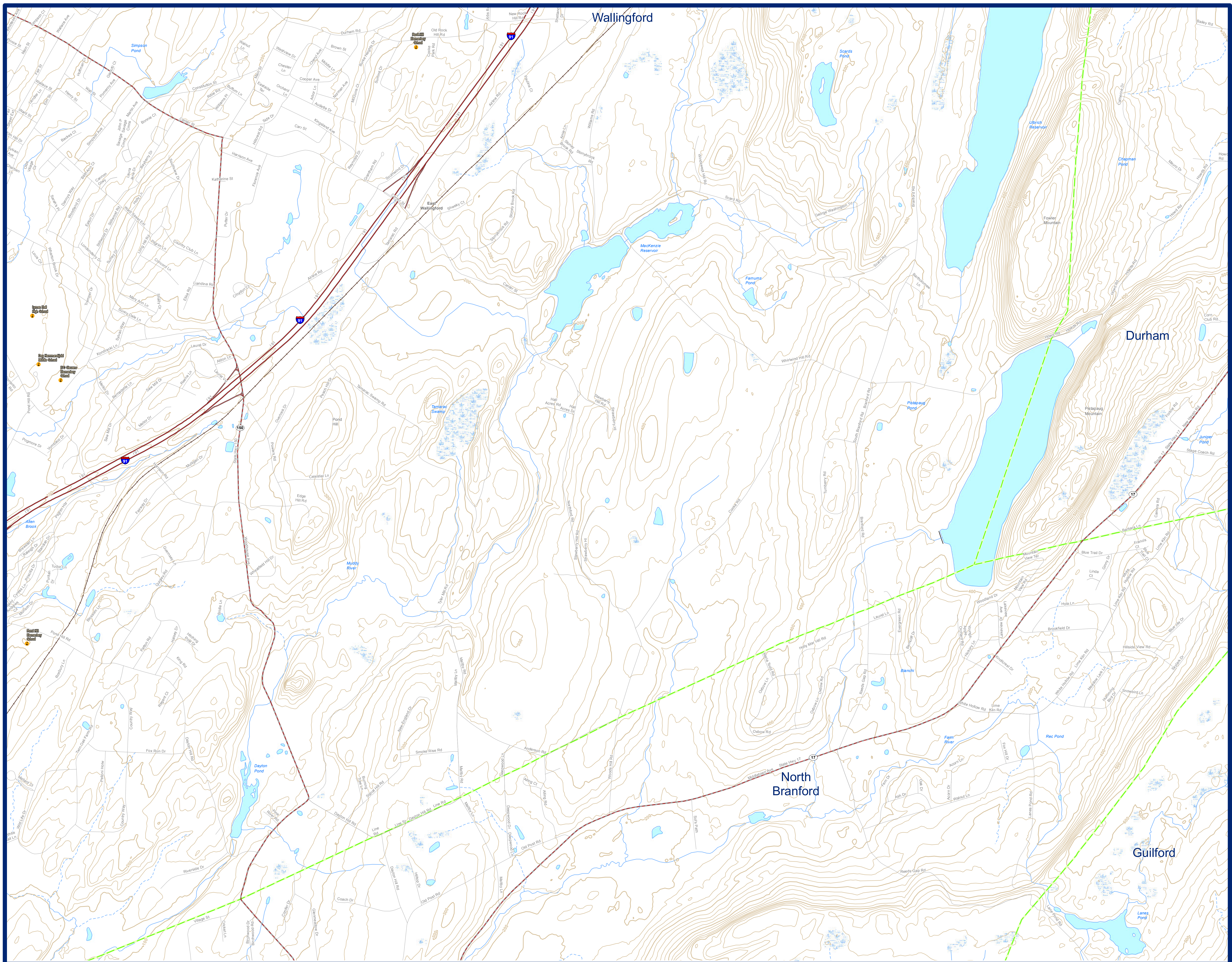




**Figure 1b**

**Town of Wallingford Contour Map – Southeast Portion**





# CONTOUR MAP

## Wallingford, CT

### (Southeast)

#### EXPLANATION

Contour lines are used to denote elevation above sea level. This map displays 20 foot contour lines based on information from a statewide collection of ground elevation LIDAR data for the year 2000. This information is only suitable for general planning and informational purposes. It is not intended for exact determinations of elevation where a survey is normally required, or for detailed engineering, building, or design purposes. The Connecticut LIDAR dataset for 2000 captured ground elevation every 20 feet at a horizontal accuracy of approximately 3 feet on the ground.

For unknown reasons, data was collected unevenly in some areas. This resulted in data gaps that affect the overall accuracy and appropriate use of derived data products such as these contour lines. With this information, a general sense of the lay of the land can be ascertained. Gentle slopes are characterized by widely spaced contour lines, while steep slopes are represented by closely spaced contour lines. Contour lines that cross streams flowing through valleys of noticeable relief will form a V-shaped deflection with the apex of the V pointing upstream.

#### DATA SOURCES

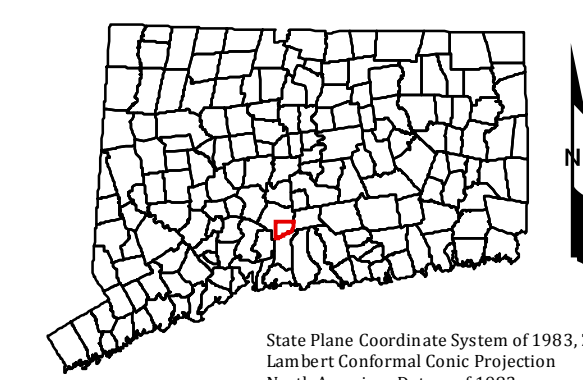
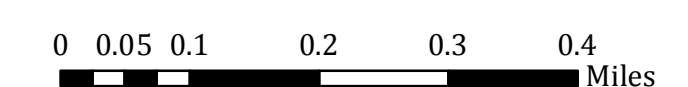
**BASE MAP DATA** - All data is based on 1:24,000 scale and displays geographic names, places and their symbols, town boundaries, railroads, airports, and hydrography. Base map data is neither current nor complete.

**STREET DATA** - Based on TeleAtlas copyrighted data.

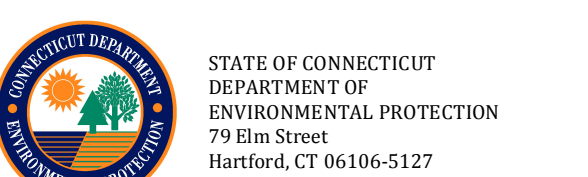
**CONTOUR DATA** - Derived from a statewide 10-foot Digital Elevation Model (DEM) surface based

on the Connecticut 2000 LIDAR ground elevation data. The University of Connecticut, Center for Land Use Education and Research (CLEAR) created the DEM and edited it to fill in data gaps with information from contour lines on USGS 1:24,000-scale topographic maps.

**MAPS AND DIGITAL DATA** - Visit the CT ECO website for this map and a variety of others in PDF format. Visit the CT DEP website to download the base map digital spatial data shown on this map.



Map prepared by CT DEP, May 2011.  
This map replaces a similar contour map that was dated August 2010.



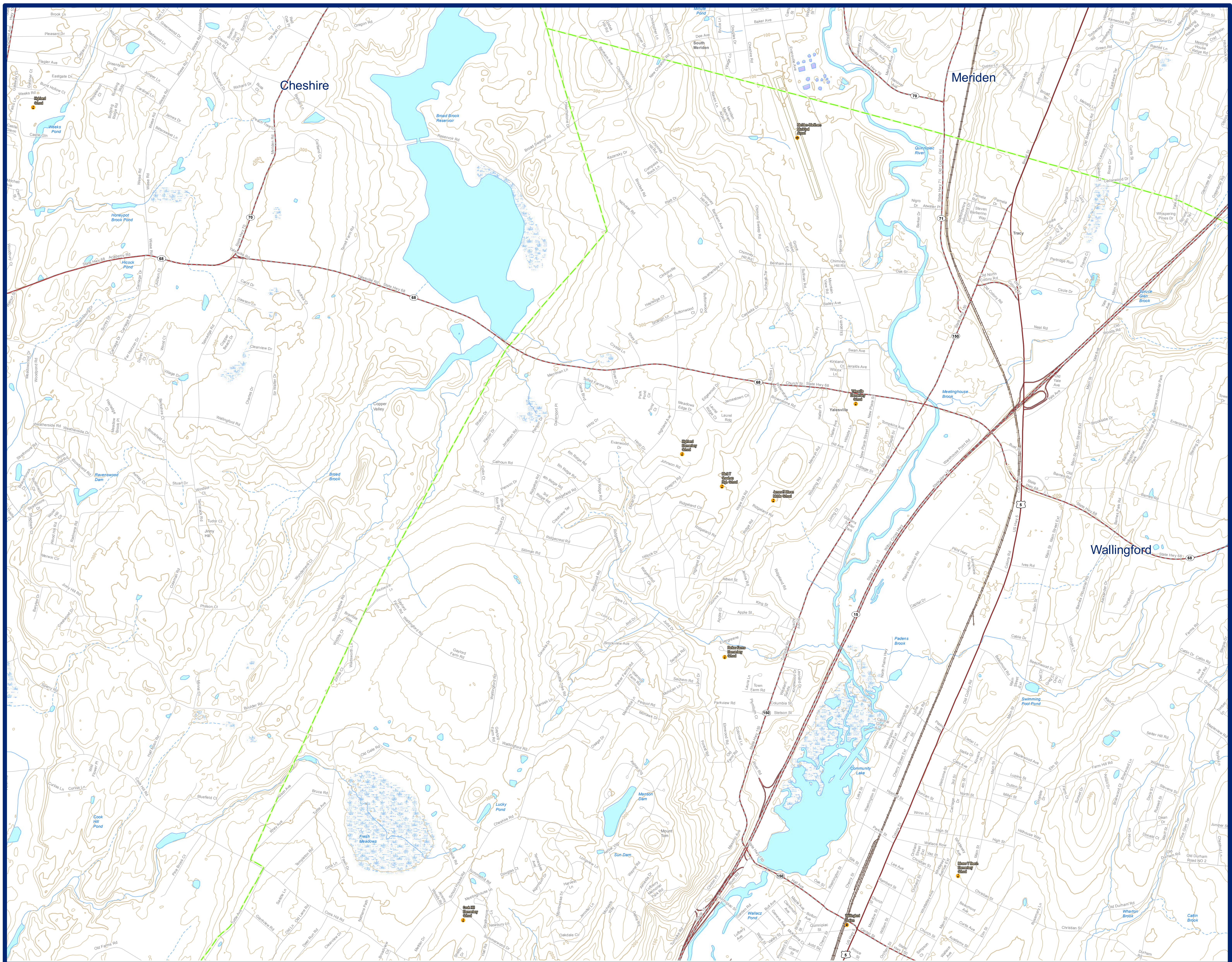
State Plane Coordinate System of 1983, Zone 3526  
Lambert Conformal Conic Projection  
North American Datum of 1983



**Figure 1c**

**Town of Wallingford Contour Map – Northwest Portion**





# CONTOUR MAP Wallingford, CT (Northwest)

## EXPLANATION

Contour lines are used to denote elevation above sea level. This map displays 20 foot contour lines based on information from a statewide collection of ground elevation LIDAR data for the year 2000. This information is only suitable for general planning and informational purposes. It is not intended for exact determinations of elevation where a survey is normally required, or for detailed engineering, building, or design purposes. The Connecticut LIDAR dataset for 2000 captured ground elevation every 20 feet at a horizontal accuracy of approximately 3 feet on the ground.

For unknown reasons, data was collected unevenly in some areas. This resulted in data gaps that affect the overall accuracy and appropriate use of derived data products such as these contour lines. With this information, a general sense of the lay of the land can be ascertained. Gentle slopes are characterized by widely spaced contour lines, while steep slopes are represented by closely spaced contour lines. Contour lines that cross streams flowing through valleys of noticeable relief will form a V-shaped deflection with the apex of the V pointing upstream.

## DATA SOURCES

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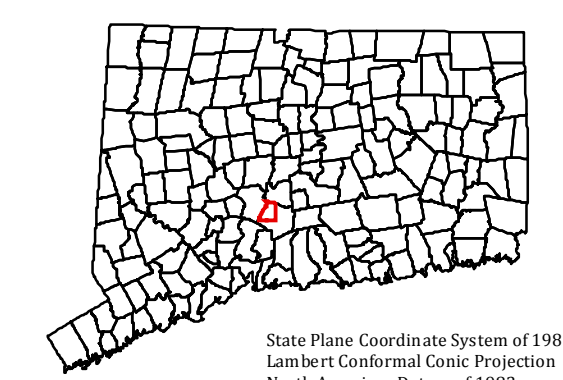
**STREET DATA** - Based on TeleAtlas copyrighted data.

**CONTOUR DATA** - Derived from a statewide 10-foot Digital Elevation Model (DEM) surface based

on the Connecticut 2000 LIDAR ground elevation data. The University of Connecticut, Center for Land Use Education and Research (CLEAR) created the DEM and edited it to fill in data gaps with information from contour lines on USGS 1:24,000-scale topographic maps.

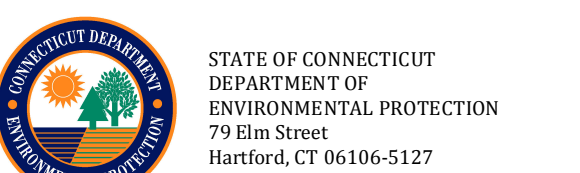
**MAPS AND DIGITAL DATA** - Visit the CT ECO website for this map and a variety of others in PDF format. Visit the CT DEP website to download the base map digital spatial data shown on this map.

0 0.05 0.1 0.2 0.3 0.4 Miles



State Plane Coordinate System of 1983, Zone 3526  
Lambert Conformal Conic Projection  
North American Datum of 1983

Map prepared by CT DEP, May 2011.  
This map replaces a similar contour map that was dated August 2010.



STATE OF CONNECTICUT  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
79 Elm Street  
Hartford, CT 06106-5127



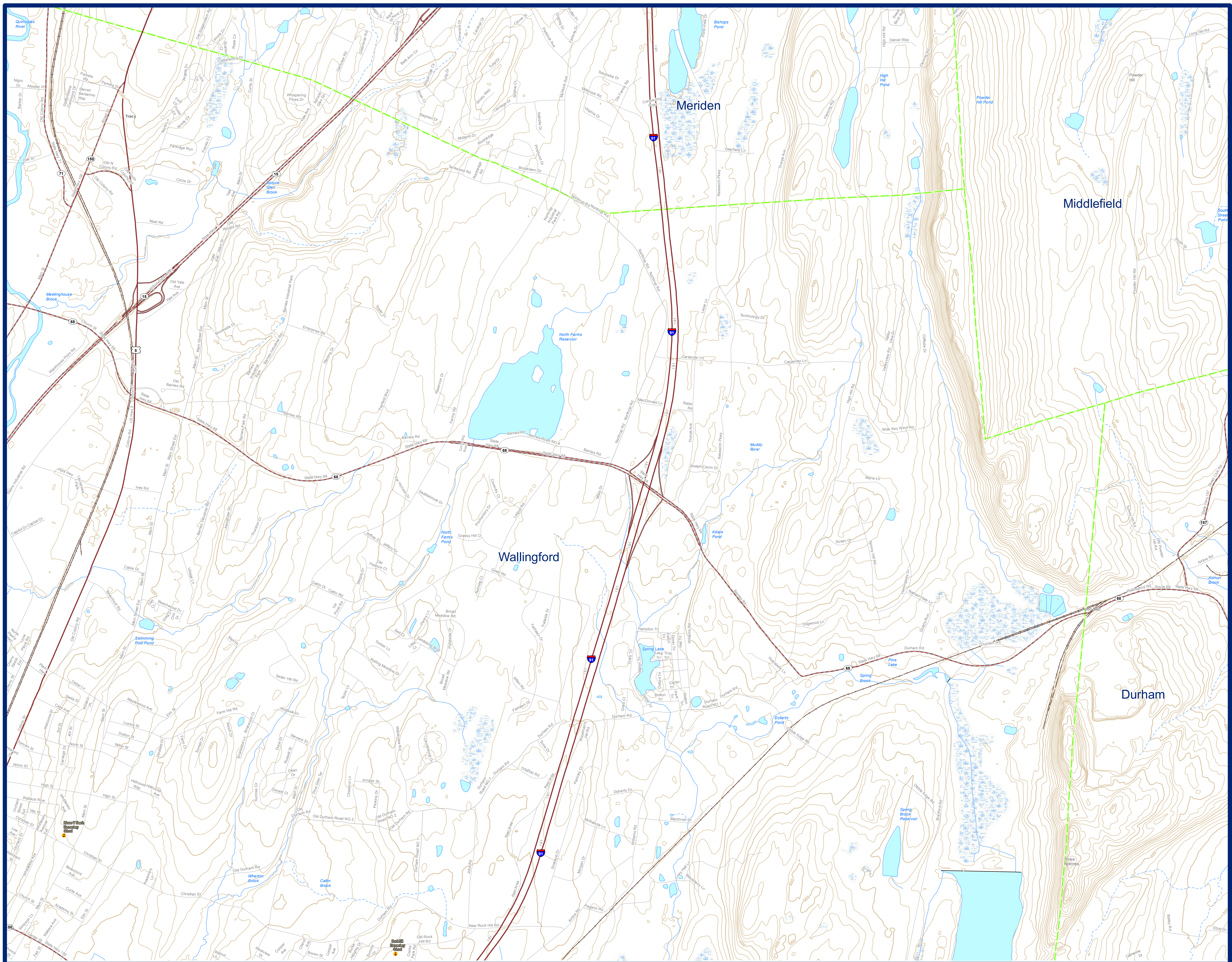
**CLEAR**  
Center for Land Use Education & Research



**Figure 1d**

**Town of Wallingford Contour Map – Northeast Portion**





# CONTOUR MAP Wallingford, CT (Northeast)

Contour lines are used to denote elevation above sea level. This map displays 20 foot contour lines based on information from a statewide collection of ground elevation LIDAR data for the year 2000. This information is only suitable for general planning and informational purposes. It is not intended for exact determinations of elevation where a survey is normally required, or for detailed engineering, building, or design purposes. The Connecticut LIDAR dataset for 2000 captured ground elevation every 20 feet at a horizontal accuracy of approximately 3 feet on the ground.

## EXPLANATION

For unknown reasons, data was collected unevenly in some areas. This resulted in data gaps that affect the overall accuracy and appropriate use of derived data products such as these contour lines. With this information, a general sense of the lay of the land can be ascertained. Gentle slopes are characterized by widely spaced contour lines, while steep slopes are represented by closely spaced contour lines. Contour lines that cross streams flowing through valleys of noticeable relief will form a V-shaped deflection with the apex of the V pointing upstream.

## DATA SOURCES

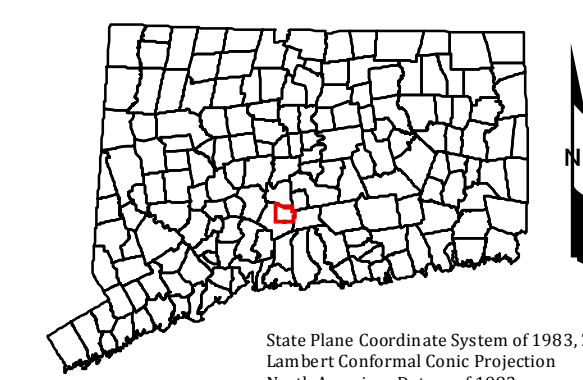
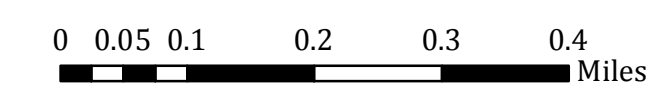
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**STREET DATA** - Based on TeleAtlas copyrighted data.

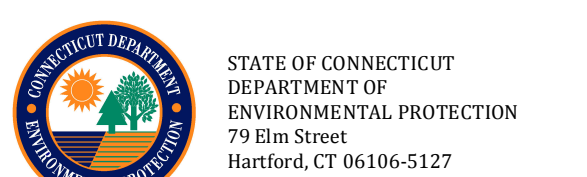
**CONTOUR DATA** - Derived from a statewide 10-foot Digital Elevation Model (DEM) surface based

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Map prepared by CT DEP, May 2011. This map replaces a similar contour map that was dated August 2010.











**Figure 2**

**Wallingford, CT Sub-Regional Basins and Surface Water Direction Map**



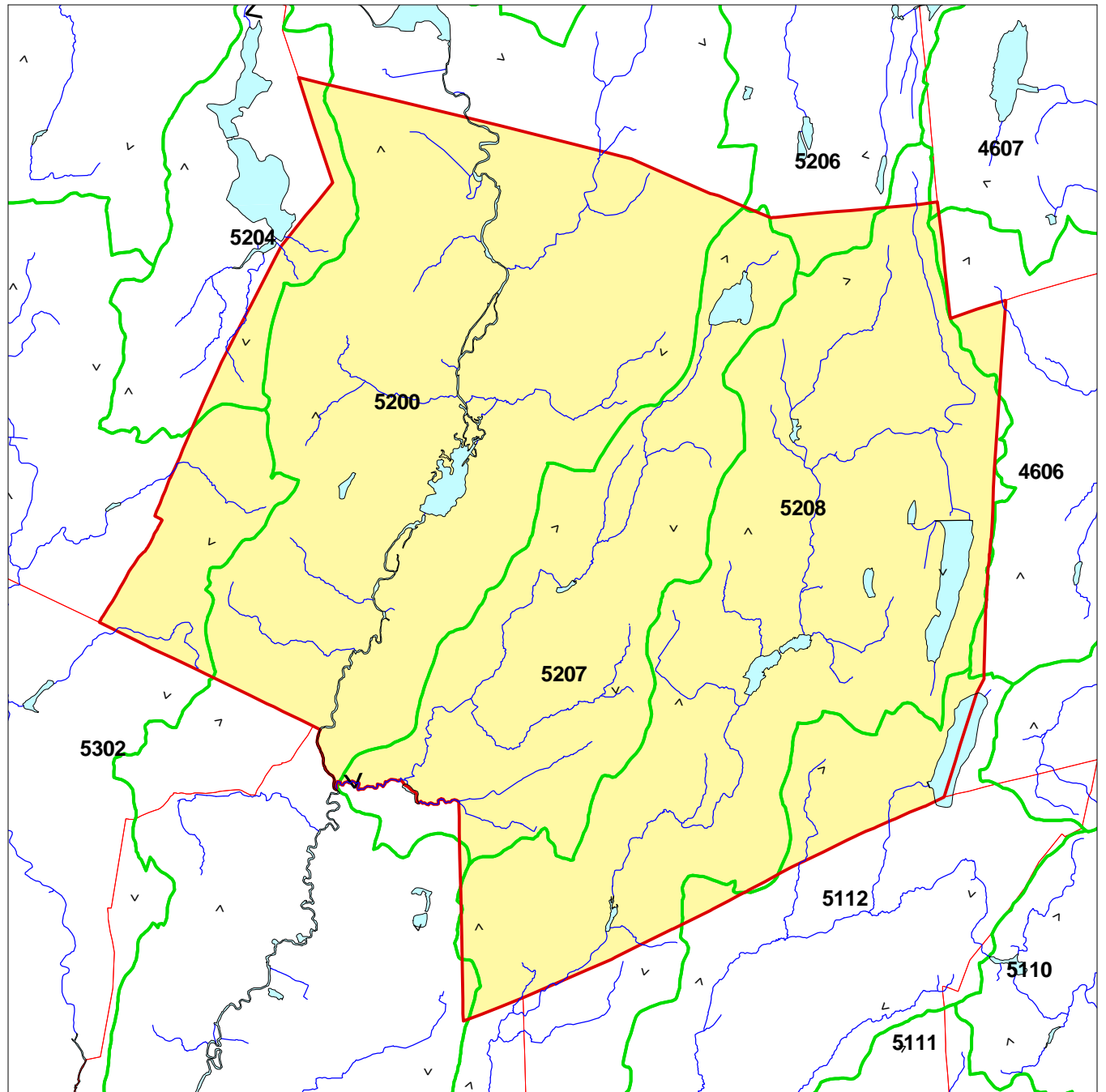
# WALLINGFORD CONNECTICUT SUBREGIONAL BASINS AND SURFACE WATER FLOW DIRECTIONS

## Explanation

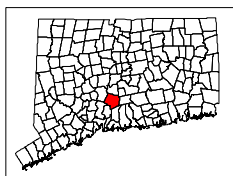
-  Town Boundary
-  Subregional Watershed Boundary
- 4201** Subrg. Basin ID# - as designated by CTDEP
-  Watercourse  Open Water
-  Basin Outlet
-  Surface Water Flow Direction

The table provides statistics for each subregional basin. Shown are the areas of the basin within the town, the percentage for that area, and the percent of the town covered by each basin.

Sbas_no	AcresInTw	Percofbs	Percoftwn
4606	194.28	5.8	0.8
4607	5.53	0.0	0.0
5112	1048.83	6.4	4.1
5200	9419.58	20.3	36.5
5204	591.47	19.2	2.3
5206	195.91	2.5	0.8
5207	4654.02	95.1	18.0
5208	8563.18	61.4	33.2
5302	1149.37	7.1	4.5



Town Area: 25822 Acres

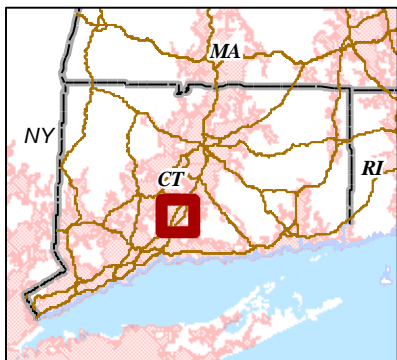
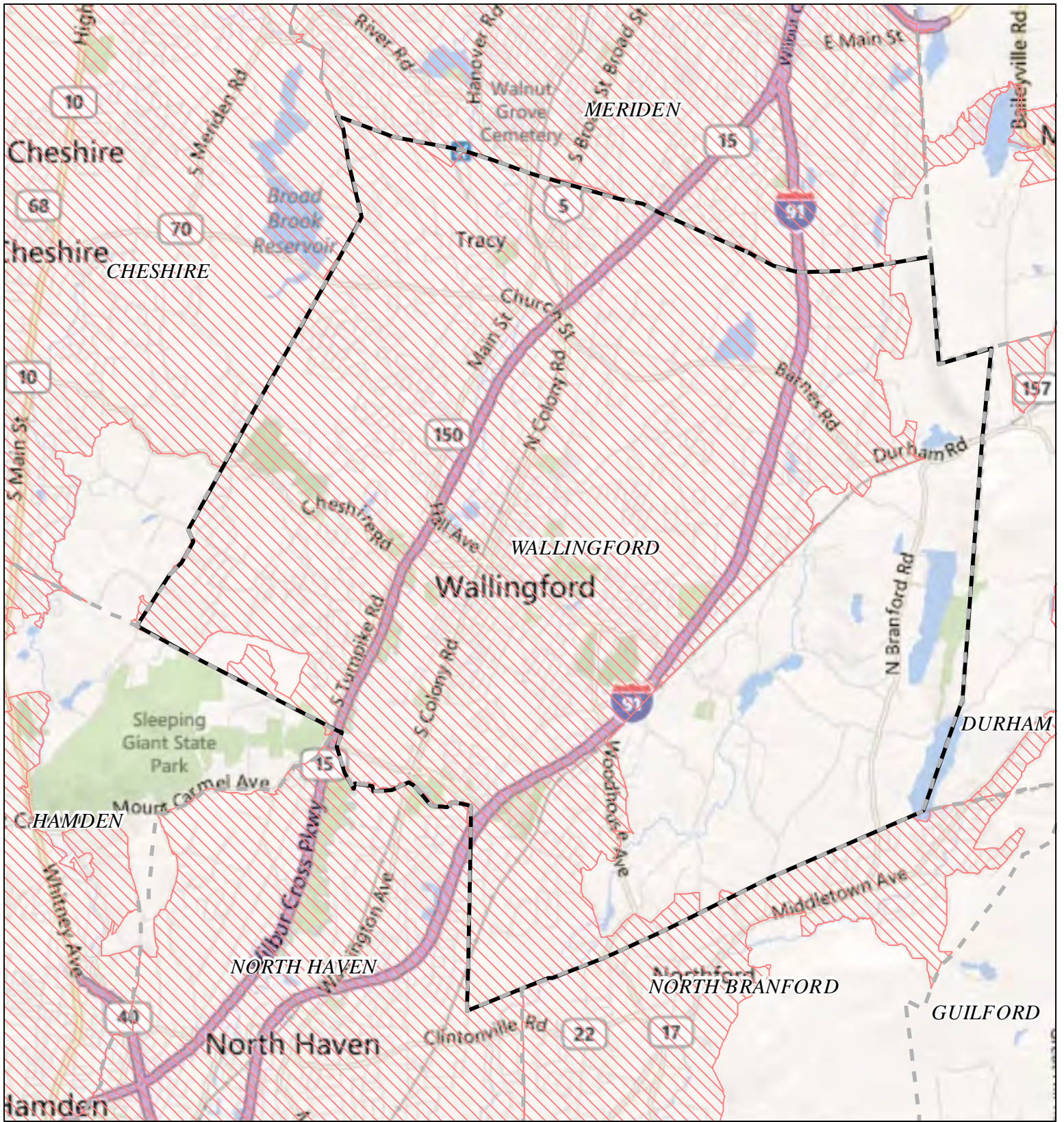


Digital layers provided by the CTDEP.  
Map composed by the NEMO project.  
For educational purposes only.




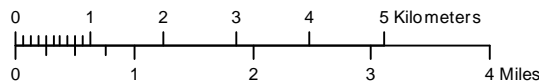
### Figure 3

#### Designated MS4 Areas (Urbanized Areas) for the Town of Wallingford, CT



NPDES Phase II Stormwater Program  
 Automatically Designated MS4 Areas  
**Wallingford CT**

 Regulated Area (2010 Urbanized Area)



Town Population: 45 134  
 Regulated Population: 43 415  
 (Populations estimated from 2010 Census)



Urbanized Areas: US Census Bureau (2010)  
 Town Boundaries: NAVTEQ  
 Base map © 2009 Microsoft Corporation  
 and its data suppliers