

## Stormwater Management Plan

### MA MS4 General Permit Requirements

EPA NPDES Permit Number: MAR041187

*Prepared for:*  
*Concord, Massachusetts*

*June 2019 Draft*  
*August 2019 Final*



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# Certification

**Authorized Representative (Optional):** All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A or by a duly authorized representative of that person in accordance with Appendix B, Subsection 11.B. If there is an authorized representative to sign MS4 reports, there must be a signed and dated written authorization.

The authorization letter is:

- Attached to this document (document name listed below)

- Publicly available at the website below

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Printed Name

Signature \_\_\_\_\_

Date

# Small MS4 Authorization

The NOI was submitted on

The NOI can be found at the following (document name or web address):

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Authorization to Discharge was granted on

The Authorization Letter can be found (document name or web address):

FOR COMMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

VIA EMAIL

April 5, 2019

Christopher Whelan  
Town Manager

And;

Chris Olbrot  
Town Engineer  
133 Keyes Road  
2nd Floor  
Concord, MA. 01742  
colbrot@concordma.gov

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041187, Town of Concord

Dear Chris Olbrot:

The 2016 NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts (MS4 General Permit) is a jointly issued EPA-MassDEP permit. Your Notice of Intent (NOI) for coverage under this MS4 General Permit has been reviewed by EPA and appears to be complete. You are hereby granted authorization by EPA and MassDEP to discharge stormwater from your MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable Appendices. This authorization to discharge expires at midnight on **June 30, 2022**.

For those permittees that certified Endangered Species Act eligibility under Criterion C in their NOI, this authorization letter also serves as EPA's concurrence with your determination that your discharges will have no effect on the listed species present in your action area, based on the information provided in your NOI.

As a reminder, your first annual report is due by **September 30, 2019** for the reporting period from May 1, 2018 through June 30, 2019.

Information about the permit and available resources can be found on our website: <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>. Should you have any questions regarding this permit please contact Newton Tedder at [tedder.newton@epa.gov](mailto:tedder.newton@epa.gov) or (617) 918-1038.

Sincerely,



Thelma Murphy, Chief  
Stormwater and Construction Permits Section  
Office of Ecosystem Protection  
United States Environmental Protection Agency, Region 1

and;



Lealdon Langley, Director  
Wetlands and Wastewater Program  
Bureau of Water Resources  
Massachusetts Department of Environmental Protection

FOR COMMENT

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FOR COMMENT

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FOR COMMENT

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FOR COMMENT

## **1.0 BACKGROUND**

### ***1.1 Stormwater Regulation***

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

### ***1.2 Permit Program Background***

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

### ***1.3 Stormwater Management Plan (SWMP)***

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or

updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program, (3) a program to effectively find and eliminate illicit discharges within the MS4, (4) a program to effectively control construction site stormwater discharges to the MS4, (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good house keeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized. The hyperlinks provided in Appendix A offer additional information and supporting documents related to the MS4 Permit and the aforementioned minimum control measures.

#### **1.4 Town Specific MS4 Background**

The Town must give special consideration to and meet eligibility requirements for their discharges to be able to apply for coverage under the General Permit. Eligibility will be determined based on three categories: Endangered Species Act, National Historic Preservation Act, and Water Quality Impaired Waters. The Town must establish that discharges from its storm drain system do not adversely impact endangered species, critical habitats, and historic properties in order to be covered by the General Permit. Furthermore, the Town must identify all receiving waters that have been classified as Water Quality Impaired Waters by the MA DEP. The Town of Concord and its surrounding water bodies are shown on *Figure 1: System Locus*. The Concord Notice of Intent (NOI) for coverage under the Small MS4 General Permit was submitted to EPA and MassDEP on September 28, 2018. A copy of the NOI is provided in Appendix B.

## 2.0 SWMP COMPONENTS

### 2.1 *Parties Involved in Implementation*

Stormwater programs in the Town of Concord are currently a responsibility of the Town Engineer. The current departments involved in stormwater management are listed in the table below.

<b>Name</b>	<b>Title</b>	<b>Department</b>
Stephen Crane	Town Manager	Town Manager
Richard Reine, M.S.C.E., CA	Director of Public Works and Engineering	Public Works
Jacob Zwicker, E.I.T.	Assistant Town Engineer	Engineering Division
		Natural Resource Commission (NRC)
		Department of Planning and Land Management (DPLM)
		Division of Natural Resources (DNR)
<i>Additional Members*</i>		

A schedule has been developed in effort to comply with the NPDES Permit requirements and timelines as currently established. The schedule is attached as Appendix C.

### 2.2 *Documentation Regarding Endangered Species*

In order to comply with part 1.9.1 of the NPDES Permit, the Town has attached documentation in Appendix D supporting Concord’s eligibility determination of Criterion C with regard to federal Endangered and Threatened Species and Critical Habitat Protection. Criterion C states “that the stormwater discharges and discharge related activities will have “no affect” on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service

(USFWS).” USFWS provided a letter in place of a concurrence letter for informal consultation.

The attachments in Appendix D include the aforementioned letter, as well as the results of the IPaC (Information for Planning and Consultation) environmental review process. Using the IPaC environmental review process, one endangered species have been identified within Concord’s boundaries: the Northern Long-Eared Bat. The Northern Long-Eared Bat does not have critical habitats located within the Town, and the MS4 Permit activities will not adversely affect the species within the MS4 area.

### **2.3 Documentation Regarding Historic Properties**

The Town has attached documentation in Appendix E supporting its eligibility determination regarding Historic Properties, in compliance with part 1.9.2 of the Permit. This document, Appendix D of the Massachusetts General MS4 Permit, includes information supporting Concord’s determination as Criterion A, stating that the discharges do not have the potential to cause effects on historic properties.

Historic site considerations will be evaluated further as part of the design/permitting of new/retrofit BMPs proposed for implementation as part of MS4 compliance. Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

### **2.4 Documentation Regarding Discharges**

Attached in Appendix F is the documentation for tracking any new or increased discharges authorized by MassDEP, in compliance with part 2.1.2 of the Permit. Increased discharges refer to increased pollutant loading(s) through the MS4 to waters of the US or to impaired waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters, pursuant to the Clean Water Act. The Permit states that “any

authorization of an increased discharge by MassDEP shall be incorporated into the permittee's SWMP.”

At this time, the Town of Concord has no new and/or increased discharges. Concord will document any new and/or increased discharges, including any newly located outfall beyond what was listed in the NOI, any new constructed outfall, or any new development increasing flow to existing MS4 outfall structures. These discharges will be documented on the form provided in Appendix F and will include project specific information regarding best management practices implemented for those discharges. A sample discharges form is provided in Appendix F.

## **2.5 Sanitary Sewer Overflow (SSO) Inventory**

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. The verbal notification should be followed up with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup. Upon notification of any SSO or septic overflow, the Concord Board of Health will take these appropriate measures to comply with Permit requirements.

In the last five years there has been one known SSO or septic overflow that discharged to the MS4. This was a bypass event in 2015, caused by a faulty flapper valve at the waste water treatment plant. There was no discharge to a waterway. An inventory of all known locations where SSOs have discharged to the MS4 will be maintained by the Town, if any are found. This inventory shall include SSOs resulting from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for interconnection of flow between the systems. A sample inventory form is provided in Appendix G and includes the following information:

1. Location (approximate street crossing/address and receiving water, if any);
2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;

3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
4. Estimated volume(s) of the occurrence;
5. Description of the occurrence indicating known or suspected cause(s);
6. Mitigation and corrective measures completed with dates implemented; and
7. Mitigation and corrective measures planned with implementation schedules.

## **2.6 IDDE Program and Bylaws**

In December 2009, the Town developed a detailed IDDE program in coordination with the EPA. The Town's IDDE program will continue to develop further to address the additional mapping, outfall screening, and drainage system investigation requirements of the 2016 Permit. The IDDE program is detailed in section 3.3 of Minimum Control Measures. The Town's Storm Water Regulations are provided in Appendix H, with Prohibited Discharges to the Storm Sewer System as Article III of the Town Storm Water Regulations.

## **2.7 Sediment and Erosion Control Procedures**

Written procedures for the Town's site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5 of the Permit, Construction Site Stormwater Runoff Control, are detailed in sections 3.4 and 3.5 of Minimum Control Measures. This information includes the party responsible for site inspections and implementation of procedures.

## **2.8 Public Drinking Water Supply Sources Protection**

The Town has developed practices in effort to avoid or minimize impacts to surface public drinking water supply sources. These efforts are detailed in Minimum Control Measures section 3.6, Good House Keeping and Pollution Prevention. The Town plans to prioritize the enforcement of existing stormwater pollution prevention plans.

## **2.9 Activities to Monitor Discharges**

The Town will identify any discharges within public drinking water supply source areas and give priority to outfall inspections and screening required of the Minimum Control Measures in section 3.0.

## **2.10 Annual Program Evaluation**

To comply with part 4.1 of the Permit, the Town annually self-evaluates compliance with the terms and conditions of the Permit and submits each self-evaluation as part of the Fiscal Year annual report. The 2018 NPDES Phase II Small MS4 General Permit Annual Report is attached as Appendix I.

## **3.0 MINIMUM CONTROL MEASURES**

In effort to reduce pollutants and comply with part 2.3 of the Permit, the Town focuses on the following minimum control measures. These sections describe the Town's practices to comply with each control measure, the responsible person(s) or party of each practice, and the goal(s) for each BMP of each control measure. The BMPs for each of the six minimum control measures are outlined in the forms provided in Appendix J.

### **3.1 Public Education and Outreach**

The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. Further detailed in section 4.2, the ultimate objective of a public education program, permit part 2.3.2, is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

The Town implemented a public education program as required by the 2003 permit and will continue that program and make the necessary adjustments to meet the additional requirements of the 2016 permit.

The program must include the education of the following four audiences: 1. residents, 2. businesses, institutions (churches, hospitals), and commercial facilities, 3. developers (construction), and 4. industrial facilities.

#### **3.1.1 Background**

The Town of Concord supports stormwater education through many outlets. Concord Town staff have posted stormwater information on the Town website and the Mill Brook Task Force webpage. The Town has also inserted informational stormwater fliers into the annual water/sewer division mailings. This information includes details on the Residential Rain Garden program.

Concord Public Works hosts Public Works Week annually, which includes tours and workshops on stormwater system maintenance, stormwater and water quality, hazardous waste disposal, stormwater pollution prevention (videos), wastewater treatment plant

(tour), and a session on best management practices for turf grass maintenance, tree care and winter storm response operations.

The Town of Concord Public Works Week was featured in the American Public Works Association (APWA) Report in April 2019. This was the twelfth year that the students were included in this Public Works Week event. The APWA article is attached in Appendix K. The Concord Public Works Department was also featured in the Concord Journal in August 2018 to raise awareness of stormwater related topics including right-of-way and driveway permits, the roads/sidewalk program, public access to GIS, sidewalk and drainage repairs, drain-layer orientations, Town bylaws on irrigation systems, recycling/trash/yard waste and composting.

The Town holds drop-off/swap-off recycling days twice a year, which includes the collection of unwanted pharmaceuticals. Informational brochures related to recycling, household waste materials, medication disposal, composting and water conservation are maintained at the Town House and continue to be made available. The Division of Natural Resources holds “Conservation Coffees” which provide a space for information and idea exchange regarding the maintenance of environmental quality.

The Concord Comprehensive Sustainability & Energy Committee hosts *The Cooler Concord Sustainable Landscaping Fair* to educate residents on how to avoid pesticides and other chemicals that impact stormwater quality. Partnering with MAPC, the Town of Concord received grant money for implementing the demonstration projects shown on the event flier, attached in Appendix K. Three lawn alternative demonstration gardens have been installed at high visibility locations around Town. As part of this program, the Town also visits 5<sup>th</sup> grade students in the first quarter of each year to educate on these stormwater topics. The Town has created a dedicated page on the Town’s website to share information about this program and progress updates. This program continues year-round with ongoing discussion groups.

The Concord Town Manager’s Report has raised awareness on the availability of the Walden Street Compost Site & Paint Shed, where residents can dispose of leaves,

grass clippings, and brush safely, to avoid negative stormwater impacts. In addition, the Town maintains affiliations with various conservation groups.

### 3.1.2 *Best Management Practices*

- I. Distribution of a minimum of two (2) educational messages over the permit term to the required audiences, as listed below.
  - A. Residents
    1. Maintain stormwater website with hyperlinks to stormwater related bylaws.
      - a) <https://concordma.gov/175/Stormwater-Management>
    2. Keep outreach materials at the Library and Town House and publish on stormwater website once developed, utilizing materials from the DEP, EPA, and Mill Brook Task Force.
    3. Distribute New Resident packets to residents within Wetland Protection Areas.
    4. Distribute pet waste control information to residents when they (re)apply for a pet license.
    5. Continue storm drain stenciling program.
  - B. Businesses, Institutions, and Commercial Facilities
    1. Include stormwater information in permit materials.
    2. Make information available on stormwater website and at the Town House.
    3. Distribute information to septic maintenance contractors.
  - C. Developers (Construction)
    1. Include stormwater information materials as appendix to building and site plan review permit applications.
    2. Make information available on stormwater website and at the Town House.
    3. Distribute information to developers based on zoning and property use.
  - D. Industrial Facilities
    1. Distribute stormwater information to industrial groups based on zoning and property use.
    2. Make information available on stormwater website and at the Town House.

## 3.2 *Public Involvement and Participation*

The objective of the public involvement and participation control measure, permit part 2.3.3., is for the Town to provide the public with opportunities to engage in activities that promote good stormwater practices. The public must also be given the chance to review the Stormwater Management Plan (SWMP) and its implementation.

### 3.2.1 Background

The Concord Public Works Department holds an Annual River Clean Up event each September, sponsored by OARS, when volunteers participate in cleaning up debris from the Assabet, Sudbury and Concord Rivers. Public Works coordinates the disposal and/or recycling of the various items that are removed from these rivers. . The Town also hosts a Concord Cleanup event, where residents come together to remove litter from roadsides and public lands.

Concord Public Works staff have attended several webinars and training events related to stormwater management. These include the “Preparing your Stormwater Management Program” webinar hosted by the EPA, the “Question & Answer Webinar on Completing a MS4 Notice of Intent” hosted by the EPA, and viewing the “Completing a Notice of Intent to Discharge” video. In addition, the Public Works staff also attended a workshop hosted by UMTC/Baystate Roads on planning for and implementing the new 2016 MS4 Permit.

The Concord Annual Town Report mentions several public involvement activities related to stormwater management. The Annual Right-To-Know, Hazardous Waste Management & Spill Prevention, Control, and Countermeasure (SPCC) training was conducted for Public Works employees, as required by EPA and MassDEP. The Report also describes the Town programs for unwanted medication and sharps collection, hazardous products collection, composting and yard waste, and mercury products disposal.

The Mill Brook Task Force tags all known catch basins within the Mill Brook watershed, and catch basins will continue to be tagged as they are replaced or discovered. The Town continues to accept public input on erosion control and stormwater quality issues at Town Board and Commission hearings. In addition, the Town continues to stock dog waste bag dispensers, and maintains a partnership with the dog-owner group. The Town also works with the local gardening group (Gardening for Life) to conduct a rain garden talk and tour to promote the use of rain gardens throughout Town.

### 3.2.2 Best Management Practices

- I. Public Review
  - A. Stormwater Management Plan Review (SWMP)
    1. Make SWMP available at least annually for public review.
    2. Create and use Stormwater Website to publish SWMP and annual reports. Website should contain a space for electronically soliciting public comments (e.g. stormwater specific e-mail, message board, etc.).
      - a) Make physical copy available at the Town House, Library, Highway Department, etc.
- II. Public Participation
  - A. Participate in local stormwater groups/associations (e.g. Mill Brook Task Force, OARs).
  - B. Maintain/Acquire membership with other local water quality committees.
- III. Continue to host hazardous waste collection days.
- IV. Continue to hold Town clean-up days with various groups.
- V. Continue to post information on Town website to encourage participation in water monitoring activities in partnership with the Mill Brook Task Force.
- VI. Reestablish the poster contest in-house by soliciting sponsorships from local businesses to create stormwater awareness.

### 3.3 Illicit Discharge Detection and Elimination (IDDE) Program

The Town shall update the existing IDDE program, permit part 2.3.4, in order to find and eliminate non-stormwater discharge sources to its MS4 system. Procedures will continue to be implemented to fix any prevalent issues in the Town's storm sewer system. As identified in the Notice of Intent (NOI), attached in Appendix B, the following 153 outfall structures listed in the table below discharge within the Town of Concord's MS4 area. These outfall structures are displayed on *Figure 2: MS4 Urbanized Areas*.

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Assabet River (MA82B-07)	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Dugan Brook	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Elm Brook	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mill Brook (MA82A-20)	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Habitat Assessment (Streams)
Second Division Brook (MA82B-09)	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spencer Brook (MA82B-15, MA82B-16)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
St. Bernards Cemetery Pond	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sudbury River (MA82A-04)	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Native Aquatic Plants, Mercury in Fish Tissue
Unnamed Pond East of Assabet River (42.46355, -71.38808)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond North of White Pond (1) (42.36077, -71.38717)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond North of White Pond (2) (42.43265, -71.39176)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond South of Great Meadows Pond #3 (42.47879, -71.32363)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond South of North Great Meadows Pond (1) (42.47055, -71.32442)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond South of North Great Meadows Pond (2) (42.47446, -71.32212)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond to Dugan Brook (42.44668, -71.39851)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond West of Mill Brook (42.45639, -71.33233)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary North of White Pond (42.43489, -71.38844)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Assabet River (42.45706, -71.38815)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Dugan Brook (42.44517, -71.39167)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Elm Brook (42.46848, -71.31784)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Erin Brook (42.46677, -71.31647)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Great Meadows Pond #1 (42.46716, -71.34319)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Mill Brook (42.45146, -71.34744)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Second Division Brook (42.43136, -71.41410)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Sudbury River (42.43946, -71.36839)	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary West of White Pond (42.43159, -71.39608)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Waterbody East of Second Division Brook (42.43677, -71.40178)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands around Mill Brook (42.45380, -71.33472)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands East of Assabet River (42.44546, -71.41834)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Assabet River (42.44877, -71.39787)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Dugan Brook (42.43742, -71.38841)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Warners Pond (42.45724, -71.40874)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands to Spencer Brook (42.50374, -71.37397)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands West of Warners Pond (42.46356, -71.40702)	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Warners Pond (MA82110)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Native Aquatic Plants, Mercury in Fish Tissue
Unnamed Stream East of Elm Brook (42.46622, -71.30224)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Unnamed Stream East of Sudbury River (42.45659, -71.71.37046)	3	<input type="checkbox"/>									
Unnamed Stream North of Assabet River (42.47854, -71.39361)	6	<input type="checkbox"/>									
Unnamed Stream Southeast of Second Division Brook (42.43232, -71.40885)	1	<input type="checkbox"/>									
Unnamed Stream West of Elm Brook (42.45682, -71.31683)	1	<input type="checkbox"/>									
Unnamed Stream West of Spencer Brook (42.49013, -71.39150)	1	<input type="checkbox"/>									
Unnamed Stream West of Sudbury River (42.43190, -71.36463)	2	<input type="checkbox"/>									
Unnamed Tributary between Dugan Brook and Assabet River (42.44828, -71.40027)	7	<input type="checkbox"/>									
Unnamed Tributary East of Assabet River (42.46014, -71.38146)	3	<input type="checkbox"/>									
Unnamed Tributary East of Sudbury River (42.44949, -71.35304)	2	<input type="checkbox"/>									
Unnamed Tributary to Sudbury River (2) (42.45493, -71.36196)	8	<input type="checkbox"/>									
Unnamed Tributary to Assabet River (2) (42.47244, -71.38583)	2	<input type="checkbox"/>									
Unnamed Tributary to Mill Brook (2) (42.45808, -71.33781)	1	<input type="checkbox"/>									

### 3.3.1 Background

The Town of Concord has approved and adopted an IDDE plan. The Town has created a GIS based drainage map to include manholes, catch basins, outfalls, BMPs, culverts and drain lines. The GIS database will be updated to include swales, scuppers, interconnections with other MS4s and other storm sewer systems, and open channel conveyances. The Town continues to update the GIS inventory as new information becomes available. Updates related to drainage and road improvements, catch basin cleaning activities and position/elevation data are also updated regularly.

The Town has adopted new regulations related to public storm drainage connections and enforces these regulations at all times. In order to locate priority areas of illicit connections, the Town monitors drainage structures for IDDE indicators consistent with the IDDE protocol. The Town continues to utilize the Town of Concord IDDE Protocol and investigates sources of new potential illicit discharges as they become known. This includes performing follow-up testing/inspections when appropriate. In addition, the Town has created a Wastewater Planning Task Force to investigate the possible amendments to the wastewater master plan. The Town attends annual stormwater training which covers illicit discharge training as well as good housekeeping and street sweeping.

### 3.3.2 Best Management Practices

#### I. Legal Authority

A. The IDDE program shall include adequate legal authority to prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For permittees authorized by the MS4-2003 permit, the ordinance, by-law, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. For new permittees the ordinance, by-law, or other regulatory mechanism shall be in place within 3 years of the permit effective date.

## II. SSO Inventory

A. Develop SSO Inventory Database within 1 year of effective permit date that logs historical SSOs that have occurred in the last 5 years, as discussed in further detail in section 2.5.

1. Coordinate with Water/Sewer Division for tracking of any future SSOs.

## III. Storm Sewer System Map

A. Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit.

1. Make an electronic and physical copy of the map available to the public via the stormwater website and Town House.
2. Map/verify 10% of system per year during permit years 1-10.
  - a) Phase I will be focused on during Years 1 and 2, while Phase II will be focused on during Years 3 through 10.
3. Integrate system map updates with planned utility expansion projects.
4. Cross reference drainage information to ensure mapping is as accurate as possible.
5. Map/verify country drainage (e.g. scuppers), in addition to outfall pipes.

## IV. Written IDDE Program Development

A. Update written IDDE program within 1 year of effective permit date. The IDDE program and permit attachments will be available within the Town House at 22 Monument Square, Concord, MA 01742.

1. The written plan will include but is not limited to the following:
  - a) Outline of responsibilities.
  - b) Storm sewer map with locations of known outfalls, including information on relevant connectivity data gaps.
  - c) Systematic procedure/protocol to detect and eliminate illicit discharges.
  - d) Assessment/ranking of catchments (based on complaints, past water quality data, adjacent failing septic/sewer systems, density, surrounding area, TMDL surface waters)
  - e) Tracking mechanism to evaluate and report on the overall effectiveness of the IDDE program.

- V. Implement IDDE Program
  - A. Implement catchment investigations according to program and permit conditions within 15 months of effective permit date.
    - 1. Continue to enforce the CPW Stormwater Regulations and administer the IDDE protocol..
    - 2. Draft and implement stormwater management regulations.
    - 3. Conduct water quality monitoring through dry weather screening.
      - a) The water quality monitoring practice should involve inspections for illicit discharge detection.
- VI. Employee Training
  - A. Coordinate annual stormwater training and incorporate with training required in Section 6.2.IV.B.
- VII. Dry Weather Screening
  - A. Conduct screening in accordance with outfall screening procedure and permit conditions, within 3 years of effective permit date.
    - 1. Screen 50% of outfalls per year during permit years 2-3.
- VIII. Conduct Wet Weather Screening
  - A. Conduct screening in accordance with outfall screening procedure and permit conditions and as determined by dry weather screening results, within 10 years of effective permit date.
  - B. To identify areas with higher potential for illicit connections, the permittee shall identify the presence of any of the following System Vulnerability Factors (SVFs):
    - 1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
    - 2. Common or twin-invert manholes serving storm and sanitary sewer alignments;
    - 3. Common trench construction serving both storm and sanitary sewer alignments;
    - 4. Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system;
    - 5. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
    - 6. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
    - 7. Areas formerly served by combined sewer systems;
    - 8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
- IX. Conduct ongoing screening upon completion of the IDDE program.
- X. IDDE Regulations
  - A. Continue to eliminate illicit discharge violations.

### **3.4 Construction Site Stormwater Runoff Control**

The Town must implement a program focused on controlling stormwater runoff from construction sites. The program shall minimize or eliminate erosion on site and maintain the site so that the sediment is not transported in stormwater or allowed to discharge to a water of the U.S. through the permittee's MS4, as stated in part 2.3.5 of the Permit.

#### **3.4.1 Background**

The Town continues to require full compliance of the Wetlands Bylaw and Regulations for all work within wetland resource areas and buffer zones. The Town's Soil Erosion and Sediment Control Standards have been updated within Concord Public Works Design Standards and Construction Specifications, and the Town continues to require an Erosion Control Plan and Stormwater Pollution Prevention Plan for all projects meeting the threshold. The Town continues to regulate development and redevelopment projects through the subdivision review process, site plan review, and right of way permit application process. All site plans are reviewed for water quality concerns. All proposed projects are subject to public review and input by the Engineering Division. The Town plans to continue permitting and inspecting construction sites receiving access through the Town's right-of-way to ensure construction is performed in accordance with Concord Public Works Design Standards.

#### **3.4.2 Best Management Practices**

- I. Site Inspection and Enforcement of Erosion and Sediment Control (ESC) Measures Procedures
  - A. Continue to implement and update written procedures of site inspections and enforcement procedures within 1 year of effective date of the permit.
    1. Recommend standards and practices for town inspection procedures. Seek input from relevant town groups (e.g. Conservation Commission, Highway Department, Building Department, etc.).

2. Develop inspection form that includes ESC measures and integrate them with existing Town forms.
- II. Site Plan Review Procedures
  - A. Continue to implement written procedures of site plan review and begin implementation within 1 year of the effective date of the Permit.
    1. Include site plan review workflow chart with permit applications.
    2. Review current Town procedure regarding when a Construction General Permit (CGP) is needed.
- III. Erosion and Sediment Control Ordinance
  - A. Continue to enforce requirements for construction operators to implement a sediment and erosion control program within 1 year of the effective date of the Permit.
    1. Set limit of 1 acre before project requires inspection by Town official.
      - a) Coordinate limits and requirements with fill/extraction permits.
    2. Update all Town forms with erosion and sediment control checklist.
    3. Continue to implement Soil and Erosion Control bylaw.
    4. Continue to monitor all construction activities within the Town of Concord for erosion and sediment control issues.
- IV. Waste Control
  - A. Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes within 1 year of the effective date of the Permit.
    1. Incorporate into Town's general conditions for building permit and/or site plan review.
    2. Continue to review and modify Town bylaw to meet new requirements.
- V. Pre-Construction/Coordination Meetings
  - A. Continue GIS mapping and develop protocol for submitting as-builts electronically.

### **3.5 Post Construction Stormwater Management in New Development and Redevelopment**

The objective of an effective post construction stormwater management program, part 2.3.6 of the Permit, is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

### 3.5.1 Background

The Town of Concord has developed a *Guide to Permitting* to assist residents, businesses, builders and contractors to better understand the development requirements and processes. This document describes which departments and/or divisions are required for review and which boards and commissions are required for approval. The *Guide to Permitting* is attached in Appendix K. All regulated projects are required to comply with the Concord Public Works Design Standards and Construction Specifications. The Town Engineering Division will continue to review, permit and inspect all projects as appropriate. The Town will also continue to make a list of reference documents for efficient and accepted BMPs available to developers. Subdivision and site plan rules and regulations will be reevaluated annually for effectiveness.

### 3.5.2 Best Management Practices

- I. Post-Construction Ordinance
  - A. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit.
- II. As-Built Plans For On-Site Stormwater Control
  - A. Require submission of electronic data for as-built drawings (e.g. PDF, AutoCAD, GIS) within 2 years of completed construction.
    1. O&M certification should include contact and contract information for contractors that perform O&M on the private BMPs.
- III. Inventory and Priority Ranking of MS4-Owned Properties That May Be Retrofitted with BMPs
  - A. Conduct detailed inventory of MS4 owned properties and rank for retrofit potential within 4 years of permit effective date.
    1. Inventory Town parcels for existing stormwater BMPs and identify opportunities for GI/LID retrofits.
      - a) Include schools, parks, recreation facilities, police/fire/EMS, libraries, public works, and town administrative offices.
- IV. Allow Green Infrastructure
  - A. Within 4 years of permit effective date, develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist.
    1. Review bylaws and applications in order to incorporate green infrastructure and low impact development language as needed.
    2. Educate the public on green infrastructure through existing BMP retrofits/demonstration projects.
- V. Street Design and Parking Lot Guidelines

- A. Within 4 years of permit effective date, develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.
  - 1. Publish street design and parking lot guidelines on stormwater website.
- VI. Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.
  - A. Within 2 years of permit effective date, adopt, amend, or modify regulation mechanisms to meet permit requirements.
    - 1. Review rules and regulations and modify as needed. Include evaluation of subdivision/redevelopment requirements for long-term operations and management of private BMPs.
    - 2. Continue to implement Post-Construction Site Runoff Control Bylaw.
- VII. Continue to implement measures that encourage priority open space protection.

### **3.6 Good House Keeping and Pollution Prevention for Permittee Owned Operations**

The objective of this control measure, part 2.3.7 of the Permit, states that the permittee shall implement an operations and maintenance program for Town-owned operations that shall focus on preventing or reducing pollutant runoff and protecting water quality from Town operations.

#### **3.6.1 Background**

In efforts to control stormwater pollution, the Town continues to clean at least 25% of Town owned catch basins annually. The Town utilizes GIS mapping for data tracking. Catch basin cleanings include a survey of condition and any issues are recorded, as well as the height of the debris before and after the cleaning has been completed. The Concord Public Works Department has dedicated an area at the material storage yard for temporary storage of catch basin residuals. This area has protective measures to prevent the residuals from leaching away from the piles and entering the stormwater system. The Town has also established a Snow and Ice Control program, which covers 107 miles of roadway, 4 miles of private roads, 44 miles of sidewalks and 12 parking lots. Snow is loaded out and hauled to the Town snow storage sites at the landfill or Commonwealth Ave during storm events. The Street Sweeping program also covers 107 miles of public

roadway, the paved portion of 4 miles of private roadway, Town parking lots and sidewalks each Spring with the goal of completion by early June. This process helps Concord to achieve the goal of removing sand, silt and other debris from the stormwater system. As part of the Town's Grounds Maintenance Program, the Public Works department uses best management practices such as mowing, soil testing, fertilization and pH adjustment and mulching. The Town does not use any pesticides in their maintenance practices. The Concord Public Works Catch Basin Cleaning, Snow and Ice Control, Street Sweeping Program and Grounds Maintenance Program Information sheets are attached in Appendix K.

The Town properly disposes of sewer main and manhole cleanings through the wastewater treatment plant and has a composting facility open to the public twice per week. Household hazardous waste events are held on multiple occasions throughout the year in coordination with the Minuteman Household Hazardous Waste Facility.

The Town has developed a Stormwater Pollution Prevention Plan (SWPPP), a Spill Prevention Control and Countermeasure Plan, and an Integrated Contingency Plan for the Public Works Department. As part of the SWPPP, the Town has developed a Garage Inspection form that works to evaluate the hazardous waste accumulation bay, the mechanics bay, the highway/park/tree bays and other general concerns. These inspection forms are filed weekly. The Town will continue to comply with these plans and update them as necessary.

In order to maintain the Concord Walden Street compost site, the Public Works department conducted a bioassay test through Washington State University to determine if there were herbicide residues in the compost. The test concluded that there were no indications of plant growth symptoms consistent with herbicide damage.

The Town currently maintains seven bio-retention areas during the year. The Town's maintenance program ensures proper drainage, pollutant filtration, and general aesthetics. In the Spring, the Town inspects and removes trash and weeds from the bio-retention basins, mulches 2-3 inches, and removes and replaces dead vegetation if necessary. In the Summer, the Town inspects and removes trash and weeds (not included in the plant list). In the Fall, the Town continues trash and weed removal, and

also prunes the dead heads in the bio-retention basins. In the future, the Town plans to incorporate more Low Impact Development techniques to manage urban runoff.

Employees receive stormwater, spill control and counter measure training annually.

### 3.6.2 *Best Management Practices*

- I. Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment within 2 years of permit effective date.
  - A. Develop standards of practice for O&M of each public facility and combine in Town O&M Manual.
- II. Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment within 2 years of permit effective date.
  - A. Develop a capital improvement plan that deals with flooding prevention measures and water quality improvements.
    1. Coordinate implementation with Section 5.2.II
- III. Establish and implement program for repair and rehabilitation of MS4 infrastructure within 2 years of permit effective date.
  - A. Inspect assets and assess condition to develop program
  - B. Review annual budget to set aside funding.
- IV. Stormwater Pollution Prevention Plan (SWPPP) for Maintenance Garages, Transfer Stations and Other Waste-Handling Facilities
  - A. Update plan within 2 years of permit effective date.
  - B. Schedule annual employee training.
    1. Continue to look into workshop and speaking opportunities and seek formal training for all departments.
  - C. Continue to utilize asset management system to process complaints, permits, inspections, and maintenance.
  - D. Continue to implement recycling standards and requirements.
- V. Catch Basin Cleaning
  - A. Continue to maintain an annual cleaning schedule.
  - B. Maintain electronic data collection system for tracking, inspection, and maintenance.
    1. Update catch basin cleaning services RFP requirements to require electronic data collection that is compatible with the Town's GIS and asset management system.
- VI. Street Sweeping Program
  - A. Continue to implement street sweeping program, sweeping streets a minimum of once annually in the spring.
  - B. Include number of miles of streets cleaned per year, and volume or mass or material removed in each annual stormwater report (rural and uncurbed exceptions apply).
- VII. Road Salt use Optimization Program/Winter Road Maintenance
  - A. Continue working on salt reduction strategies.

1. Continue to develop and implement winter road maintenance procedures including use and storage of salt and sand
2. Continue to minimize the use of salts and ensure that snow is not disposed into water ways.
3. Calibrate spreaders to reduce salt use.

VIII. Inspections and maintenance of stormwater treatment structures.

- A. Establish and implement inspection and maintenance procedures for annual inspections/maintenance.
- B. Continue documenting catch basin and outfall inspection/condition data.

FOR COMMENT

## 4.0 WATER QUALITY BASED REQUIREMENTS

In compliance with the Clean Water Act (CWA), each state must administer a program to monitor and assess the quality of its surface water and ground water. Section 305(b) process of the CWA entails assessing each use for rivers, lakes, and coastal waters, and causes and sources of impairment are identified wherever possible. Section 303(d) of the CWA along with the regulations at 40 CFR 130.7 requires states to identify those water bodies that are not expected to meet surface water quality standards (SWQS) after the implementation of technology based controls, and prioritize them for the development of Total Maximum Daily Loads (TMDLs). A TMDL establishes the maximum amount of a pollutant that may be introduced into a water body and still ensure attainment and maintenance of water quality standards. The 303(d) *List of Impaired Waters* (303(d) List) lists each water body in one of the following five categories:

- 1) Unimpaired and not threatened for all designated uses;
- 2) Unimpaired for some uses and not assessed for others;
- 3) Insufficient information to make assessments for any uses;
- 4) Impaired or threatened for one or more uses, but not requiring the calculation of a TMDL; or
- 5) Impaired or threatened for one or more uses and requiring a TMDL.

Waters listed in Category 5 constitute the 303(d) List and are to be reviewed and approved by the EPA. An abbreviated version of *Table 1: Impaired Waters, TMDLs and Impairments* is shown below, and is also represented in Appendix B, the Notice of Intent. The MS4 area and Town watersheds are shown on *Figure 3: Town Watersheds*, and an overall map of the Town of Concord's stormwater system is attached as *Figure 4: Stormwater System Map*.

<b>Town of Concord, Massachusetts</b>			
<b>Massachusetts Year 2014 Integrated List of Waters</b>			
<b>Impaired Waters</b>			
Category	Name	Segment ID	Impairment Cause
5 - "Water Requiring a TMDL"	Assabet River	MA82B-07	Fecal Coliform
			Phosphorus (Total)
5 - "Water Requiring a TMDL"	Elm Brook	MA83-05	Fecal Coliform
			Turbidity
*TMDL not required (Non-pollutant)			

#### **4.1 Background**

These best management practices aim to improve and mitigate stormwater quality impairments. This program will focus on impaired waters in Concord requiring a TMDL (Category 5) in the SuAsCo and Shawsheen Watersheds, shown on *Figure 3*.

There are fourteen (14) outfalls discharging to impaired waters in the Town of Concord. These impaired waters include the Assabet River (MA82B-07) and Elm Brook (MA83-05).

The majority of the Town's outfalls, one hundred and one (101) outfalls, are located within the SuAsCo Watershed. The Assabet River, which is located within the SuAsCo Watershed, has a total maximum daily load (TMDL) for total phosphorus. Thirteen (13) of the Town's outfalls discharge to the Assabet River. This impairment requires Concord to follow the below requirements (see section 4.2.5) to mitigate total phosphorus discharges to the MS4 area. The Town should prioritize sampling these thirteen (13) outfalls that discharge to the Assabet River.

In addition to the Assabet River phosphorus requirements, all discharges to the Assabet River must also be tested for Fecal Coliform and the Town must adhere to requirements listed in part III of Appendix H of the Permit.

The remaining three (3) outfalls in Town are located within the Shawsheen Watershed, one (1) of which discharges directly to Elm Brook. This watershed has a watershed-wide EPA approved TMDL requirement for bacteria. This impairment requires Concord to follow the requirements listed below for bacteria to mitigate contaminated discharges to the MS4. In addition to the watershed requirements, Elm Brook itself is a Category 5 waterbody, and is impaired due to fecal coliform and turbidity. For fecal coliform, the Town must follow the below requirements listed for bacteria. For the turbidity impairment, the Town must follow part V of Appendix H of the Permit. The Town should prioritize sampling these three (3) outfalls for bacteria and turbidity.

## 4.2 Permit Requirements

### 4.2.1 Public Education and Outreach

#### a. Bacteria

- Distribute an annual message that encourages the proper management of pet waste, including noting any existing ordinances where appropriate.
- Disseminate educational materials to dog owners at the time of issuance or renewal of dog license, or other appropriate time.
- Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

#### b. Phosphorus

- Distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers.
- Distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate.
- Distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter.
- Deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorus to discharges from the MS4.

### 4.2.2 Stormwater Management in New Development and Redevelopment

#### a. Phosphorus

- Include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.
- Retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

### 4.2.3 Good House Keeping and Pollution Prevention

#### a. Phosphorus

- Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces.
- Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two

times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (September 1 - December 1; following leaf fall).

#### 4.2.4 *Illicit Discharge Detection and Elimination*

##### a. Bacteria

- Implement the illicit discharge program required by the Permit. Catchments draining to any water body impaired for any of the listed impairments shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

#### 4.2.5 *Additional Requirements (Phosphorus)*

- Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:
  - Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6
  - All screening and monitoring results pursuant to part 2.3.4.7.d, targeting the receiving water segment(s)
  - Impervious area and DCIA for the target catchment
  - Identification, delineation, and prioritization of potential catchments with high phosphorus loading
  - Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious areas
- The final Phosphorus Source Identification Report shall be submitted to EPA as part of the year 4 annual report.
- Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. or identified in the Phosphorus Source Identification Report that are within the drainage area of the impaired water or its tributaries.
- The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report.
- The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential.

- The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.
- Any structural BMPs listed in Table 3 of Attachment 3 to Appendix F already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.

At any time during the permit term, the Town may be relieved of additional requirements in Appendix H part I and III when in compliance with the Permit requirements.

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**TABLE 1**

**IMPAIRED WATERS, TMDLS AND IMPAIRMENTS**

FOR COMMENT

**Town of Concord, Massachusetts**  
**Massachusetts Year 2014 Integrated List of Waters**  
**Impaired Waters**

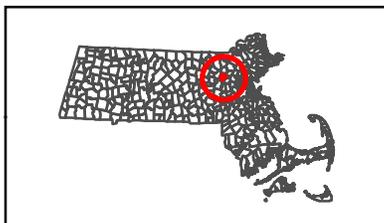
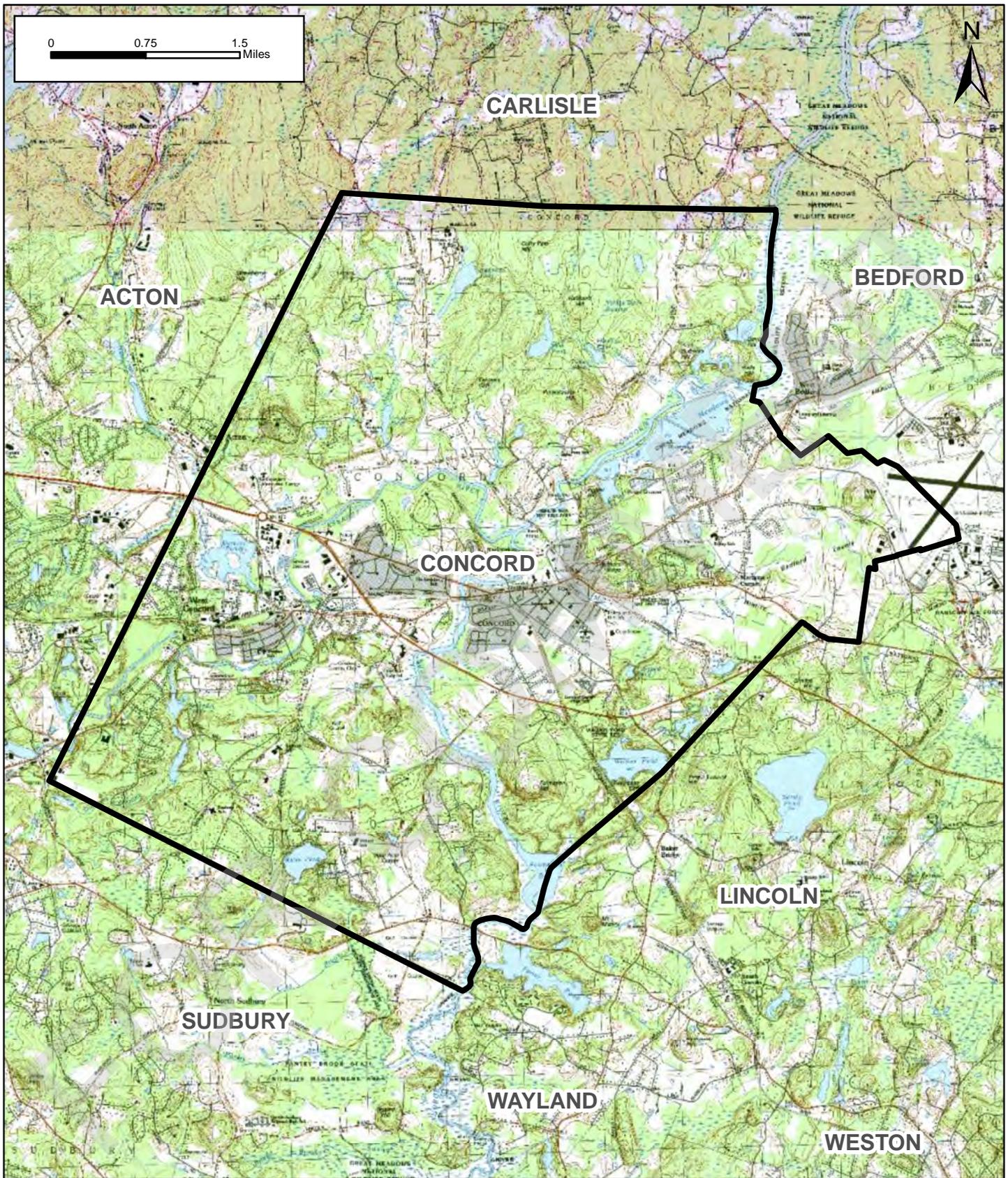
Category	Name	Segment ID	Description	Size	Units	Impairment Cause	EPA TMDL NO.
5 - "Water Requiring a TMDL"	Assabet River	MA82B-07	From the Powdermill Dam, Acton to the confluence with the Sudbury River, Concord.	6.4	Miles	Fecal Coliform	
						Phosphorus (Total)	
5 - "Water Requiring a TMDL"	Elm Brook	MA83-05	Headwaters, Lincoln to confluence with Shawsheen River, Bedford.	5.04	Miles	Fecal Coliform	2587
						Turbidity	
						*TMDL not required (Non-pollutant)	

FOR COMMENT

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**FIGURE 1**  
**SYSTEM LOCUS**

FOR COMMENT



**Figure 1**  
**System Locus**  
**Concord, Massachusetts**

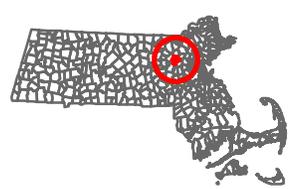
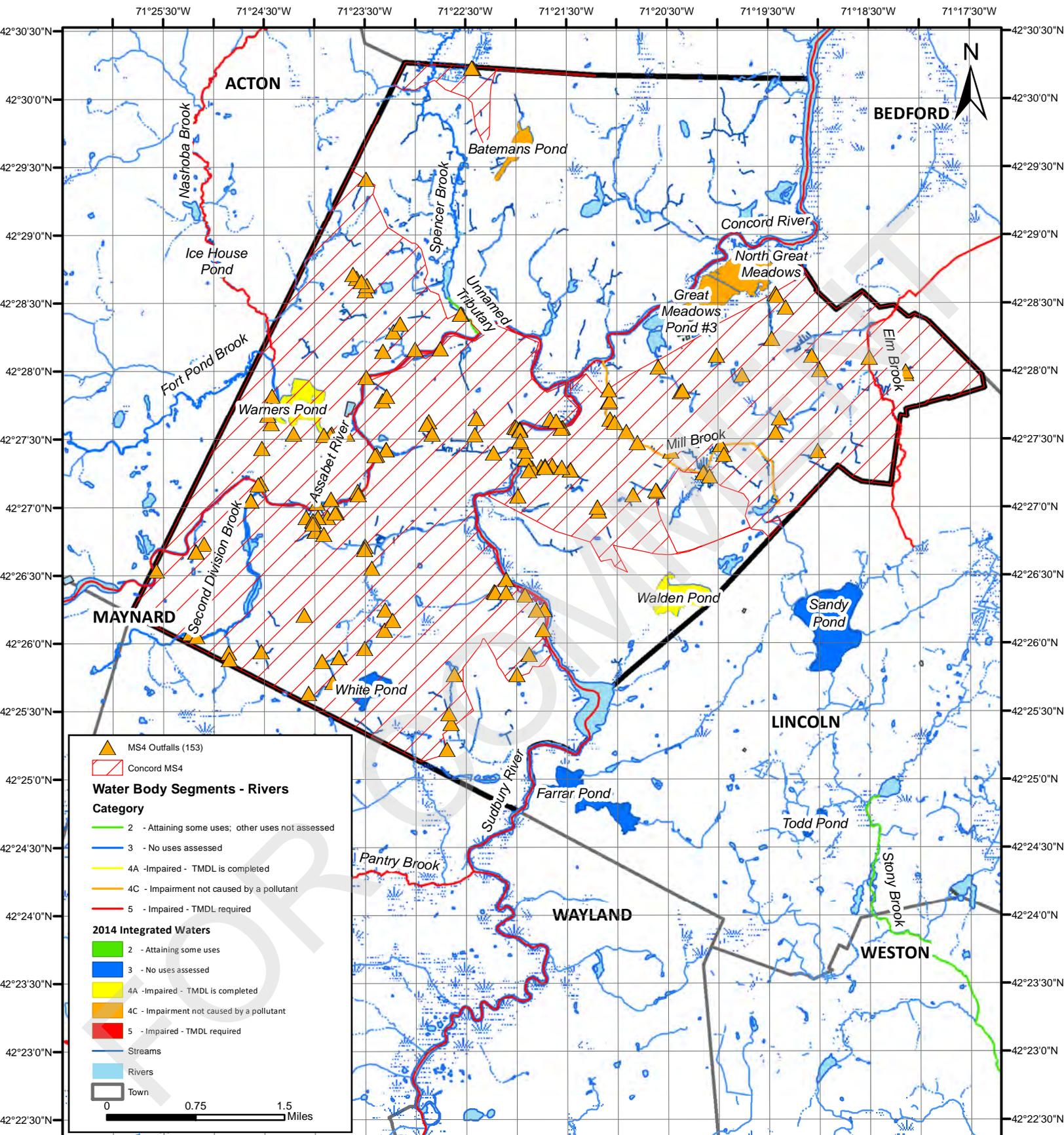


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**FIGURE 2**

**MS4 URBANIZED AREAS**

FOR COMMENT



**Figure 2**  
**MS4 Urbanized Areas**  
**Concord, Massachusetts**

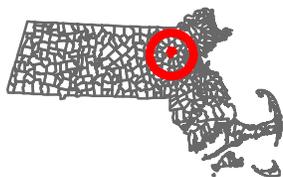
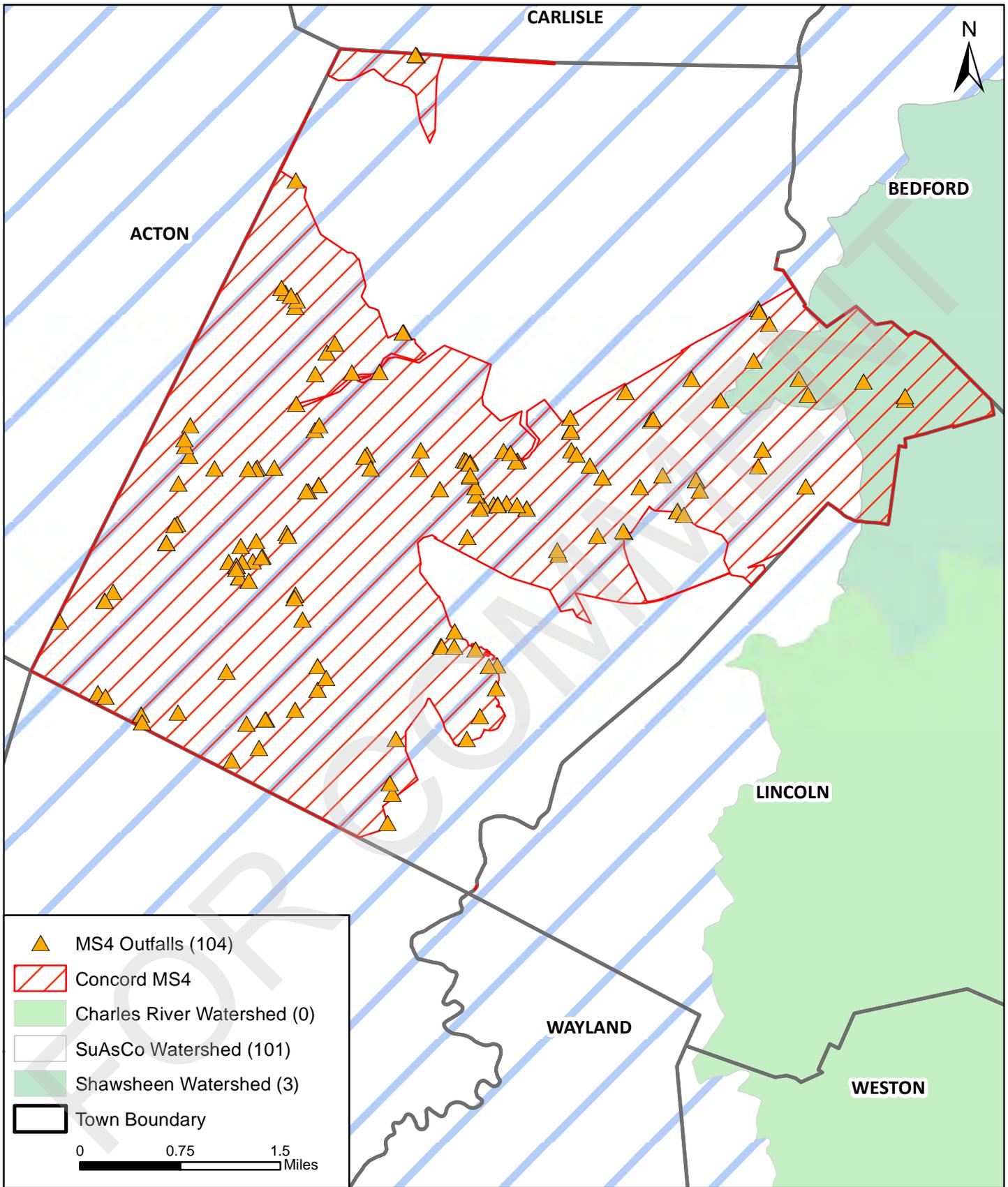


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**FIGURE 3**

**TOWN WATERSHEDS**

FOR COMMENT



**Figure 3**  
**Town Watersheds**  
**Concord, Massachusetts**

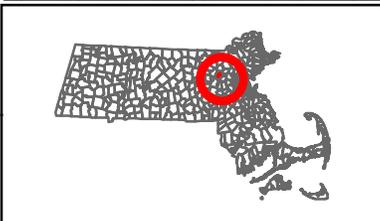
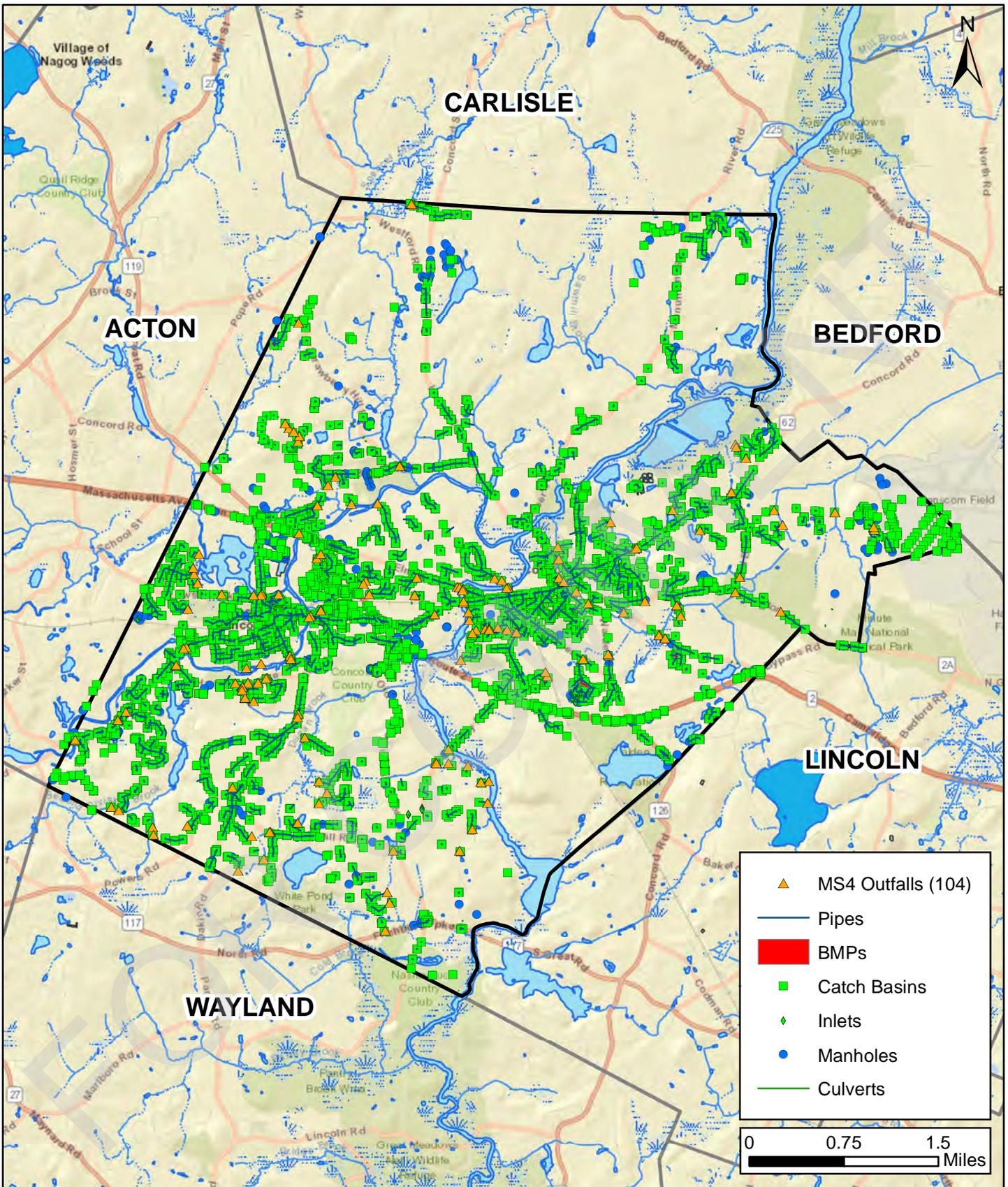


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**FIGURE 4**

**STORMWATER SYSTEM MAP**

FOR COMMENT



**Figure 4**  
**Stormwater System**  
**Concord, Massachusetts**



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***APPENDIX A***

***MA MS4 HYPERLINKS AND REFERENCES***

FOR COMMENT

## MA MS4 General Permit Hyperlinks

EPA MA MS4 Permit: <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>

DEP Permit Information:

<http://www.mass.gov/eea/agencies/massdep/water/wastewater/stormwater.html#8>

Town Hyperlink: <https://concordma.gov/175/Stormwater-Management>

### MCM 1: Public Education and Outreach

EPA's Stormwater Education Toolbox

MassDEP's Stormwater Outreach Materials

Other templates relevant to MCM 1 can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo>

### MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program

IDDE Program Template and SOPs

Other templates relevant to IDDE can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde>

### MCM 4: Construction Site Stormwater Runoff Control

Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here:

<https://www.epa.gov/npdespermits/stormwater-tools-new-england#csrc>

### MCM 5: Post Construction Stormwater Management in New Development and Redevelopment

Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm>

### MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollution Prevention Plans can be found here:

<https://www.epa.gov/npdes-permits/stormwatertools-new-england#gh>

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***APPENDIX B***  
***NOTICE OF INTENT***

FOR COMMENT

Part I: General Conditions

**General Information**

Name of Municipality or Organization:  State:

EPA NPDES Permit Number (if applicable):

**Primary MS4 Program Manager Contact Information**

Name:  Title:

Street Address Line 1:

Street Address Line 2:

City:  State:  Zip Code:

Email:  Phone Number:

Fax Number:

**Other Information**

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed):

**Eligibility Determination**

Endangered Species Act (ESA) Determination Complete?  Eligibility Criteria (check all that apply):  A  B  C

National Historic Preservation Act (NHPA) Determination Complete?  Eligibility Criteria (check all that apply):  A  B  C

Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

**MS4 Infrastructure** (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete?  If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:   
If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

**Regulatory Authorities** (if covered under the 2003 permit)

**Illicit Discharge Detection and Elimination (IDDE) Authority Adopted?**  Effective Date or Estimated Date of Adoption (MM/DD/YY):   
(Part II, III, IV or V, Subpart B.3.(b.) of 2003 permit)

**Construction/Erosion and Sediment Control (ESC) Authority Adopted?**  Effective Date or Estimated Date of Adoption (MM/DD/YY):   
(Part II, III, IV or V, Subpart B.4.(a.) of 2003 permit)

**Post- Construction Stormwater Management Adopted?**  Effective Date or Estimated Date of Adoption (MM/DD/YY):   
(Part II, III, IV or V, Subpart B.5.(a.) of 2003 permit)



Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Unnamed Tributary North of White Pond (42.43489, -71.38844)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Assabet River (42.45706, -71.38815)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Dugan Brook (42.44517, -71.39167)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Elm Brook (42.46848, -71.31784)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Erin Brook (42.46677, -71.31647)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Great Meadows Pond #1 (42.46716, -71.34319)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Mill Brook (42.45146, -71.34744)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Second Division Brook (42.43136, -71.41410)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Sudbury River (42.43946, -71.36839)	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary West of White Pond (42.43159, -71.39608)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Waterbody East of Second Division Brook (42.43677, -71.40178)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands around Mill Brook (42.45380, -71.33472)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands East of Assabet River (42.44546, -71.41834)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Assabet River (42.44877, -71.39787)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Dugan Brook (42.43742, -71.38841)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands South of Warners Pond (42.45724, -71.40874)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands to Spencer Brook (42.50374, -71.37397)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetlands West of Warners Pond (42.46356, -71.40702)	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Warners Pond (MA82110)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Native Aquatic Plants, Mercury in Fish Tissue

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Unnamed Stream East of Elm Brook (42.46622, -71.30224)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream East of Sudbury River (42.45659, -71.71.37046)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream North of Assabet River (42.47854, -71.39361)	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream Southeast of Second Division Brook (42.43232, -71.40885)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream West of Elm Brook (42.45682, -71.31683)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream West of Spencer Brook (42.49013, -71.39150)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream West of Sudbury River (42.43190, -71.36463)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary between Dugan Brook and Assabet River (42.44828, -71.40027)	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary East of Assabet River (42.46014, -71.38146)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary East of Sudbury River (42.44949, -71.35304)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Sudbury River (2) (42.45493, -71.36196)	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Assabet River (2) (42.47244, -71.38583)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary to Mill Brook (2) (42.45808, -71.33781)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Click to lengthen table

## Notice of Intent (NOI) for coverage under Small MS4 General Permit

### Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

#### MCM 1: Public Education and Outreach

BMP Media/Category <small>(enter your own text to override the drop down menu)</small>	BMP Description	Targeted Audience	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Measurable Goal	Beginning Year of BMP Implementation
Brochures/Pamphlets	Provide stormwater information bill inserts. Provide informational brochures on open spaces and waterways at Town House and NRC office	Residents	Concord Public Works (CPW), Natural Resource Commission (NRC)	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Provide stormwater flyers to businesses in conjunction with Chamber of Commerce mailings and CPW's annual business recycling event	Businesses, Institutions and Commercial Facilities	CPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Provide stormwater information in permit materials; Review and update application forms to meet the new requirements	Developers (construction)	CPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Distribute information to industrial groups based on zoning and property use	Industrial Facilities	CPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018




FOR COMMENT




FOR COMMENT

### Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

**MCM 3: Illicit Discharge Detection and Elimination (IDDE)**

<b>BMP Categorization</b> (enter your own text to override the drop down menu)	<b>BMP Description</b>	<b>Responsible Department/Parties</b> (enter your own text to override the drop down menu)	<b>Measurable Goal</b> (all text can be overwritten)	<b>Beginning Year of BMP Implementation</b>
SSO inventory	Develop SSO inventory in accordance of permit conditions	CPW	Complete within 1 year of effective date of permit	2018
Storm sewer system map	Create map and update during IDDE program completion	CPW	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
Written IDDE program	Create written IDDE program	CPW	Complete within 1 year of the effective date of permit and update as required	2018
Implement IDDE program	Implement catchment investigations according to program and permit conditions	CPW	Complete 10 years after effective date of permit	2018
Employee training	Train employees on IDDE implementation	CPW	Train annually	2018
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	CPW	Complete 3 years after effective date of permit	2018
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	CPW	Complete 10 years after effective date of permit	2018
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	CPW	Complete ongoing outfall screening upon completion of IDDE program	2018


FOR COMMENT

### Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 4: Construction Site Stormwater Runoff Control

<b>BMP Categorization</b> (enter your own text to override the drop down menu or entered text)	<b>BMP Description</b>	<b>Responsible Department/Parties</b> (enter your own text to override the drop down menu)	<b>Measurable Goal</b> (all text can be overwritten)	<b>Beginning Year of BMP Implementation</b>
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	CPW, Department of Planning and Land Management (DPLM)	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	CPW, DPLM, Division of Natural Resources (DNR)	Complete within 1 year of the effective date of permit	2018
Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	CPW, DPLM	Complete within 1 year of the effective date of permit	2018
Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	CPW	Complete within 1 year of the effective date of permit	2018


FOR COMMENT

### Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

<b>BMP Categorization</b> (enter your own text to override the drop down menu or entered text)	<b>BMP Description</b>	<b>Responsible Department/Parties</b> (enter your own text to override the drop down menu)	<b>Measurable Goal</b> (all text can be overwritten)	<b>Beginning Year of BMP Implementation</b>
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	CPW, DPLM	Require submission of as-built plans for completed projects	2018
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	CPW, DPLM	Complete 4 years after effective date of permit and report annually on retrofitted properties	2018
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	CPW, DPLM	Complete 4 years after effective date of permit and implement recommendations of report	2018
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.	CPW, DPLM	Complete 4 years after effective date of permit and implement recommendations of report	2018



### Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 6: Municipal Good Housekeeping and Pollution Prevention

<b>BMP Categorization</b> (enter your own text to override the drop down menu or entered text)	<b>BMP Description</b>	<b>Responsible Department/Parties</b> (enter your own text to override the drop down menu)	<b>Measurable Goal</b> (all text can be overwritten)	<b>Beginning Year of BMP Implementation</b>
O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment	CPW	Complete and implement 2 years after effective date of permit	2018
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	CPW	Complete 2 years after effective date of permit and implement annually	2018
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	CPW	Complete 2 years after effective date of permit	2018
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	CPW	Complete and implement 2 years after effective date of permit	2018
Catch basin cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	CPW	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions	CPW	Sweep all streets and permittee-owned parking lots once per year in the spring	2018
Road salt use optimization program	Establish and implement a program to minimize the use of road salt	CPW	Implement salt use optimization during deicing season	2018

Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	CPW	Inspect and maintain treatment structures at least annually	2018

FOR COMMENT





Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1 and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary. Also, provide any additional information about your MS4 program below.

Attachments:

Figure - MS4 Outfalls  
USFWS Correspondence

The outfalls included in Part II: Summary of Receiving Waters were selected based on a 100 foot distance from any waters of the U.S.. Coordinates listed under unnamed water segments are based on the NAD 1983 State Plane Massachusetts FIPS 2001 (US Feet) Coordinate System, and are listed as latitude/longitude in decimal degrees.

Regarding the ESA section 7 consultation, I agree that the MS4 Permit will not adversely affect the Northern Long-eared Bat in the MS4 area.

Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

FOR COMMENT

**Notice of Intent (NOI) for coverage under Small MS4 General Permit**

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Title:

Signature:   
[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Date:

Note: When prompted during signing, save the document under a new file name

FOR COMMENT



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5087  
<http://www.fws.gov/newengland>

January 8, 2018

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm> (accessed January 2018)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact David Simmons of this office at 603-227-6425 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>



In Reply Refer To:

September 20, 2018

Consultation Code: 05E1NE00-2018-SLI-3151

Event Code: 05E1NE00-2018-E-07398

Project Name: Concord MS4

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
(603) 223-2541

FOR COMMENT

## Project Summary

Consultation Code: 05E1NE00-2018-SLI-3151

Event Code: 05E1NE00-2018-E-07398

Project Name: Concord MS4

Project Type: \*\* OTHER \*\*

Project Description: Stormwater MS4

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.45858957650303N71.35976018899339W>



Counties: Middlesex, MA

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

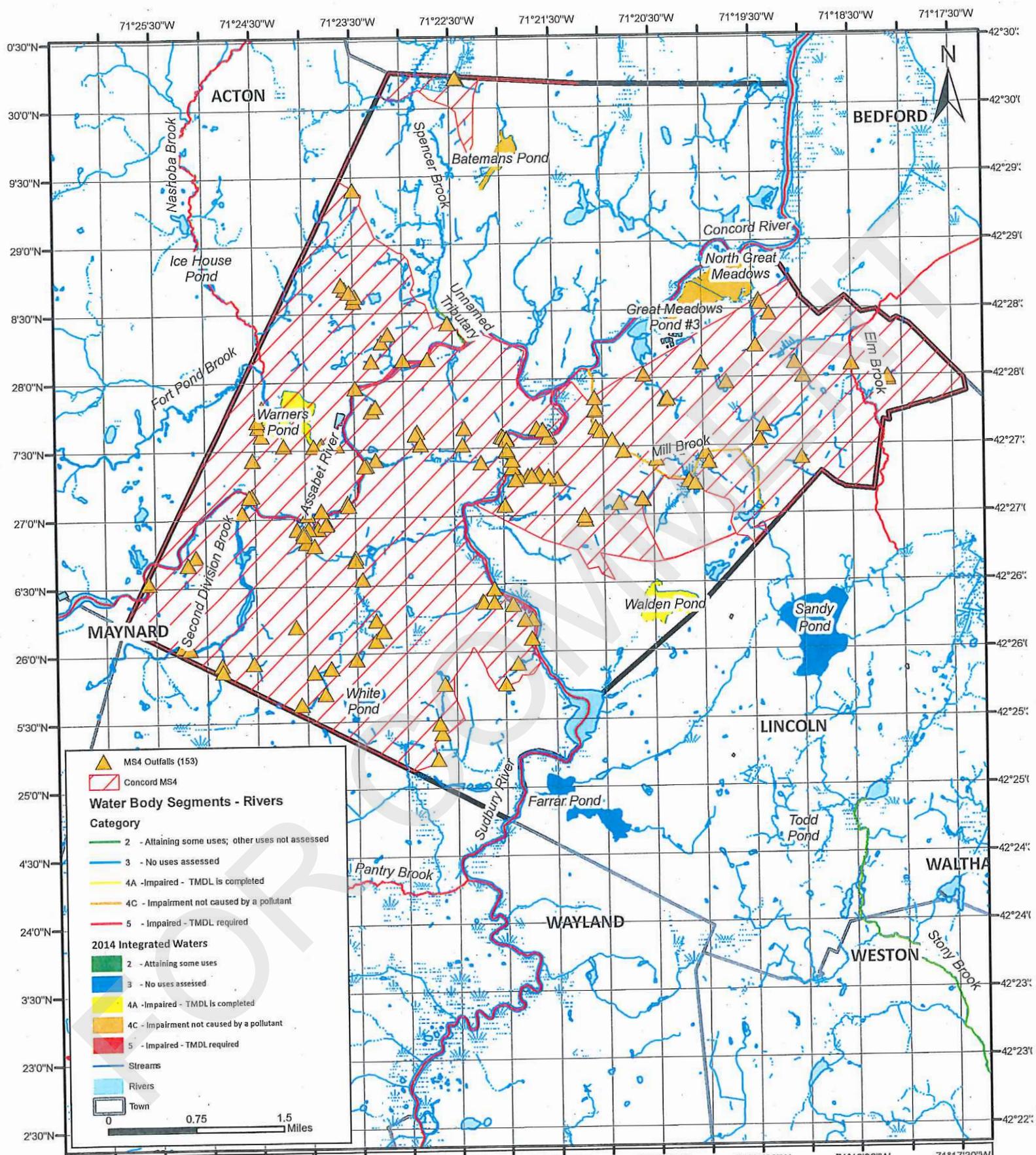
- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



**MS4 Outfalls**  
**Concord, Massachusetts**  
**September 2018**



**From:** [Christopher Olbrot](#)  
**To:** [Vuto, Michelle](#)  
**Cc:** [Natalie Pommersheim \(nmp@envpartners.com\)](mailto:nmp@envpartners.com)  
**Subject:** NOI additional information.  
**Date:** Friday, February 01, 2019 11:40:33 AM

---

Good Morning Michelle,  
Pursuant to your email dated 1/29, [the Town will comply with part V of Appendix H of the Permit.](#)

Please let us know if there is any other information you require.

Best,  
Chris

**Chris Olbrot, PE, SE | Town Engineer**

CPW-Engineering Division  
133 Keyes Rd  
Concord MA 01742  
(978) 318-3210  
[colbrot@concordma.gov](mailto:colbrot@concordma.gov)

FOR COMMENT

**From:** [Vuto, Michelle](#)  
**To:** ["Christopher Olbrot"](#)  
**Cc:** [Natalie Pommersheim \(nmp@envpartners.com\)](#); [Richard Reine](#); [Jacob Zwicker](#)  
**Subject:** RE: Small MS4 NOI submission - additional or corrected information required  
**Date:** Tuesday, January 29, 2019 2:02:00 PM

---

Hi Chris,

Thanks for the additional information. Regarding the impairments, please also respond confirming that the town will follow part V of Appendix H for turbidity.

Sorry for the delay in EPA's reply during the government shutdown.

Best,  
Michelle

Michelle Vuto  
Stormwater & Construction Permits  
U.S. EPA Region 1  
5 Post Office Square—OEP06-4  
Boston, MA 02109-3912  
617-918-1222

---

**From:** Christopher Olbrot <colbrot@concordma.gov>  
**Sent:** Wednesday, January 02, 2019 9:13 AM  
**To:** Vuto, Michelle <vuto.michelle@epa.gov>  
**Cc:** Natalie Pommersheim (nmp@envpartners.com) <nmp@envpartners.com>; Richard Reine <rreine@concordma.gov>; Jacob Zwicker <jzwicker@concordma.gov>  
**Subject:** RE: Small MS4 NOI submission - additional or corrected information required

Hi Michelle,

I hope you had a nice holiday season. We received your request for additional or corrected information to receive the complete NOI submission for the Town of Concord.

For the receiving waters listed on page 2 of the NOI, all impairments are listed for each waterbody listed in the NOI, including those pollutants that do not have a check box. Impairments have been added to Elm Brook for Fecal Coliform and Physical Substrate Habitat Alterations, and a check box added for Turbidity.

For the TMDLs listed on page 18 of the NOI, all applicable TMDLs have been listed, including the Shawsheen River TMDL for Bacteria/Pathogens with the action description to adhere to requirements in part A.III of Appendix F.

For the impairments listed on page 19 of the NOI, the waterbody listed for phosphorus was removed

from the list, as MA82B-07 is already covered by the Assabet TMDL on page 18 of the NOI.

Please let us know if any additional information is required.

Best Regards,  
Chris

Chris Olbrot, PE | Town Engineer  
CPW-Engineering Division  
133 Keyes Rd  
Concord MA 01742  
(978) 318-3210  
[colbrot@concordma.gov](mailto:colbrot@concordma.gov)

-----Original Message-----

From: Vuto, Michelle [<mailto:Vuto.Michelle@epa.gov>]  
Sent: Thursday, December 20, 2018 11:23 AM  
To: Christopher Olbrot  
Cc: Reports Stormwater  
Subject: Small MS4 NOI submission - additional or corrected information required

Hi Chris,

EPA requires additional or corrected information to receive a complete NOI submission for your MS4 and continue the review process.

Please respond to this email with the requested details in the attached report. You do not need to resubmit your entire NOI form. Please respond with the requested information as soon as you can. If the additional information is not received within 30 days of the date on this email EPA may initiate the process to deny your NOI, unless additional time is granted by EPA for such submission.

Please let me know if you have any questions.

Thanks,  
Michelle

Michelle Vuto  
Stormwater & Construction Permits  
U.S. EPA Region 1  
5 Post Office Square-OEP06-4  
Boston, MA 02109-3912  
617-918-1222

## Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

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FOR COMMENT

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*APPENDIX C*  
*PERMIT SCHEDULE*

FOR COMMENT

**Phase II MS4 Permit  
Schedule Outline & Estimated Costs  
Town of Concord, Massachusetts  
May 2019**

**July 2018** – MS4 Permit effective date to coincide with start of FY19

- **September 29, 2018** – Submit Updated NOI (within 90 days of effective date)

**July 2019** – Items due within 1 year of effective date

- Submit Updated Stormwater Management Plan
- Additional Mapping – complete stormwater system GIS (outfalls completed)
- Written IDDE Plan, identify catchments contributing to areas with Bacteria and Phosphorus as High Priority
- Develop O&M for facilities
- Inventory Facilities
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (x2 for *Impaired Water Requirements*)
  - Bacteria TMDL: Targeting Dog Waste / Septic Systems for Assabet River
  - Phosphorus: Targeting grass clippings, leaf litter, and slow-release and phosphorus-free fertilizers for Assabet River
- Property Management for Phosphorus – fertilizer use, leaf litter, street sweeping (2x per year)\*
- Public Participation
- Annual Training

Year 1 Estimated Budget: Range \$40,000 - \$50,000

**July 2020** – Items due within 2 years of effective date

- SWPPP for Appropriate Facilities
- SPCC Plan where appropriate
- Parks Maintenance Plan
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Updated Ordinance for Phosphorus\*
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for *Impaired Water Requirements*)
  - Bacteria TMDL: Targeting Dog Waste / Septic Systems for Assabet River
  - Phosphorus: Targeting grass clippings, leaf litter, and slow-release and phosphorus-free fertilizers for Assabet River
- Public Participation

- Annual Training

Year 2 Estimated Budget: Range \$105,000 – \$110,000

**July 2021** – Items due within 3 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to promote green infrastructure – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x2 for Impaired Water Requirements*)
  - Bacteria TMDL: Targeting Dog Waste / Septic Systems for Assabet River
  - Phosphorus: Targeting grass clippings, leaf litter, and slow-release and phosphorus-free fertilizers for Assabet River
- Public Participation
- Annual Training

Year 3 Estimated Budget: Range \$85,000 – \$95,000

**July 2022** – Items due within 4 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to reduce impervious cover – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Phosphorus Source Identification Report\*
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x2 for Impaired Water Requirements*)
  - Bacteria TMDL: Targeting Dog Waste / Septic Systems for Assabet River
  - Phosphorus: Targeting grass clippings, leaf litter, and slow-release and phosphorus-free fertilizers for Assabet River
- Public Participation
- Annual Training

Year 4 Estimated Budget: Range \$135,000 - \$145,000

**July 2023** – Permit Length (5 years)

- Inventory/Priority Ranking of LID retrofits on Town-Owned Property – Post-Construction Management

- System development for tracking Impervious Area – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Evaluate all Properties for BMPs – Phosphorus removal\*
- Plan and Scheduled for BMPs - Phosphorus removal\*
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for Impaired Water Requirements)
  - Bacteria TMDL: Targeting Dog Waste / Septic Systems for Assabet River
  - Phosphorus: Targeting grass clippings, leaf litter, and slow-release and phosphorus-free fertilizers for Assabet River
- Public Participation
- Annual Training

Year 5 Estimated Budget: Range \$90,000 – \$100,000

*\*Additional requirements for Water Quality Assessment are required due to documented phosphorus impairments in the Assabet River. (see Appendix H, section II.)*

*\*\*Additional requirements for Water Quality Assessment are required due to documented bacteria impairments and an approved TMDL in the Assabet River. (see Appendix H, section II.)*

*Please note these estimates are approximate and may change due to the condition of your existing MS4 program, the status of your stormdrain mapping, knowledge of existing water quality issues, etc.*

---

*APPENDIX D*

*ENDANGERED SPECIES AND CRITICAL HABITATS PROTECTION DOCUMENTS*

FOR COMMENT



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5087  
<http://www.fws.gov/newengland>

January 8, 2018

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm> (accessed January 2018)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact David Simmons of this office at 603-227-6425 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

September 20, 2018

Consultation Code: 05E1NE00-2018-SLI-3151

Event Code: 05E1NE00-2018-E-07398

Project Name: Concord MS4

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
(603) 223-2541

FOR COMMENT

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## Project Summary

Consultation Code: 05E1NE00-2018-SLI-3151

Event Code: 05E1NE00-2018-E-07398

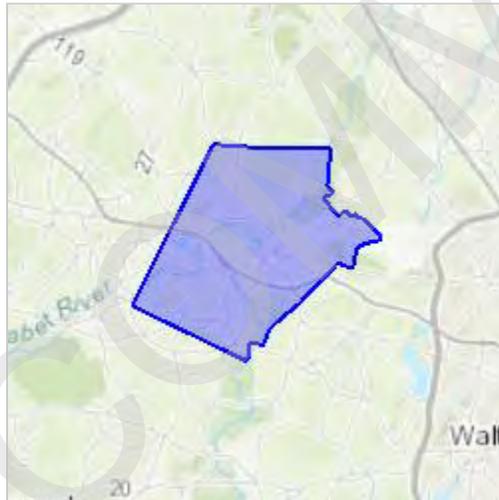
Project Name: Concord MS4

Project Type: \*\* OTHER \*\*

Project Description: Stormwater MS4

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.45858957650303N71.35976018899339W>



Counties: Middlesex, MA

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## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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*APPENDIX E*

*MA MS4 GENERAL PERMIT - APPENDIX D - HISTORIC PROPERTIES DOCUMENTS*

FOR COMMENT

## **Appendix D National Historic Preservation Act Guidance**

### **Background**

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal “undertakings” on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal “undertaking” is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA’s issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA’s issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

### **Activities with No Potential to Have an Effect on Historic Properties**

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency’s obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA’s issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

### **Activities with Potential to Have an Effect on Historic Properties**

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

### ***Examples of Control Measures Which Involve Subsurface Disturbance***

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

### **Certification**

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

**Criterion A:** The discharges do not have the potential to cause effects on historic properties.

**Criterion B:** A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

**Criterion C:** The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

### Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

**Question 1:** Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

**YES** - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

**The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage.** The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

**NO**- Go to Question 2.

**Question 2:** Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

**NO** - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

**The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage.** The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

**YES** - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at <http://www.sec.state.ma.us/mhc/mhcform/formidx.htm>;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer  
Massachusetts Historical Commission  
220 Morrissey Blvd.  
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief  
US EPA Region 1 (OEP06-1)  
5 Post Office Square, Suite 100  
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

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***APPENDIX F***  
***NEW OR INCREASED DISCHARGES***

FOR COMMENT

**New or Increased Discharges**

**Concord, MA**

Location	Description	Proposed Use	Area	Contributing Area to MS4	BMP
**Example Rd	Housing Community	Residence	27 acres	27 acres	Stormceptor unit and detention pond

\*\* Example of what would be written for a new or increased discharge

FOR COMMENT

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***APPENDIX G***  
***SSO INVENTORY***

FOR COMMENT

**Sanitary Sewer Overflow (SSO) Inventory**

Concord, MA

Location	Discharge Location	Is Discharge Entering MS4? (Y/N)	Date/Time of SSO Occurrence	Estimated Volume of SSO Occurrence	Known/Suspected Cause	Mitigation Measures Completed	Mitigation Implementation Date	Mitigation Measures Planned	Mitigation Implementation Schedule
509 Bedford St	WWTP	No	October 3, 2015 3:40 PM October 3, 2015 3:50 PM	5,000 gallons	Secondary Clarifier	Tank drainage and valve inspection	October 3, 2015	Complete	Complete

FOR COMMENT

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***APPENDIX H***  
***CURRENT STORMWATER REGULATIONS***

FOR COMMENT

**TOWN OF CONCORD**  
**CONCORD PUBLIC WORKS**

**STORM WATER REGULATIONS**

March 15, 2011

These regulations were adopted by the Public Works Commission at a public hearing held on Tuesday, March 15, 2011.

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FOR COMMENT

These Regulations govern storm water management in the Town of Concord, including connections to and discharges into the Town's storm drain system. They are enacted by the Public Works Commission of the Town of Concord under the authority of M.G.L. c. 83, § 10, and the Town of Concord's Private Digging of Roads bylaw. They take effect on the date of publication of notice of their enactment.

## **ARTICLE I. PURPOSE**

The purpose of these Regulations is to provide for the health, safety and general welfare of the citizens of the Town of Concord and the protection of surface water, groundwater, and wetlands through the regulation of storm water management and discharges to the storm drain system. The objectives of these Regulations are:

1. To protect surface water and ground water from degradation and promote ground water recharge.
2. To prohibit illicit connections and discharges to the storm drain system.
3. To establish a procedure for permitting allowable connections to the storm drain system.
4. To require practices that eliminate soil erosion and sedimentation and control the volume and rate of storm water runoff resulting from land disturbance activities.
5. To require practices to control the flow of storm water from new and redeveloped sites in order to prevent flooding and erosion.
6. To ensure adequate long-term operation and maintenance of structural storm water best management practices so that they work as designed.
7. Comply with state and federal statutes and regulations relating to storm water discharges.
8. To establish legal authority to carry out all inspection, surveillance, monitoring and enforcement procedures necessary to ensure compliance with these Regulations.

## **ARTICLE II. DEFINITIONS**

For the purposes of these Regulations, the following shall mean:

**Agricultural Activities:** The normal maintenance or improvement of land in agricultural use, as defined by the Massachusetts Wetlands Protection Act and its implementing regulations.

**Concord Public Works:** The Public Works Department of the Town of Concord, Massachusetts.

**Connection:** A temporary or permanent, surface or subsurface, installation and/or physical link to the Town's storm sewer system of a drainage conduit or conduits and the entire related upstream drainage system, including but not limited to any pumps, conduits, pipes, swales, leaching and/or water quality structures, back-flow devices, clean-outs, special backfill, and geotextiles.

**Disturbance of Land:** Any activity that causes any of the following:

- (a) a change in the position, location, or arrangement of soil, sand, rock, gravel, or similar earth material, not related to agricultural activities;
- (b) a change of cover type; or

(c) a change in the ability of the land to infiltrate storm water.

Drainage Conduit: Any enclosed conveyance, including but not limited to flexible or rigid pipes, serving to convey storm water, ground water, or other discharges directly into the Town storm sewer system.

Hazardous Material: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Illicit Connection: Any connection that allows an illicit discharge to enter the storm drain system, including but not limited to any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted or approved by an authorized enforcement agency.

Illicit Discharge: Any direct or indirect non-storm water discharge to the Town's storm sewer system (including dumping), except as exempted in Article III of these Regulations.

Permanent Connection: A connection that will be in place for more than three months.

Person: An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee or agent of such person.

Right of Way: A public way in the Town of Concord. Private use of the right-of-way is governed by the Private Digging of Roads Bylaw and regulations and policies thereunder.

Storm Sewer System (also, "Storm Drain System"): Town of Concord-owned facilities by which storm water is collected and/or conveyed, and which are not used for collecting or conveying sewage. The storm sewer system includes but is not limited to municipal roads, catch basins, manholes, gutters, curbs, sidewalks, inlets, piped storm drains, outfalls, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs and other drainage structures.

Storm Water: Any surface flow, runoff or drainage resulting entirely from any form of natural precipitation.

Temporary Connection: A connection that will be in place for less than three months (or longer if permitted by the Town Engineer).

Town: The Town of Concord, Massachusetts, including its employees and designees.

Unapproved Connection: Any connection that is not authorized by a permit issued by the Town under these Regulations.

## **ARTICLE III. PROHIBITED DISCHARGES TO THE STORM SEWER SYSTEM**

### **Section 1. Prohibition of Illicit Discharges**

No person shall commence, conduct or continue any illicit discharge to the storm drain system, or cause or allow others under its control to do so.

The following non-storm water discharges are not considered illicit discharges:

1. Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, uncontaminated water from sump pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges and street wash water. Note that these discharges may require a Right-of-Way Permit from the Town; see Article IV.
2. Discharges or flow from firefighting, and other discharges specified in writing by the Town as being necessary to protect public health and safety.
3. Discharges associated with dye testing; however, this activity requires a verbal notification to the Town before the test.

### **Section 2. Prohibition of Illicit Connections**

No person shall construct, use, maintain or continue in existence any illicit connection to the storm drain system, or cause or allow others under its control to do so.

## **ARTICLE IV. PERMITS FOR PERMISSIBLE CONNECTIONS TO THE STORM SEWER SYSTEM**

### **Section 1. Policy Statement**

It is the policy of the Town to prohibit connections to the Town's storm drainage infrastructure. However, it is recognized that there may arise a public interest or a hardship situation where such a connection may be warranted. These regulations set forth the conditions under which a connection may be allowed. They are not intended to promote connections to the Town storm drainage system. Rather, they are intended to provide relief to those property owners who are threatened with property damage by excess on-site storm water or high groundwater levels. It is incumbent upon the applicant to demonstrate that the need to connect is dire, and that no reasonable alternate means of disposal exists.

This Article is applicable to all connections to the Town storm drain system, except connections of those drainage systems scheduled to be accepted and maintained by the Town.

## **Section 2.** Right-of-Way Permit Requirement and Application Process

No person shall construct, use, maintain or continue in existence any connection to the storm drain system, or cause or allow others under its control to do so, without obtaining a Right-of-Way Permit.

The issuance of a Right-of-Way Permit by Concord Public Works shall constitute official approval of a drainage connection application. The applicant shall submit a Right-of-Way Permit Application to Concord Public Works, with any documentation required by these Regulations. All costs associated with the application process, construction, maintenance and inspection of the connection shall be the sole responsibility of the applicant. It should be noted that other approvals outside of those issued by Concord Public Works (environmental, health, etc.) may be required before construction can commence. Permission from the Massachusetts Department of Environmental Protection under the Underground Injection Control Program for the installation of portions of the connection may be required. It is the responsibility of the applicant to ensure that all necessary permits are obtained prior to the commencement of work.

## **Section 3.** Criteria

### 3.1. Connection Criteria

A proposed connection project must meet the following eligibility criteria:

1. The applicant must demonstrate a need for the connection.
2. The applicant must demonstrate that no reasonable alternate means of disposal exists.
3. The need for the connection must not result from the design of any construction or property alteration, if that construction or alteration was commenced after January 1, 1999.
4. The applicant must demonstrate that there exists suitable capacity in the drainage system to which the proposed connection will be made.
5. In no event shall the connection be part of or outfall for a regional or neighborhood drainage system.
6. The drainage structure to which the connection will be made must be part of a closed drainage system that has positive outfall as determined by the Town Engineer or his/her designee.
7. The drainage structure to which the connection will be made must be located within the frontage of, and on the same side of the public way as, the applicant's parcel.
8. All materials and construction must be in accordance with the Town's specifications and those contained in or referenced by these Regulations.
9. The applicant must obtain a Right-of-Way Permit for the work.
10. For permanent connections, the applicant must, prior to approval, execute the attached covenant and record said document with the Registry of Deeds as part of or supplement to the deed for the parcel. The recorded covenant must be submitted prior to the issuance of the Right-of-Way Permit.

11. No portion of the connection shall be located within a public drinking water supply Zone I.
12. If any portion of the proposed connection is located within a public drinking water supply Zone II, the applicant shall submit a copy of the application to the Water & Sewer Superintendent for his review. In such cases, the written approval of the Superintendent is required prior to the issuance of the Right-of-Way Permit.
13. The proposed connection must be used solely for the disposal of storm water, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, uncontaminated water from sump pumps, foundation drains, or footing drains, flows from riparian habitats or wetlands, or dechlorinated swimming pool discharges. It may not be used for the discharge of other materials, including but not limited to greywater, blackwater, solvents, paints or petroleum products.
14. That portion of the connection located within the Town right-of-way must be limited to the shutoff and a single drainage conduit crossing the right-of-way at a 90° angle to minimize the length of conduit within the right-of-way. At no time shall the conduit run parallel with the roadway centerline. The remainder of the connection components must be located within the applicant's parcel.
15. All permanent connections must include a backflow preventer and shutoff, and, if required by the Town Engineer, an oil/water separator and/or leaching structure. All components of the connection shall be approved by the Town Engineer or his/her designee. The leaching structure must be at an elevation at least two feet higher than that of high groundwater as defined by 310 CMR 15.000, unless otherwise approved by the Town Engineer.
16. The conduit must be placed so that neither it nor its discharge impedes or obstructs vehicular, pedestrian, bicycle or other mode of travel normally provided for within the Town right-of-way.
17. Storm water and/or ground water conveyed by the conduit shall be directed to present no safety hazard to vehicular, pedestrian, bicycle or other mode of travel normally provided for within the Town right-of-way. Safety hazards include, but are not limited to, ponding, frozen areas, etc.
18. Storm water and/or ground water conveyed by the conduit shall be directed to minimize erosion or the potential for erosion.
19. If required by the Town Engineer, confirmation testing from a certified laboratory of pollutant levels in the discharge from the connection must be provided.

### 3.2. Evaluation of Criteria

All decisions concerning eligibility under the criteria shall be made by the Town Engineer or his/her designee.

## **Section 4. Connection Plans**

### 4.1. Plans to be Submitted With Applications for Permanent Connections

The applicant shall submit with the Right-of-Way Permit Application plans clearly showing the extent and nature of the proposed work. Plans shall be prepared in conformance with the Concord Public Works Design and Construction Standards. Plans shall also include the pump manufacturer's name, model number and capacity, if the discharge will be pumped.

#### 4.2. Plans to be Submitted with Applications for Temporary Connections

The applicant shall submit with the Right-of-Way Permit Application a sketch clearly showing the extent, nature and location of the proposed work. The sketch shall also indicate the pump manufacturer's name, model number and capacity, if the discharge will be pumped.

At the discretion of the Town Engineer or his/her designee, the applicant may be required to provide additional information.

### **Section 5.** Fee Schedule

All costs associated with the design, permitting, construction and maintenance of the connection shall be the sole responsibility of the applicant. In addition to any fees associated with the issuance of a Right-of Way Permit, the applicant for a permanent connection shall pay a one-time, non-refundable Drainage Improvement Fee (DIF) of one thousand dollars (\$1000.00) and a Maintenance and Inspection Fee (MIF) of one hundred dollars (\$100.00) annually. The MIF is meant to cover the inspection of the connection, the cleaning of the catch basin and downstream portions of the drainage system, and any water quality testing of the discharge from the connection. Except for the initial fee, the MIF is due no later than January 15 of each calendar year. Both the initial MIF and the DIF are due upon the issuance of the Right-of-Way Permit. Failure to pay the MIF by the due date is a violation of these Regulations, subject to enforcement pursuant to Article VII of these Regulations.

### **Section 6.** Treatment of Existing Situations

#### 6.1. Grandfathered Connections

To the extent that an existing connection has been authorized in writing by Concord Public Works prior to the adoption of these Regulations, that connection is a validly authorized connection and is considered to be a grandfathered connection, as long as it is used only for the conveyance of storm water, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, uncontaminated water from sump pumps, foundation drains, or footing drains, flows from riparian habitats or wetlands, or dechlorinated swimming pool discharges. However, any modifications made to those grandfathered connections, whether within the Town right-of-way or within the subject parcel, shall be subject to these Regulations. In addition, nothing in these Regulations shall be interpreted to prohibit the Town from revoking said permission, thereby rendering the connection an unapproved connection, if, in the opinion of the Town Engineer or his/her designee, the grandfathered connection jeopardizes public health, safety or natural resources.

## 6.2. Connections Approved Under These Regulations

Any connection approved after the adoption of these Regulations shall remain subject to the terms and conditions of these Regulations. If, in the opinion of the Town Engineer or his/her designee, the connection fails to meet the terms and conditions of these Regulations, the Town Engineer or his/her designee may revoke the Right-of-Way Permit for the connection. Modifications made to any portion of the connection shall be subject to these Regulations.

### **ARTICLE V. NOTIFICATION OF SPILLS**

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials at that facility or operation that are resulting or may result in illicit discharges to the storm sewer system, that person shall take all necessary steps to ensure the discovery, containment and cleanup of such release. In the event of such a release of hazardous material, that person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous material, that person shall notify Concord Public Works in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Director of Public Works within three (3) business days of the phone notice.

### **ARTICLE VI. STORM WATER MANAGEMENT AND EROSION CONTROL**

#### **Section 1. Applicability**

Article VI shall apply to the following activities:

- Any project requiring approval by a Town Board or Commission and determined by that Board or Commission, pursuant to its regulations and/or bylaws, to require stormwater review.
- Any activity that results in disturbance of one or more acres of land, or which is part of a common plan for development that will disturb one or more acres of land.

#### **Section 2. Requirements**

All activities regulated by Article VI shall comply with the Concord Public Works Design and Construction Standards and Details (“Standards”) regarding drainage and erosion and sedimentation control. No activity regulated by Article VI shall commence construction or land disturbance without approval by the approving authority designated by Section 3 or 4, as applicable.

**Section 3.** Procedure for Article VI Activities **Requiring** Approval by a Town Board or Commission

3.1 Storm Water Management Plan and/or Erosion and Sedimentation Control Plan

The Storm Water Management Plan and/or Erosion and Sedimentation Control Plan required by the Standards shall be submitted to that Board or Commission in accordance with its requirements. To ensure timely review by CPW, it is the responsibility of the applicant to verify that all plan content and submittal requirements are met. Incomplete submittals will delay the review process. CPW requires a minimum of a two week turnaround for technical review. Larger projects may require additional review time.

3.2 Public Comment

Public comment on the Storm Water Management Plan and/or Erosion and Sedimentation Control Plan required by the Standards will be accepted as part of the review process by that Board or Commission.

3.3 Concord Public Works Review

The Director of Public Works, Town Engineer or their designee will provide the appropriate Town Board or Commission written correspondence indicating acceptability of the plans, deficiencies within the plan/design and/or required additional information, with a copy to the applicant.

3.4 Approval

The Town Board or Commission from which approval of the project is required will serve as the approving authority for the purpose of Article VI, Section 3. Approval of the project by that Board or Commission will serve as approval for the purpose of Article VI.

3.5 Long-Term Operation and Maintenance Plan

If the Standards require a Long-Term Operation and Maintenance Plan (“LTO&M Plan”) for storm water structures or controls, the LTO&M Plan that is approved by the Board or Commission shall be incorporated by reference into the chain of title of the property or properties on which the structures or controls are located, by recording of a notice at the Middlesex South District Registry of Deeds or the Land Court. Prior to the commencement of construction or land disturbance for the approved project, certification of recording shall be sent to the Board or Commission that approved the project and to Concord Public Works. A copy of the LTO&M Plan referenced in the recorded notice shall be sent to Concord Public Works with the certification. Any changes to the LTO&M Plan after recording of the notice must be approved by Concord Public Works.

**Section 4.** Procedure for Article VI Activities **Not Requiring** Approval by a Town Board or Commission

4.1 Storm Water Management Plan and/or Erosion and Sedimentation Control Plan

The Storm Water Management Plan and/or Erosion and Sedimentation Control Plan required by the Standards shall be submitted as part of the application for a building permit; if no building permit is required for the activity, the plans required by the Standards shall be submitted to the Public Works Director, Town Engineer, or their designee. To ensure timely review by CPW, it is the responsibility of the applicant to verify that all plan content and submittal requirements are met. Incomplete submittals will delay the review process. CPW requires a minimum of a two week turnaround for technical review. Larger projects may require additional review time.

4.2 Public Comment

The plans required by the Standards shall be made available by CPW during business hours for public review and comment for a period of ten days. Notice of the availability of such plans shall be posted on the CPW website and at the Town Clerk's office.

4.3 Review and Approval

Concord Public Works shall serve as the approving authority for the purpose of Article VI, Section 4. The Director of Public Works, Town Engineer or their designee will provide the applicant written correspondence indicating approval, conditional approval, or disapproval of the plans. Conditional approvals and disapprovals will identify deficiencies within the plan/design and/or required additional information.

4.4 Long-Term Operation and Maintenance Plan

If the Standards require a Long-Term Operation and Maintenance Plan ("LTO&M Plan") for storm water structures or controls, the LTO&M Plan that is approved by Concord Public Works shall be incorporated by reference into the chain of title of the property or properties on which the structures or controls are located, by recording of a notice at the Middlesex South District Registry of Deeds or the Land Court. Prior to the commencement of construction or land disturbance for the approved project, certification of recording shall be sent to Concord Public Works with a copy of the LTO&M Plan referenced in the recorded notice. Any changes to the LTO&M Plan after recording of the notice must be approved by Concord Public Works.

**ARTICLE VII. VIOLATIONS, ENFORCEMENT AND PENALTIES**

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of these Regulations. Any person or landowner who violates, or allows others to violate, these Regulations may be subject to enforcement actions outlined below.

## **Section 1.** Notice of Violation

Whenever the Town finds that a person has violated a portion or failed to meet a requirement of these Regulations, it may order compliance by written notice to the responsible person via certified mail. The notice of the violation shall include the name and address of the alleged violator, the address or area, structure or land upon which the violation is occurring or has occurred, a statement specifying the nature of the violation, a description of the actions needed to resolve the property and come into compliance, and a statement specifying that, if the violator fails to come into compliance acceptable to the Town, the Town shall do the work necessary to resolve the violation at the expense of the violator.

Said notice may require, without limitation:

- elimination of illicit connections or discharges to the storm sewer system;
- elimination of unapproved connections to the storm sewer system
- performance of monitoring, analyses and reporting; and
- remediation of contamination caused by the illicit connection or discharge.

## **Section 2.** Unapproved Connections

If an unapproved connection is discovered, it is the responsibility of the owner of the property from which the connection originates to remove the connection and eliminate the discharge to the Town storm sewer system (including any discharge to the Town Right of Way). Except in the event of a threat to public health, safety or natural resources, that removal shall be performed within thirty (30) days of receipt of the notice of violation and at the sole expense of the property owner. A Right-of-Way Permit shall be obtained for the work. If the connection is not removed within thirty (30) days of receipt of the notice of violation, the Town may remove the connection.

For situations involving a threat to public health, safety or natural resources, the Town may remove the connection immediately. Written notice of the removal shall be provided to the property owner within twenty-four (24) hours of the removal. Any expenses incurred by the Town in conjunction with a removal shall be back-charged to the owner of the property from which the connection originates.

## **Section 3.** Recovery of Costs

Within thirty (30) days after completion of all measures necessary to abate the violation or to perform remediation, the Town will notify the violator and the property owner of the costs incurred by the Town, including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the Public Works Commission within thirty (30) days of receipt of the notification of the costs incurred.

## **Section 4.** Civil Relief

If a person violates the provisions of these Regulations or a permit, notice or order issued thereunder, the Town may seek injunctive relief in a court of competent jurisdiction restraining

the person from activities which would create further violations or compelling the person to abate or remedy the violation.

Any person who violates any provision of these Regulations or a permit, notice or order issued thereunder may be punished by a fine of not more than \$5,000 for each day or part thereof that such violation occurs or continues.

**Section 5. Ticketing**

As an alternative to civil action, the Town may elect to utilize the non-criminal disposition procedure set forth in G.L. c. 40, § 21D and the Town of Concord Bylaw Providing for Non-Criminal Disposition of Violations of Town Bylaws, in which case the Director of Public Works or other authorized agent of the Town shall be the enforcing person. The penalty for the first violation shall be \$50. The penalty for each subsequent violation shall be \$100. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

**Section 6. Entry to Perform Duties Under these Regulations**

To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Town and its agents, officers and employees may enter privately owned property for the purpose of performing their duties under these regulations and may make or cause to be made such examinations, surveys or sampling as the Town deems reasonably necessary.

**Section 7. Appeals**

Any person aggrieved by an enforcement order, or by a decision of the Town Engineer under these Regulations, may appeal the order or decision to the Public Works Director. Appeals shall be made by submitting to the Public Works Director, within 30 days of the decision or order being appealed, a letter explaining why the order or decision was not justified. Relevant documentation, including the order or decision being appealed and any application, plans, etc., shall be attached to the letter.

Any person aggrieved by a decision of the Public Works Director under these regulations or on an appeal made under the previous paragraph may appeal the decision to the Public Works Commission. Appeals shall be made by submitting to the Public Works Commission, within 30 days of the decision, a letter explaining why the decision was not justified. Relevant documentation shall be attached to the letter.

The decisions or orders of the Public Works Commission shall be final. Any further appeal shall be to a court of competent jurisdiction.

**Section 8. Remedies Not Exclusive**

The remedies listed in these Regulations are not exclusive of any other remedies available under any applicable federal, state or local law.

## **ARTICLE VIII. COMPATIBILITY WITH OTHER TOWN LAWS AND REGULATIONS**

The requirements of these Regulations are in addition to the requirements of any other policy, rule, regulation or other provision of law. Where any provision of these Regulations imposes restrictions different from those imposed by any other policy, rule, regulation or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

## **ARTICLE IX. SEVERABILITY**

The provisions of these Regulations are severable. If any provision, clause, sentence or paragraph of these Regulations or the application thereof to any person, establishment or circumstances is held to be invalid, such invalidity shall not affect any other provisions or application of these Regulations.

## **DRAINAGE CONNECTION COVENANT**

\_\_\_\_\_, having an address of \_\_\_\_\_, Concord, Massachusetts, has submitted an application dated \_\_\_\_\_, to the Town of Concord, Concord Public Works, for a Right-of-Way Permit to authorize the connection of a private drainage conduit to the Town of Concord public storm drain system, as shown on a Plan entitled \_\_\_\_\_, dated \_\_\_\_\_, prepared by \_\_\_\_\_.

The proposed drainage conduit will be located within the Right-of-Way of \_\_\_\_\_.

As a material inducement to the Concord Public Works to issue such a Right-of-Way Permit, and in consideration of \$100.00 and other good valuable consideration receipt of which is hereby acknowledged, the undersigned covenants and agrees to the following conditions to the issuance of such a Permit.

1. The terms and conditions of this Covenant include not only those contained within the language of this Covenant, but also include by reference the terms and conditions of the Right-of-Way Permit issued authorizing the connection as well as the terms and conditions set forth by the Town of Concord's Storm Water Regulations.
2. The undersigned understands and agrees that the Town of Concord retains all rights, title and interest in and to the right-of-way area referenced above. To the extent that the activities of the Town of Concord disturb any of the proposed drainage connection constructed by the undersigned in accordance with the Right-of-Way Permit, the Town of Concord shall be obligated solely to replace and restore in kind the disturbed portion of the drainage connection to the condition in which it existed prior to the disturbance, and shall have no obligation to replace and restore other connection material in the right-of-way outside of that portion disturbed by actions of the Town. In the event that the structure to which the proposed connection is made in accordance with the Right-of-Way Permit is abandoned or relocated, the Town shall not be obligated to extend or modify the existing conduit to provide connection to another structure or the relocated structure. The undersigned releases the Town of Concord (including all officials, contractors, agents and employees), from and against any claims for losses, costs, damage to personal property, death or personal injuries incurred by or asserted against the Town of Concord as a result of the exercise by the Town of Concord of any of its rights within the right-of-way area, except to the extent that the Town of Concord does not perform its obligations under this paragraph or otherwise acts in a grossly negligent manner.
3. The undersigned agrees that the terms of this Covenant shall be conditions precedent to the effectiveness of the Right-of-Way Permit, and in the event the undersigned fails to comply with these terms and conditions at any time, the Right-of-Way Permit shall be deemed void and of no force and effect, and the drainage connection constructed in accordance with such Permit shall no longer be a validly authorized connection and shall be removed by the undersigned within thirty (30) days of receipt of written request to do so.
4. The undersigned agrees to allow representatives of the Town of Concord to enter onto his/her property for the purpose of inspecting the complete drainage connection and ensuring compliance with the terms and conditions of this covenant before, during and after the connection is installed.
5. The undersigned agrees that the permitted connection/system will be used solely for the disposal of uncontaminated storm water and/or groundwater, and at no time will the permitted connection be used for the disposal of any other material.
6. The Town of Concord bears no responsibility for maintenance of any portion of the connection. Any required maintenance of the connection shall be the sole responsibility of the undersigned. A Right-of-Way Permit shall be required for any maintenance activity to be performed within the Town right-of-way.
7. The undersigned agrees that any modifications made to the connection shall be subject to this covenant and no such modification shall be made without the express written consent of the Town Engineer or his/her appointed designee.

8. The Town of Concord reserves the right to require the permanent removal of the connection if it is deemed by the Public Works Commission to be in the best interest of the Town. The undersigned agrees that he will, within thirty (30) days of receipt of written request to do so, remove that portion of the connection located within the Town right-of-way and permanently seal off any materials used in conjunction with the connection. The removal shall also include the restoration of that portion of the Town right-of-way disturbed by the removal to the condition of that area prior to the disturbance. The cost for this removal shall be the sole responsibility of the undersigned.
9. The Town of Concord reserves the right to temporarily or permanently disconnect the previously approved connection from the Town right-of-way without supplying the undersigned with advance notice if, in the opinion of the Town Engineer or his/her appointed designee, the connection poses an immediate threat to public safety, public health, or natural resource.
10. This Covenant executed under seal as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, shall be binding upon the undersigned and its successors and assigns.

\_\_\_\_\_  
Applicant

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. \_\_\_\_\_, 20\_\_\_\_

Then personally appeared the above-named \_\_\_\_\_ and acknowledged the foregoing to be his free act and deed, before me

\_\_\_\_\_  
Notary Public

My Commission Expires:

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*APPENDIX I*

*2018 ANNUAL REPORT SELF EVALUATION*

*ANNUAL EVALUATION FOR YEARS 1 -5+*

FOR COMMENT

**Municipality/Organization:** Town of Concord, MA

**EPA NPDES Permit Number:** MA041187

**MassDEP Transmittal Number:** W-035280

**Annual Report Number  
& Reporting Period:** No. 15: March 17-March 18

## NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2018)

### Part I. General Information

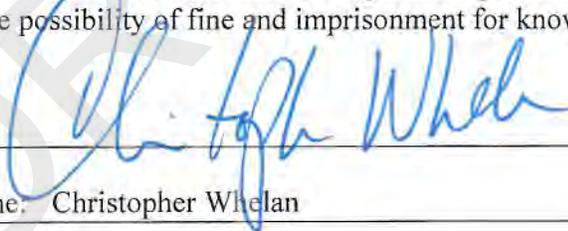
**Contact Person:** William J. Renault Jr., P.E. **Title:** Town Engineer

**Telephone #:** (978) 318-3210 **Email:** wrenault@concordma.gov

**Mailing Address:** 133 Keyes Road, 2<sup>nd</sup> Floor, Concord, MA 01742

#### Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature:** 

**Printed Name:** Christopher Whelan

**Title:** Town Manager

**Date:** 4/30/2018

**Part II. Self-Assessment**

The Town of Concord, MA has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

FOR COMMENT

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
1	Stormwater information page on Town of Concord website.	Concord Public Works (CPW)/	Post stormwater information on Town webpages.	<p><b>Completed</b> Website created in 2009 (Year 6) and linked to the town website. The page can be viewed at: <a href="http://www.concordma.gov">http://www.concordma.gov</a> under the Engineering Division’s Page. Prior to 2009, stormwater information was posted on other town web pages as described below.</p> <p>CPW Water/Sewer Division page posted including information on water quality and posting of previous water quality reports including stormwater information.</p>	Continue to maintain and update the web page. As questions or comments arise, make edits to the page based upon frequently asked questions or comments.
		Division of Natural Resources (DNR)	Post stormwater information on Mill Brook Task Force webpage.	<p><b>Completed</b> Mill Brook Task Force page posted prior to permit including information on stormwater education and basin tagging.</p>	Continue to maintain and update the web page.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
2 Revised	Provide stormwater informational bill inserts.	CPW	Insert stormwater informational into Water/Sewer Division mailings once or more annually.	<p><b>Completed</b>            Provided Stormwater information within the Fall 2006 Water Connection mailer (newsletter for Concord Water customers).</p> <p>Stormwater information also included within annual Water Quality Report mailing by CPW's Water &amp; Sewer Division. "Residential Rain Garden Program" included in April 2015 mailing.</p> <p>Stormwater flyer "Be the Solution to Stormwater Pollution" included within water bills in April 2018</p>	Continue to include stormwater information within CPW Water/Sewer Division mailings.
3 Revised	Drop-off/Swap-off recycling days	CPW	Hold twice a year, every year	<p><b>Completed</b>            Drop-off/Swap-off recycling days held 5/6/17 and 10/14/17. Both events also included an unwanted pharmaceuticals collection.</p>	Drop-off/Swap-off recycling days currently scheduled for 5/5/18 and 10/13/18.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
4 Revised	Provide stormwater information to businesses	CPW	Provide stormwater flyers to businesses in conjunction with Chamber of Commerce mailings and CPW’s annual business recycling event.	<b>Completed</b> Emailed flyers/information and website link to over 400 businesses throughout the Town, via Chamber of Commerce within Year 8.  Provided informational flyers on stormwater to businesses that participated in Town business recycling events 4/7/17 and 9/29/17	Continue providing information via yearly email to businesses via COC and/or business recycling events currently planned for 4/6/18 and 9/28/18.
5	Provide informational brochures on recycling, household hazardous materials and medication disposal, composting, and water conservation.	CPW	Maintain at Town House, CPW Administration, and Dept. of Planning and Land management (DPLM)	<b>Completed</b> Always available	Continue to display and make available.
6	Hold “Conservation Coffees”, informational and idea exchange sessions regarding maintenance of environmental quality.	DNR	Hold Monthly	<b>Completed</b> Held Monthly	Continue to hold monthly.
7	Provide informational brochures on open spaces and waterways.	Natural Resources Commission (NRC)	Maintain at Town House and NRC office.	<b>Completed</b> Always maintained	Continue to maintain and make available.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
8	Maintain affiliations with various public conservation groups	NRC	Maintain affiliations	<b>Completed</b> Continued affiliations	Continue affiliations
9 Revised	Provide stormwater education to Concord Public Schools	CPW	Conduct a stormwater educational session with 8th graders as part of Public Works Day.	<b>Completed</b> CPW conducted a stormwater educational session to 8th graders during Public Works Day on 5/24/17.	Conduct stormwater educational session to 8th graders during Public Works Day in 5/23/18.
		CPW	Conduct annual educational session at Concord Public Schools on water quality.	<b>Completed</b> CPW Water and Sewer Division conducted educational sessions on Jan-Feb 2018 (with 251 CPS 5 <sup>th</sup> grade students) presenting the hydrologic cycle, water conservation and the need to keep water clean by not dumping to the storm sewer system.	Continue to conduct educational session at Concord Public Schools in Year 16.
		CPW	Participate in Watershed Wise event at Concord Public Schools.	<b>Completed</b> Developed talk entitled “Stormwater Quality and the Homeowner” for presentation at the Watershed Wise Night in Permit Year 9 (4/10/12). Also developed a homeowner focused display for the pre-event meeting and greet where stormwater flyers were also available for handout.	Continue participation in future Watershed Wise night (if held).

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
10	Provide stormwater information to “Healthy Lawns” workshop	CPW	Provide information to workshop participants	<b>Completed</b> Educational material developed, presented and discussed during 2008 workshop.	If workshop conducted provide information to workshop participants.
11	Post stormwater information including web page address information on popular town bulletin boards and informational centers.	CPW	Post information on bulletin boards and informational brochures on stormwater and Phase II program	<b>Completed</b> Stormwater education located at CPW Administration, DPLM offices and Town House.	Continue to display and make available.

FOR COMMENT

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
12 Revised	Develop targeted public outreach to pet owners regarding pet waste disposal based on illegal dumping activities discovered through catch basin cleaning and IDDE monitoring activities (BMPs #17, #19 and #40, #49 & #50)	CPW	Develop informational brochures, dog owners mailing and neighborhood door hangers.	<p><b>Completed</b> Developed educational brochures which were made available at the CPW offices, Town Clerk's office (the Town's administrator of dog licenses) and included within the presentations at the Watershed Wise night in Permit Year 9 (4/10/12)</p> <p>Developed a targeted informational outreach within the neighborhoods of illegal dumping activities utilizing door hangers. Door hangers hung by CPW staff 3/23/12 and 4/20/12.</p> <p>Provided proper pet waste informational flyer to all new dog license and dog license renewal applicants in Year 15.</p>	Continue to provide proper pet waste information flyer to all new dog licenses and dog license renewal applicants.
		CPW	Evaluate effectiveness of pet waste public outreach initiative with follow up inspections in areas of illegal dumping within 3, 6 and 12 months of discovery, consistent with the Town's IDDE protocol.	<p><b>Completed</b> Performed 3, 6, and 12 month and 2 year follow up inspections of illegal dumping areas. No new waste bags discovered and the incidents are considered closed.</p>	Continue screening of dumping area with scheduled catch basin cleaning and basin maintenance activities (BMPs # 40, #49 & #50)

**1a. Additions**

## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
13 Revised	Provide logistical support to river, etc. clean-up days.	CPW/DNR	Provide support once per year, on average.  Hold annual Concord Clean Up event to collect trash within parks, open space and neighborhood areas within Town.	<b>Completed</b> Provide support to Green Team clean-up day  <b>Completed</b> The Concord Clean Up event was held 3/25/17 – 4/2/17.	Continue to provide support.  Continue to hold annually. Scheduled for 3/24/18 – 4/1/18
14 Revised	Tag catch basins throughout Town	NRC	Mill Brook Task Force tags all known catch basins within Mill Brook watershed as they are discovered and/or tags require replacement. (NRC)	<b>Completed</b> Continued monitoring, mapping and tagging of catch basins by the Mill Brook Task Force of the NRC.	Continue to monitor, map and tag catch basins as they are discovered and/or tags require replacement.
		CPW	Revise Town specifications for the standard CB grate to have “NO DUMPING: DRAINS TO WATERWAYS” cast into the perimeter of the grate.	<b>Completed</b> CPW revised the catch basin grate specifications to require the language specified. The new standard catch basin frame and grate was used for all new catch basin installations/replacements, catch basin repairs, and frame/grate replacements. 110 new grates were installed in Permit Year 15.	Continue to use the new standard catch basin frame and grate on all new catch basin installations/ replacements, catch basin repairs, and frame/grate replacements.
		CPW	Tag catch basins within Town during planned catch basin cleaning activities	<b>Ongoing</b> Catch basins tagged during catch basin cleaning activities. (1,401 total tags installed throughout Town)	Continue installation of new tags during catch basin cleaning operations.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
15 Revised	Accept public input for erosion control and stormwater quality issues within Town permitting processes.	NRC/ Dept. of Planning and Land Mgmt. (DPLM)	Accept public input at Town Board/Commission hearings.	<b>Completed</b> Public input accepted at Town Board/Commission hearings.	Continue to accept public input at Town Board/Commission hearings.
		CPW	Provide 10 day public input period for projects <u>NOT</u> requiring approval through Town Board/Commission hearings but meeting review thresholds of the Town of Concord Stormwater Regulations. Projects are posted on CPW website and Town Clerk's office, consistent with new Town of Concord Stormwater Regulations	<b>Completed</b> Created the "Site Plan Review" webpage on CPW website included project post date and comment due date.  <i><a href="http://www.concordma.gov/Pages/ConcordMA_Engineering/siteplan">http://www.concordma.gov/Pages/ConcordMA_Engineering/siteplan</a></i>  One review was conducted in Year 15 for a project meeting the land disturbance threshold, but not included within another Town permitting process.	Continue to provide 10 day public input period through CPW website and Town Clerk postings.
16 Revised	Residential Rain Barrel Program	CPW	Develop program to promote the use of rain barrels and offer barrels at a discounted price to Concord residents.	<b>Completed</b> Program developed to offer of aesthetically pleasing plastic and repurposed wooden whiskey rain barrels to residents. Display barrels are set-up at the CPW offices and high visibility events in Town for promotion. Completed Permit Years 2-13	No planned program for Year 16 due to reduced interest. Evaluate future program startup if interest improves.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
17	Dog Waste Bag Distribution	CPW/Dog Owner Group	Install new dog waste bag dispenser in a high dog use area at Emerson Field and coordinate dog waste pick up with local dog owner group in Year 10 and maintain subsequent years.	<b>Completed</b> CPW stocks dispenser with bags and volunteers from the dog-owner group wheel the toter barrel to the curb each Friday for collection.	Continue to stock bag dispenser and maintain group partnership.
18	Residential Rain Garden Program	CPW	Work with local watershed group (OARs) and local gardening group (Gardening for Life) to conduct a rain garden talk and tour to promote resident rain garden use throughout town.	<b>Completed</b> The Soak Up the Rain: Rain Gardens Talk and Tour completed on April 2, 2014. Approximately 20 residents attended.	Continue to present at future Garden Talks and Tour.
		CPW	Develop program to promote resident rain garden use throughout Town including a tracking mechanism.	<b>Completed</b> Included information on residential rain gardens within the 2016 Water Quality Report.	Continue to develop residential rain garden program . Initiate a new incentive program. Design and install sample at public Works Facility.

2a. Additions

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
19	Create GIS based drainage map of the entire Town	CPW	Create by year 5, maintain and update as needed.	<b>Completed</b> Inventory of drainage system (DMH, CBs and drain lines) completed within 2002-2003 and developed into a GIS data layer. 2004-2006: Drainage system mapping was field verified by Engineering Division and Highway Division staff	Continue to update GIS inventory as new information becomes available.
		CPW	Provide updated drainage information to GIS staff for all drainage system modifications.	<b>Completed</b> Engineering Division staff verifies drainage layer accuracy while surveying and designing the annual roads program and drainage program projects. Drainage system mapping is updated when appropriate.	Continue to update GIS inventory information based on annual drainage and roads program improvements.
		CPW	Provide updated drainage information to GIS staff based on annual catch basin cleaning activities.	<b>Completed</b> Highway Division staff completed field measurements, IDDE inspections and CB tagging while performing catch basin cleaning activities and CB rehabs in Summer 2013 and Spring 2014. Drainage layer updated when appropriate.	Continue to update GIS inventory information based on annual catch basin cleaning activities.
		CPW	Perform drainage layer accuracy improvement project to provide survey-grade position and elevation data	<b>Ongoing</b> CPW GIS Program staff performing sub-cm GPS data collection. Approximately 95% of Town is completed.	Complete drainage layer accuracy improvement project in Year 15.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
20	Town of Concord Public Storm Drainage Connection Regulations	CPW	Modify policy to regulation based on feedback received from EPA Administrative Order requirements and comments received during Administrative Complaint process. Complete in Year 7; enforce at all times	<b>Completed</b> Drafted new regulations and forwarded to EPA for review and comment in January 2010. <b>No comments received back from EPA regarding previously submitted PSDCR.</b>	Adopt regulations upon receipt of comments from EPA. Enforce at all times.
	Town of Concord Stormwater Regulations	CPW	Incorporate connection regulation language into a comprehensive Town of Concord Stormwater Regulation document using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10. Complete in Year 8; enforce at all times	<b>Completed</b> Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011, using authority of the Private Digging of Roads Bylaw and MGL Ch83 Section 10.  Regulations enforced at all times.	Enforce regulations at all times.
21	Develop system to locate priority areas of illicit connections.	CPW	Investigate <i>all</i> catch basins and drain manholes within Town for visual indicators of illicit discharges.  In place by end of year 5.	<b>Completed</b> Inventory of entire drainage system completed in association with BMP #19 (between 2002 and 2003) included visual inspection of all drainage structures (CBs and DMHs) within the Town. The inspection identified IDDE indicators including staining, dryflow, foam, odor, etc.	Continue to monitor drainage structures for IDDE indicators consistent with IDDE Protocol.
		CPW	Develop maps of priority areas for additional monitoring based on areas with positive indicators during 2002-2003 drainage system inventory.	<b>Completed</b> Performed follow up inspection for all priority areas including drainage structures and downstream outfalls.	Continue to monitor drainage structures for IDDE indicators consistent with IDDE Protocol.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
		CPW	Based on requirement of EPA Administrative Order, perform visual screenings of all remaining outfalls outside of priority areas outlined above. Complete by end of Year 7.	<b>Completed</b> Visual inspections and logging of all outfalls within completed by the end of Year 7. Outfall Inspection Matrix is included as an attachment within Year 7 Annual Report.	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, perform dry weather outfall sampling and testing at outfalls based on screening program within Year 7. <b>(17 dry weather samples identified)</b>	<b>Completed</b> All 17 outfalls targeted for dry weather sampling were inspected and samples were collected from the seven outfalls where flow was observed during the sampling event.	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, perform wet weather outfall sampling of “all outfalls that discharge directly to a water body impaired for pathogens or discharge upstream of a water body impaired for pathogens”. <b>(62 wet-weather samples identified)</b>	<b>Completed</b> All 62 outfalls targeted for wet weather sampling were inspected and samples were collected from 57 of the targeted outfalls within Year 7  <b>Results of outfall testing were forwarded to EPA in November 2010 consistent with the Administrative Order requirements.</b>	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7	<b>Completed</b> CPW drafted and supplied EPA with a document entitled “Town of Concord- IDDE Protocol” in January 2010. Provides a 5 phase standardized protocol for IDDE program.	Continue to utilize IDDE Protocols and investigate sources of new potential illicit discharges as they become known.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
		CPW	Follow-up testing required for 1 dry weather outfall and 4 wet weather outfalls from lists above. On-going mapping efforts also identified 13 additional outfalls to require wet weather testing. Complete by end of Year 9	<b>Completed</b> All remaining inspection and testing completed consistent with the Town's IDDE protocol within Year 9. <b>Sampling and testing results included within Year 9 annual report.</b>	Continue to monitor outfalls for IDDE indicators consistent with IDDE protocol when appropriate.
		CPW	Perform IDDE screening during annual catch basin cleaning activities.	<b>Completed</b> Highway Division crews utilize a mobile GIS application during catch basin cleaning activities, perform inspection/screening activities and highlight areas for follow up by Engineering Division staff.	Continue to perform screening and inspection activities during the catch basin cleaning activities and utilize IDDE Protocols to investigate sources of new potential illicit discharges as they become known.
22	Develop procedure for tracing source of illicit connections.	CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7. Protocol includes a 5 phase standardized protocol for IDDE program.	<b>Completed</b> CPW drafted and supplied EPA with a document entitled "Town of Concord- IDDE Protocol" in January 2010. Provides a 5 phase standardized protocol for IDDE program.	Continue to utilize IDDE Protocols and investigate sources of new potential illicit discharges as they become known.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
23	Develop procedure for removing source of illicit/illegal discharges.	CPW	System in place by end of year 4.	<b>Completed</b> Town of Concord Public Storm Drain Connection Policy (in place prior to permit), outlines requirements for connections to the Town drainage system and includes sections on enforcement. The PSDCP was used within permit term to regulate and remove both stormwater discharges and non-stormwater discharges to the Town's drainage system.	
		CPW	Modify policy to regulation based on EPA Administrative Order and discussion and comments received during Administrative Complaint process. Complete in Year 7; enforce at all times	<b>Completed</b> Drafted new regulations and forwarded to EPA for review and comment in January 2010.	
		CPW	Incorporate removal authority language previously submitted EPA, into a comprehensive Town of Concord Stormwater Regulation document using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10.  Complete in Year 8; enforce at all times	<b>Completed</b> Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011, using authority of the Private Digging of Roads Bylaw and MGL 83 Section 10.  Regulations enforced at all times.	Enforce regulations at all times.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
		CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7.	<b>Completed</b> CPW drafted and supplied EPA with a document entitled “Town of Concord- IDDE Protocol” within Year 7. Provides a 5 phase standardized protocol for IDDE program which includes procedures for removing illicit discharges	Continue to utilize protocol and remove sources of new potential illicit discharges as they become known.
24	Develop procedure for evaluating the progress of the programs.	CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7	<b>Completed</b> CPW drafted and supplied EPA with a document entitled “Town of Concord- IDDE Protocol” within Year 7. Provides a 5 phase standardized protocol for IDDE program including procedure for follow up inspections and evaluation of illicit connection removal efforts.	Utilize protocol and perform follow-up testing/inspections when appropriate.
25	Implement BMPs 19-24 (i.e. the IDDE program)	CPW	Implement during Year 7	<b>Completed</b> IDDE program implemented.	Continue to carry out IDDE program.
26	Develop Wastewater Master Plan	CPW/ Water/Sewer	Completed creation by end of Year 1.	<b>Completed</b> CWMP created.	Continue to utilize guidelines within the CWMP.
		CPW/ Water/Sewer	Create Wastewater Planning Task Force to investigate possible amendments to the CWMP	<b>Completed</b> Board of Selectman created Wastewater Planning Task Force to further examine centralized wastewater treatment facility capacity constraints and develop recommendations for Town Meeting 2009 Approval	Continue Wastewater Capacity Study, investigating alternatives analysis to address wastewater capacity constraints and align comprehensive long range plan, planned production housing plan and comprehensive wastewater management plan.

**3a. Additions**  
None

#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
27	All projects [in or near wetlands] which are required to file MADEP Stormwater Management Form (Standards #1 - #10)	NRC	100% compliance for all work within wetland resource areas and buffer zones.	<b>Completed</b> Continued to require full compliance.	Continue to require full compliance and implement Wetlands Bylaw and Regulations.
		NRC	Adopt new non-zoning Wetlands Bylaw and Regulations	<b>Completed</b> New wetland bylaw adopted at 2009 Town meeting. Wetland Bylaw Regulations adopted at 2010 Town Meeting and scheduled for minor revisions at 2013 Town Meeting. Bylaw codifies a 25' no disturb zone from wetlands, adds protection for certified vernal pools by creating a 100-foot Buffer Zone from certified vernal pools; and provides the ability for the Town to issue fines for noncompliant offenders.	Continue to require full compliance and implement Wetlands Bylaw and Regulations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
28	Soil Erosion and Sediment Control section incorporated into Subdivision Rules and Regulations and Site Plan Review standards.	Dept. of Planning and Land Mgmt. (DPLM) / CPW	Soil Erosion and Sediment Control Standards updated within CPW Design Standards and Construction Specifications. Subdivision Rules and Regulations and Site Plan Review standards reference CPW DS&CS.	<p><b>Completed</b> Prior to permit issuance, CPW Design Standards and Construction Specifications developed. All development and redevelopment work regulated through subdivision review process, site plan review process, and Right of Way and Building permit application processes. All construction work performed in accordance with Concord Public Works Design Standards and Construction Specifications.</p> <p>During Year 7, Soil Erosion and Sediment Control standards updated within Concord Public Works Design Standards and Construction Specifications. Erosion Control Plan (ECP) and SWPPP required for all projects meeting threshold</p>	Continue to require Erosion Control Plan (ECP) and SWPPP required for all projects meeting threshold.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
	Town of Concord Stormwater Regulations	CPW	<p>Adopt comprehensive Stormwater Regulations using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10. Regulations require submittals of erosion control and stormwater management plans for projects disturbing an acre of land or projects requiring technical stormwater peer review through the subdivision review process, site plan review process, and Right of Way and Building permit application processes.</p> <p>Complete in Year 8; enforce at all times</p>	<p><b>Completed</b> Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011.</p>	<p>Continue to enforce new Stormwater Regulations</p>
	Public Works Design and Construction Standards and Details	CPW	<p>Revise Public Works Design and Construction Standards and Details to clarify submittal requirements for Erosion Control Plans, Stormwater Management Plans and Long term Operation and Maintenance Plans consistent with new Town of Concord Stormwater Regulations.</p> <p>Standards also provide requirements for design of stormwater BMPs and erosion control BMPs.</p>	<p><b>Completed</b> Concord Public Works Design and Construction Standards and Details adopted by the Public Works Commission March 15, 2011.</p> <p>Erosion Control Construction Standards and Details updated in Year 14.</p>	<p>Continue to regulate development and redevelopment projects through subdivision review process, site plan review process and Right of Way permit application process and ensure construction performed in accordance with Public Works Design and Construction Standards and Details and Town of Concord Stormwater Regulations.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
29 Revised	Site Plan Reviews by Town Staff	DPLM, DNR, CPW	All site plans reviewed for water quality concerns.	<b>Completed</b> All regulated site plans reviewed for water quality concerns and to ensure conformance with Town of Concord Stormwater Regulations and Public Works Design and Construction Standards and Details.	Continue to review all regulated site plans for water quality concerns and to ensure conformance with Town of Concord Stormwater Regulations and Public Works Design and Construction Standards and Details.
		DPLM, DNR, CPW	Purchase and implement new Town wide permitting software to improve the overall communication between departments/divisions	<b>Ongoing</b> Town staff evaluating the options for permitting software.	Continue the evaluation of Town wide permitting software.
		DPLM, CPW	Develop NPDES tracking matrix for all projects meeting erosion control plan disturbance thresholds including links to electronic erosion control plan, SWPPP and inspection report submittals	<b>Completed</b> Utilized tracking matrix for 10 projects meeting erosion control plan disturbance thresholds.  Tracking matrix included as attachment to this annual report.	Continue to utilize matrix for projects meeting erosion control plan disturbance threshold.
30	Public input on all proposed projects subject to local regulations.	DPLM, NRC	Planning Board, Board of Appeals & NRC allow public comment on regulated projects.	<b>Completed</b> Ongoing at all times.	Continue at all times.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
31 Revised	Site inspection of construction projects for proper erosion control.	CPW	Develop Public Works Design and Construction Standards to include requirements for submittal of monthly reports prepared by a qualified Environmental Monitor.	<b>Completed</b> Public Works Concord Public Works Design and Construction Standards and Details adopted by Public Works Commission on March	Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.
		DPLM,CPW	Condition projects meeting erosion control plan review thresholds to require monthly environmental monitor submittals	<b>Completed</b> Projects appropriately conditioned and submittals provided as required. (Monthly erosion control reports provided for 13 on-going projects in Year 14)	Continue to condition environmental monitor submittals.
		DNR	DNR inspects all sites with an active Order of Conditions.	<b>Completed</b> Ongoing at all times.	Continue DNR inspections.
		CPW	Construction sites also receive periodic visits from Town staff to ensure proper operation of erosion controls.	<b>Completed</b> Inspections of construction sites conducted for compliance with approvals. Inspections ensure construction performed in accordance with Concord Public Works Design and Construction Standards and Details.	Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.
		DPLM,CPW	Develop NPDES tracking matrix to include construction phase environmental monitor submittals for all projects meeting the erosion control plan disturbance thresholds.	<b>Completed</b> All projects meeting the erosion control plan disturbance thresholds are inputted into the matrix which includes server links submittals of the construction phase environmental monitor reports. Matrix included as attachment to this Year 15 update.	Continue to utilize matrix for projects meeting erosion control plan disturbance threshold.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
32	All work within the public right-of-way (ROW) is inspected to prevent erosion and sediments from washing into the public way.	CPW	Ensure all projects receiving access through the Town's right of way obtain ROW permit. Inspect all construction sites receiving ROW permit application approval. Ensure all construction work is performed in accordance with Concord Public Works Design Standards and Construction Specifications.	<b>Completed</b> Inspections of construction sites conducted for compliance with approvals. Inspections ensured construction performed in accordance with Concord Public Works Design Standards and Construction Specifications.	Continue permitting and inspecting construction sites receiving access through the Town's right of way to ensure construction is performed in accordance with Concord Public Works Design Standards and Construction Specifications.
33	Stormwater pollution prevention training provided to Town's inspectors of construction sites, and Municipal Operations		Appropriate employees trained annually on pollution prevention.	<b>Completed</b> Training provided to CPW of the methods concerning pollution prevention and appropriate spill control and protocol.	Continue to implement appropriate protocol and train new employees of the correct methods of stormwater pollution prevention and spill control.

**4a. Additions**

None

**5. Post-Construction Stormwater Management in New Development and Redevelopment**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
34	MADEP Stormwater Standards 2, 3, 4, and 7.	NRC	Concord Public Works Design Standards and Construction Specifications updated to require MADEP Stormwater standards met for all applicable development and redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit.	<b>Completed</b> All regulated projects required to comply with this standard.	Continue compliance with all regulated projects.
	Require threshold projects to meet MADEP Stormwater Standards 1-10.	CPW	Develop Concord Stormwater Regulations and Public Works Design and Construction Standards and Details to require all MADEP standards be met for projects regardless of proximity to wetlands.	<b>Completed</b> Concord Stormwater Regulations and Public Works Design and Construction Standards Details adopted by the Public Works Commission March 15, 2011.  Projects reviewed to ensure conformance with Concord Stormwater Regulations and Public Works Design and Construction Standards Details and MADEP Stormwater standards.	Continue to ensure plans conform with Concord Stormwater Regulations and Public Works Design and Construction Standards Details and MADEP Stormwater standards.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
35 Revised	Pre-construction review of regulated developments.	NRC, DPLM, CPW	Concord Public Works Design Standards and Construction Specifications updated to require MADEP Stormwater standards met for all applicable development and redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit.	<b>Completed</b> All regulated projects were reviewed. 4 new projects were reviewed in Permit Year 15.	Continue to review all regulated projects.
		CPW	Develop Concord Stormwater Regulations and Public Works Design and Construction Standards and Details require preconstruction submittals of erosion control plan, stormwater management plan and long term operation and management plan.	<b>Completed</b> Concord Stormwater Regulations and Public Works Design and Construction Standards Details adopted by the Public Works Commission March 15, 2011.  Projects reviewed to ensure conformance with Concord Stormwater Regulations and Public Works Design and Construction Standards Details.	Continue to ensure plans conform with Concord Stormwater Regulations and Public Works Design and Construction Standards Details
36	Massachusetts Wetland Protection Act	NRC	100% of projects within wetland jurisdiction areas reviewed.	<b>Completed</b> All regulated projects were reviewed and permitted as necessary.	Continue to review and permit all projects as appropriate.
37	Inspection of regulated subdivisions.	CPW/DNR	100% of regulated subdivisions inspected to ensure proper construction of environmental protections and drainage utilities.	<b>Completed</b> All regulated projects were inspected.	Continue to inspect all regulated projects as appropriate.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
		CPW	Develop Public Works Design and Construction Standards to include requirements for submittal of monthly reports prepared by a qualified Environmental Monitor.	<b>Completed</b> Public Works Concord Public Works Design and Construction Standards and Details adopted by Public Works Commission on March 15, 2011.	Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.
38	Recommended list of BMPs to be used in new construction to be developed and provided to potential developers.	DPLM, CPW	Concord Public Works Design Standards and Construction Specifications updated to include recommended structural stormwater BMPs. All applicable development and redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit required to meet standards outlined in CPW Design Standards and Construction Specifications.	<b>Completed</b> EPA poster “Stormwater and the Construction Industry” is posted prominently in the CPW Engineering Office. Poster depicts the proper use and placement of BMPs on construction sites.	Continue to make available to potential developers a list of reference documents for efficient and accepted BMPs. Draft requirements for site specific BMPs if necessary.
		CPW	Revise Public Works Design and Construction Standards and Details to provide contractors/developer standard for design of stormwater BMPs and erosion control BMPs.	<b>Completed</b> Public Works Design and Construction Standards and Details updated and adopted by Public Works Commission on March 15, 2011.	Continue to make Public Works Design and Construction Standards and Details available and revise as appropriate.
39	Subdivision / Site Plan Rules and Regulations	DPLM, CPW	Evaluate yearly for effectiveness.	<b>Completed</b> Updated Public Works Design and Construction Standards and Details to eliminate inconsistencies between Subdivision/Site Plan Rules and Regulations.	Continue to evaluate rules yearly for effectiveness.

**5a. Additions**

None

## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
40 Revised	Cleaning of catch basins	CPW	25% of catch basins cleaned each year.	<b>Completed</b> Cleaned 25% of catch basins during Year 15.	Continue to clean at least 25% of catch basins within Town annually.
41	Annual street sweeping	CPW	100% of Town streets are swept of sand and sediments annually.	<b>Completed</b> 100% of streets swept of sand and sediments.	Continue to sweep all public streets at least once annually.
42	Central Business District (CBD) street sweeping.	CPW	All three CBDs swept weekly, weather permitting, April to November.	<b>Completed</b> Sweeping of all CBDs performed as planned.	Continue with weekly sweeping in CBDs from April to November.
43	Sewer main and manhole cleanings sent to WWTP.	CPW	All cleanings are properly disposed at WWTP.	<b>Completed</b> All cleanings were properly disposed at WWTP.	Continue to properly dispose all sewer main and manhole cleanings at WWTP.
44	Composting facility open to public, accepts used paint.	CPW	Open to public twice a week from April to November.	<b>Completed</b> Composting facility opened as planned.	Continue to open and operate composting facility as planned.
45 Revised	Hazardous household waste collection	CPW	Hold Household Hazardous Waste Events	<b>Completed</b> Maintained membership with in Minuteman Household Hazardous Waste Facility and participated in 8 events in 2017 - 4/16, 5/14, 6/18, 7/16, 8/13, 9/18, 10/15, 11/12.  CPW will hosted a Hazardous Waste Day 9/21.	Continue participation in monthly Minuteman network household hazardous waste events (8 Events planned for 2018 4/14, 5/12, 6/16, 7/14, 8/11, 9/16, 10/13, 11/3  CPW will host a Hazardous Waste Day 9/19.
		CPW	Provide year round collection at CPW offices for “universal” collection items (florescent bulbs, mercury, etc.).	<b>Completed</b> Material collected throughout permit Year 15.	Continue to collect hazardous material.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
46	CPW drainage maintenance within the right-of-way and in NRC wetland jurisdictional areas are controlled by Drainage Maintenance Permit Order of Conditions issued by NRC	NRC, CPW	Meet terms and conditions of the permit.	<b>Completed</b> Met conditions within the general maintenance permit with the NRC for all Town initiated maintenance/construction activities. Permit includes requirements for erosion control during construction activities.	Continue to follow terms and conditions of the permit for all Town initiated maintenance/construction activities.
47	Stormwater Pollution Prevention Plan (SWPPP), Spill Prevention Control and Countermeasure (SPCC) Plan and Integrated Contingency Plan (ICP) in place and in effect for CPW facility.	CPW	Maintain SWPPP, SPCC and ICP Plan for CPW facility. Review and update as needed.	<b>Completed</b> Complied with SWPPP, SPCC and ICP Plans for CPW Facility.	Continue to comply with SWPPP, SPCC and ICP Plans. Update as necessary.
48 Revised	CPW operation employees receive stormwater, spill control and counter measure training	CPW	100% of operations employees receive annually SPCC training	<b>Completed</b> Conducted two SPCC training sessions 6/29/17 & 7/12/17. All operations employees received training.	Continue annual SPCC training.
49	Drainage system mapping and GIS system will be used to optimize catch basin cleaning program.	CPW	By year 5, catch basin cleaning program has been optimized.	<b>Completed</b> Highway Division crews completed measurements for infrastructure documentation, structure condition and depth of sediments removed within the catch basin cleaning operations. GIS Drainage layer updated when appropriate.	Highway Division cleaning crews will continue to document structure condition, sediment depth removed and drainage system map updates when appropriate.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
50 Revised	Use GIS/Drainage system inventory/mapping to identify catch basins in poor condition and then repair and /or retrofit those basins.	CPW	Remove/Retrofit/Repair at least 5 catch basins a year, beginning in year 1.	<b>Completed</b> Highway Division crews utilized documented structure condition to remove/retrofit/replace/repair 59 catch basins.  49 drainage structures and 4,000 LF of drainage pipe replaced in roadway and drainage bid projects based on drainage condition inventory.	Continue Highway Division crew structure condition documentation and perform maintenance when appropriate. Upgrade minimum of 5 catch basins per year.

#### 6a. Additions

51 Added	Bioretention Area Maintenance	CPW	Develop contract to provide annual maintenance to the Town bioretention areas	<b>Completed</b> Developed Request for Quotes to maintain 6 of the Town's retro-fit bioretention areas located within public ways. Contract includes sedimentation removal, weeding, vegetation replacement, mulching, soil replacement and reporting.	Continue Highway Division
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### **Low Impact Development Demonstration Projects:**

- 1) Tuttle Trail Accessible Trail Parking Lot – CPW Engineering Division designed a porous pavement 2-car handicapped accessible parking facility for an accessible handicapped trail in the Town Forest. Construction was conducted by CPW Highway Division as an internal project. **Project Completed Fall of 2010.**
- 2) Route 62 Footprint Reconstruction Project – CPW worked with MassHighway/MassDOT to incorporate an infiltrative BMP retrofit into the 1.2 mi roadway reconstruction project funded through the Transportation Improvement Program. Offline drywell infiltrators were incorporated into the proposed drainage extension being constructed as part of the project. The proposed drainage system will promote infiltration on the project, provide additional groundwater recharge and decrease overall stormwater volume created. **Project Completed Summer 2010.**
- 3) Vanderhoof Parking Lot – Connected a previously installed Vortechnic stormwater treatment chamber to the Town's drainage system as part of the reconstruction of the parking lot. The project increased total suspended solid removal in stormwater discharging to the Mill Brook. **Project Completed 2009.**
- 4) Plainfield Road - CPW designed an infiltrative BMP retrofit into a proposed roadway reconstruction project. Offline drywell infiltrators were incorporated into the proposed drainage extension being constructed as part of the project. The proposed drainage system will promote infiltration on the project, provide additional groundwater recharge and decrease overall stormwater volume created. Project is located within a Zone II. **Project Completed Summer 2010.**
- 5) Willard School LID Retrofit – The Town of Concord implemented low impact development techniques as part of the stormwater controls within the school replacement project. The project included the installation of rain gardens, bioretention areas and infiltrative BMPs to incorporate additional stormwater mitigation for the project. Project is located within a Zone II. **Project Completed 2009.**
- 6) Concord-Carlisle Regional High School – Concord Public Works – Park and tree crews implemented an all-organic turf care treatment regimen for the new turf junior varsity practice fields installed at the high school.
- 7) Prairie Street – Concord Public Works worked with a right-of-way permit applicant to install a bioretention area retrofit to infiltrate the road's stormwater runoff within the grass strip area of the road. The project was designed jointly by the Engineering Division and applicant landscaped architect. An agreement with the applicant and the Town was developed to ensure all maintenance activities are performed by applicant in accordance with MADEP Stormwater Handbook. This is a pilot project for possible future LID retrofits. **Project Completed 2009.**
- 8) Junction Park - CPW Engineering Division completed design and bidding for replacement of the brick paver surface at the park with a porous paver treatment. The infiltration design also retrofits a bioretention area into the park area to collect and treat runoff from an adjacent parking facility. Construction began within the fall of 2012. **Project completed Spring 2013.**

- 9) Pail Factory Pocket Park – CPW Engineering Division conceptually designed and received grant funding for an offline infiltration chamber system to be located under a proposed park located adjacent to the Warner’s Pond Dam. The project is still in the planning phase.
- 10) Concord Carlisle Regional High School – Low impact development techniques were included as part of the stormwater controls within the school replacement project. The project included the installation of rain gardens, bioretention areas and infiltrative BMPs to incorporate additional stormwater mitigation for the project. Project is located within a Zone II. **Project Completed 2009.**
- 11) 2012/2013 Roads Program - CPW Engineering Division designed a bioretention area retrofit design into the Pond Street roadway reconstruction, included within the 2012/2013 Roads Program bid. Construction began within the fall of 2012. **Project completed Spring 2013.**
- 12) 2013/2014 Roads Program - CPW Engineering Division incorporated bioretention area retrofit designs into the roadway reconstructions of Crescent Street, Baker Avenue and Wilson Street and will be bid for construction within the 2013/2014 Roads Program contract. These designs will regrade the roadways to promote infiltrate stormwater in newly constructed bioretention areas constructed existing cul-de-sacs and intersection islands. Additionally the project will incorporate infiltration measures in Crescent Street with the installation of a drywell and perforated drain overflow main. **Project completed Fall 2014**
- 13) Thoreau Street Sustainable Infrastructure Retrofit - CPW Engineering Division completed the design and construction of a sustainable infrastructure demonstration project which included a tree box filter and porous paver retrofit to collect stormwater from the Thoreau Street right of way near the Concord Depot. **Project completed Fall 2015**
- 14) 2015/2016 Roads Program – Phase I - CPW Engineering Division incorporated bioretention area retrofit design into the roadway reconstruction and intersection realignment of Deacon Haynes Road. The project was included within the 2015/16 Roads Program bid. **Project completed in 2016.**
- 15) Commonwealth Avenue/Church Street Streetscape Enhancements – CPW Engineering Division completed the design for significant sustainable infrastructure retro-fits for the proposed streetscape and park improvement project. The project will install new bioretention, tree box filters, and porous pavers. **Project completed in 2017**
- 16) Parking Lot Program - CPW Engineering Division incorporated sustainable infrastructure retrofits into the parking lot rehabilitation designs for Walden Street and Keyes Road. The project will install a new bioretention area in Keyes Road and install two small rain garden areas and two tree box filters into the Walden Street parking lot. The project will be bid in May 2017. **Project awarded and will be constructed Summer 2018.**

17) Cambridge Turnpike Improvement Project - CPW and consultant CMA Engineers incorporated LID retrofits into the Cambridge Turnpike Improvement Project. Water Quality/infiltration opportunities include bioretention areas at the intersection of Lexington Road and Sandy Pond Road and the installation of 10 offline drywells on the 1.3 mile stretch of roadway. **Project design to be completed by Spring 2018 and constructed 2018-2019.**

**6a. Additions**

FOR COMMENT

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
52	NRC Order of Conditions, Special Condition #27 prohibits the use of herbicides, pesticides, or fertilizers within resource areas except in a case-by-case basis for invasive species removal.	NRC	In place, will enforce at all times.	<b>Completed</b> Special condition enforced.	Continue to enforce special conditions.
53	Remove direct discharge of Walden Street stormwater to Walden Pond.	CPW (in partnership with Walden Pond State Reservation)	Walden Pond infiltration system installed. Monitor system efficiency.	<b>Completed</b> System efficiency monitored.	Continue monitoring system efficiency.
54	Make Elm Brook watershed an ongoing priority area for IDDE program	CPW	Screen drainage structures and outfalls in Elm Brook watershed for signs of illicit discharges.	<b>Completed</b> All Elm Brook outfalls were screened, sampled and tested within BMP 19. Drainage structure screenings were also conducted within BMP 16 for the drainage layer accuracy improvement project.	Continue to screen drainage structures at least biannually with catch basin cleaning activities.
		CPW	Conduct wet-weather sampling of outfalls in Elm Brook watershed.	<b>Completed</b> Outfalls in watershed identified and designated on Outfall Matrix.	

7a. Additions

7b. WLA Assessment

TMDLs in place in Concord waterbodies are: Assabet River (phosphorus); Elm Brook (Shawsheen River Basin Pathogen TMDL);

and Walden and White Ponds (mercury). Of these TMDLs, only the Shawsheen River Basin Pathogen TMDL has a Waste Load Allocation for MS4 stormwater discharges. Although not required, BMPs 53 and 54 will help enhance water quality in the Assabet River and Walden Pond respectively. For Elm Brook, vigilant screening of drainage structures will ensure that no illicit discharges are present.

Wet-weather sampling has been conducted with no presence of pathogens detected. If discovered, the Town will further investigate any source is from an illicit connection or discharge consistent with the Town’s IDDE protocol and remove the connection/discharge.

**Part IV. Summary of Information Collected and Analyzed**

*Not applicable for Permit Year 11.*

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

(Since beginning of permit coverage unless specified otherwise by a \*\*, which indicates response is for period covering April 1, 2014 through March 31, 2015)

**Programmatic**

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Y
Annual Drainage Capital Program budget/expenditures **	(\$)	\$215,000 (FY18)
Supplemental Funding (CH90/Roads Borrowing) **	(\$)	\$250,000 (FY18)
Maintenance Budget (Budget, T&M Internal Projects)	(\$)	\$200,000
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund, Grants, State Aid, Roads Borrowing

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	400 (100%) Businesses 4,900 Residents
Stormwater management committee established	(y/n)	Y

Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	N/A
Shoreline cleaned since beginning of permit coverage	(mi.)	N/A
Household Hazardous Waste Collection Days / Drop Off Swap Off Day		
Days Sponsored **	(#)	
<ul style="list-style-type: none"> <li>▪ Minuteman Hazardous Products Facility Collection Days (in Lexington)</li> <li>▪ Drop Off Swap Off Days</li> <li>▪ Business Recycling Days</li> </ul>		8 2 2
Community Participation **	(# or %)	
<ul style="list-style-type: none"> <li>▪ Minuteman Hazardous Products Facility Collection Days (in Lexington)</li> <li>▪ Drop Off Swap Off Days</li> <li>▪ Business Recycling Days</li> </ul>		105 residents 1,841 cars 56 businesses
Material collected **		
<ul style="list-style-type: none"> <li>▪ Fluorescent bulbs (linear feet of bulbs)</li> <li>▪ Mercury (lbs.)</li> <li>▪ Nickel Cadmium, Lithium and Lead Acid batteries (lbs.)</li> <li>▪ Oil and alkyd based paints, polyurethane, paint thinner and stripper (gals.)</li> <li>▪ Unwanted Medications/Sharps (gals.)</li> <li>▪ Electronics Collection (lbs.)</li> </ul>		18,762 59 246 720 420 31,460
School curricula implemented	(y/n)	Y

### Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
Illicit Discharge Detection & Elimination	X				X
<ul style="list-style-type: none"> <li>▪ Erosion &amp; Sediment Control</li> </ul>	X				X
<ul style="list-style-type: none"> <li>▪ Post-Development Stormwater Management</li> </ul>	X				X
Accompanying Regulation Status (indicate with "X")					

<ul style="list-style-type: none"> <li>▪ Illicit Discharge Detection &amp; Elimination (Town of Concord Stormwater Regulations)</li> </ul>	X				X
<ul style="list-style-type: none"> <li>▪ Erosion &amp; Sediment Control (Town of Concord Stormwater Regulations &amp; Public Works Design and Construction Standards and Details )</li> </ul>	X				X
<ul style="list-style-type: none"> <li>▪ Post-Development Stormwater Management (Town of Concord Stormwater Regulations &amp; Public Works Design and Construction Standards and Details )</li> </ul>	X				X

### Mapping and Illicit Discharges

	Units	Response
Outfall mapping complete (paper, GIS, or both)	(%)	100% of known
Estimated or actual number of outfalls	(#)	449
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		
<ul style="list-style-type: none"> <li>▪ Paper/Mylar</li> </ul>	(%)	60%
<ul style="list-style-type: none"> <li>▪ CADD – Sub-cm Survey grade accuracy</li> </ul>	(%)	95%
<ul style="list-style-type: none"> <li>▪ GIS</li> </ul>	(%)	100%
Outfalls inspected/screened	(# or %)	100%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	100%
Illicit discharges identified	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	4 (Illegal dumping)
Illicit connections removed	(# ); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	35%
% of population on septic systems	(%)	65%

### Construction

	Units	Response
Number of construction starts (>1-acre) **	(#)	3
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	100%
Tickets/Stop work orders issued **	(# or %)	1
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	1

### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

### Operations and Maintenance

	Units	Response
Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(%/yr)	25%
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(%/yr)	25%
Qty of structures cleaned **	(#)	658
Qty. of storm drain cleaned **	(%, LF or mi.)	600 LF
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	141 Tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$60,000 (approx)
• Hourly or per basin contract rate **	(\$ per ton)	N/A
• Disposal cost**	(\$)	\$4,935
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1 (Town owned)
• Vacuum truck(s) owned/leased	(#)	1 (Town owned)

• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	95%
• % Structures cleaned with vactor **	(%)	5%
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	32 Downtown
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	249 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$55,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	N/A
• Disposal cost**	(\$)	\$8,715
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	2
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0%
Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	0% (Level Use)
▪ Herbicides	(lbs. or %)	0% (Level Use)
▪ Pesticides	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y
Average Ratio of Anti-/De-Icing products used **		
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl	99%
	% CaCl <sub>2</sub>	1%
	% MgCl <sub>2</sub>	0%
	% CMA	0%
	% Kac	0%
	% KCl	0%
	% Sand	0%

Pre-wetting techniques utilized **	(y/n or %)	Approx 15% Arterial/ Collector Roads Only
Manual control spreaders used **	(y/n or #)	1
Zero-velocity spreaders used **	(y/n or #)	0
Open loop ground-speed controlled spreader used **	(y/n or #)	2
Closed loop ground-speed controlled spreader used **	(y/n or #)	6
Estimated net reduction or increase in typical year salt/chemical application rate	(%)	0%
Estimated net reduction or increase in typical year sand application rate **	(%)	100% reduction
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2010	(y/n)	Y

#### Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N/A (wells)
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	Y
<ul style="list-style-type: none"> <li>• Treatment units induce infiltration within 500-feet of a wellhead protection area</li> </ul>	# or y/n	Y *

\* Plainfield Road, Willard School, CCRHS and Tuttle Trail projects outlined in Section 6 above are located with 500' of a Zone II.



Project Address	Project SWPPP	Inspection Reports/ Observation Reports	Complete
300 Baker Avenue	Concord Meadows CoNPPP 4-3-2017	Inspection Reports 7-25-17	Yes
Commeford Road	Black Horse Place NPPP 2-4-2016	Inspection Reports 4-7-2018	No
Forest Ridge Road	Black Birch Lane II NPPP Draft 5-30-17	Inspection Report 4-6-2018	No
214Y Main Street	Solar Project NPPP June 2016		No
214Y Main Street	School Bus TransportNPPP 8-29-2016	Inspection Reports 4-12-17	No
Monsen Road 9B	9B Monsen Rd-SubdivNPPP 10-16-13	Inspection Reports 4-26-17	Yes
Keyes Road/Lowell Road	Millbrook Tarry NPPP 2-27-2017	Inspection Report 3-14-18	No
Lexington Road	Concord Museum ReNPPP 3-27-17	Construction Start May 2017	No
Winthrop Street	Christopher Heights (	TBD	No
Cambridge Turnpike 396	396 Cambridge TurnNPPP 8-27-2015	Inspection Reports 4-26-16	Yes
Baker Avenue Extension	Concord Meadows (20 Baker Ave Hotel) DeveNPPP March 2015	Inspection Reports 8-14-2016	Yes
Baker Ave 300-330	Concord Meadows CoNPPP 1-23-11	Inspection Reports 10-20-2012	Yes
Beharrell Street 50/13B Commonwealth Ave	Brookside Square NPPP 12-17-13	Inspection Reports 10-28-2015	Yes
Barnes Hill Road 150	Barnes Hill Road 150 NPPP 8-30-13	Inspection Reports 5-29-2015	Yes
Elm Street 1257	The Homes on Elm NPP 6-17-2013	Inspection reports 4-20-15	Yes
Fairhaven Rd 153,16A,15A	Concord Academy AtNPPP 1-10-12	Inspection reports 9-28-12	Yes
Forest Ridge Road	Black Birch Lane NPPP 8-21-15	Inspection Reports 12-4-2017	Yes
Lowell Road	Mary Mae Village NPPP 12-10-12	Inspection Reports 8-5-13	Yes
Lowell Road	Middlesex School BarNPPP 7-11-2014	Inspection Reports 8-26-2014	Yes
Lowell Road	Middlesex School MoNPPP 7-1-2015	Inspection Reports 8-31-15	Yes
Lowell Road	Landry Hall NPPP 7-31-2015	Inspection Reports 1-22-2016	Yes
Main Street	1888 Main Street NPPP-4-9-2013	Inspection Reports 5-13-2016	Yes
Old Bedford Road 155	Heritage Pool and RaNPPP 8-30-12	Inspection Reports 5-16-2013	Yes
Old Bedford Road 506	Granite Post Estates NPPP 6-1-11	Observation Reports 11-26-2013	Yes

4/26/2018

Old Powder Mill Road 48	<i>Concord Muse/Alexan</i>	CAO	Mill Creek Residential Trust	West Concord Development
246 ORNAC	<i>Concord Country Club</i>	CAO	Concord Country Club	Onyx Corporation
<i>Sudbury Road 211</i>	<i>Crosby Market Paving</i>	IMC	Crosby	Asphalt Services Inc
Walden Street 500	<i>CCHS-New High School</i>	CAO	CCRSO	Turner
Walden Street 500	<i>CCHS-Playing Field</i>	CAO	Gale Associates	R.A.D
Walden Street 755	<i>CMLP Solar Landfill Project</i>	CAO	Kearsarge Concord, LLC	IESI

FOR COMMENT

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***APPENDIX J***

***MINIMUM CONTROL MEASURES BMPs***

FOR COMMENT

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Control Measures**  
**CM #1 - Public Education and Outreach**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Distribution of a minimum of two (2) educational messages over the permit term to each of the four (4) required audiences	Residents (1)	Concord Public Works (CPW), Natural Resource Commission (NRC)	Distribute at least two educational messages to each audience within the permit term	2018
		Businesses, Institutions, and Commercial Facilities (2)	Concord Public Works (CPW)		
		Developers (construction) (3)	Concord Public Works (CPW)		
		Industrial Facilities (4)	Concord Public Works (CPW)		

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Control Measures**  
**CM #2 - Public Involvement and Participation**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Review	SWMP Review	Concord Public Works (CPW)	Make SWMP available at least annually for public review	2020
R2	Public Participation	SWMP Review	Concord Public Works (CPW)	Allow public to comment on stormwater management plan annually	2018

FOR COMMENT

**Town of Concord, Massachusetts  
MA MS4 General Permit - Control Measures**

**CM #3 - Illicit Discharge Detection and Elimination (IDDE) Program**

<b>BMP ID</b>	<b>BMP Categorization</b>	<b>BMP Description</b>	<b>Responsible Department/Parties</b>	<b>Measurable Goal</b>	<b>Beginning Year of Implementation</b>
R1	SSO Inventory	Develop SSO inventory in accordance with permit conditions	Concord Public Works (CPW)	Within 1 year of effective date develop inventory of historical SSOs that occurred within the MS4 in	2018
R2	Storm Sewer System Map	Create map and update during IDDE program completion	Concord Public Works (CPW)	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
R3	Written IDDE Program Development	Create written IDDE program	Concord Public Works (CPW)	Complete within 1 year of the effective date of permit	2018
R4	Implement IDDE Program	Implement catchment investigations according to program and permit conditions	Concord Public Works (CPW)	Implement catchment investigations according to program and permit conditions	2018
R5	Employee Training	Train employees on IDDE implementation	Concord Public Works (CPW)	Train annually	2018
R6	Conduct Dry Weather Screening	Conduct in accordance with outfall screening procedure and permit conditions	Concord Public Works (CPW)	Conduct in accordance with outfall screening procedure and permit conditions	2018
R6	Conduct Wet Weather Screening	Conduct in accordance with outfall screening procedure	Concord Public Works (CPW)	Conduct in accordance with outfall screening procedure and permit conditions	2018
R7	Ongoing Screening	Conduct dry weather and wet weather screening as necessary	Concord Public Works (CPW)	Conduct in accordance with outfall screening procedure and permit conditions	2018
R8	Public Awareness	Stimulate public awareness for reporting of illegal dumping	Concord Public Works (CPW)	Continue to provide public contact information	2018

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Control Measures**  
**CM #4 - Construction Site Stormwater Runoff Control**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Within 1 year of effective date of the permit, develop written/electronic SOP for inspection/enforcement of ESC measures	2018
R2	Site plan review	Complete written procedures of site plan review and begin implementation	CPW, DPLM, Division of Natural Resources (DNR)	Complete within 1 year of the effective date of the permit	2018
R3	Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	CPW, DPLM	Complete within 1 year of the effective date of the permit	2018
R4	Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	CPW	Complete within 1 year of the effective date of the permit	2018

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Control Measures**

**CM #5 - Stormwater Management in New Development and Redevelopment**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	<b>As-built plans for on-site stormwater control</b>	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Require submission of as-built plans for completed projects	2018
R2	<b>Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs</b>	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Complete 4 years after permit effective date	2018
R3	<b>Allow green infrastructure</b>	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Complete 4 years after permit effective date	2018
R4	<b>Street design and parking lot guidelines</b>	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Complete 4 years after permit effective date	2018
R5	<b>Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality</b>	Adoption, amendment or modification of a regulatory mechanism to meet permits requirements	Concord Public Works (CPW), Department of Planning and Land Management (DPLM)	Complete 2 years after permit effective date	2018

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Control Measures**

**CM #6 - Good House Keeping and Pollution Prevention for Permittee Owned Operations**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	O&M procedures	Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment	Concord Public Works (CPW)	Complete within 2 years after permit effective date	2019
R2	Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment	Create inventory	Concord Public Works (CPW)	Complete 2 years after permit effective date	2019
R3	Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	Concord Public Works (CPW)	Complete 2 years after permit effective date	2019
R4	Stormwater Pollution Prevention Plan (SWPPP)	Create Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste- handling facilities	Concord Public Works (CPW)	Complete 2 years after permit effective date	2019
R5	Catch Basin Cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	Concord Public Works (CPW)	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
R6	Street Sweeping Program	Sweep all strets and permittee-owned parking lots in accordance with permit conditions	Concord Public Works (CPW)	Sweep all streets and permittee-owned parking lots once per year in the spring	2018
R7	Road Salt use optimization program	Establish and implement a program to minimize the use of road salt	Concord Public Works (CPW)	Implement salt use optimization during deicing season	2018
R8	Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	Concord Public Works (CPW)	Inspect and maintain treatment structures at least annually	2018

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - In State Water Quality Impairments**  
**SuAsCo Watershed - Bacteria and Pathogens**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Education	Residents	Concord Public Works (CPW)	Distribute annual message encouraging the proper management of pet waste	2018
R2	Illicit Discharge		Concord Public Works (CPW)	Prioritize catchment areas	2018

FOR COMMENT

**Town of Concord, Massachusetts**  
**MA MS4 General Permit - Water Quality Impairments**

**Assabet River - Phosphorus**

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Education and Outreach	Annual message in spring timeframe that encourages the proper use and disposal of grass clipping and encourages the proper use of slow-release and phosphorus-free fertilizers. Annual message in the summer timeframe encouraging the proper management of per ewaste, including noting any existing ordinances where appropriate. Annual message in the fall timeframe encouraging the proper disposal of leaf litter.	Concord Public Works (CPW)	Distribute required messages each year.	2018
R2	Stormwater Management in New Development and Redevelopment	Include requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.	Concord Public Works (CPW)	Incorporate phosphorus removal into new stormwater regulations	2018
R3	Good House Keeping and Pollution Prevention for Permittee Owned Operations	Establish procedures to properly manage grass cutting and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots to a minimum of two times a year, once in the spring and at least once in the fall.	Concord Public Works (CPW)	Establish procedures for dealing with waste produced on permittee owned properties	2018
R4	Phosphorus Source Identification Report	Complete a Phosphorus Source Identification Report.	Concord Public Works (CPW)	Complete within 4 years of the permit effective date	2018
R5	Structural BMPs	Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries.	Concord Public Works (CPW)	Complete within 5 years of the permit effective date	2018

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***APPENDIX K***

***TOWN STORMWATER MATERIALS***

***K-1: MCM 1 - PUBLIC EDUCATION***

***K-2: MCM 2 - PUBLIC PARTICIPATION***

***K-3: MCM 5 - POST-CONSTRUCTION STORMWATER MANAGEMENT IN  
NEW DEVELOPMENT AND REDEVELOPMENT***

***K-4: MCM 6 - GOOD HOUSEKEEPING***

FOR COMMENT

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***K-1: MCM 1 - PUBLIC EDUCATION***

FOR COMMENT



Concord Public Works with 8th Grade Students from Concord's Middle School

# A look back at the 2018 NPWW in Concord, Massachusetts

*Concord's Select Board issued a proclamation announcing "Concord Public Works Week" on May 20, 2018*

**Anna Trout**, Administrative & Special Projects Coordinator, Town of Concord, Massachusetts

**O**n May 23, 2018, Concord Public Works celebrated National Public Works Week by hosting the 8th grade from the Middle School (over 230 students). This was the twelfth year that the students were included in this event. Last year's theme was "The Power of Public Works."

Anna Trout, Administrative & Special Projects Coordinator, and the CPW team spent months in preparation for this event in coordination with

Doug Shattuck, the Applied Technology teacher from the Middle School, and the teachers and staff who helped as chaperones for the event. Planning begins once again for the next year as soon as the event concludes.

Richard Reine, PWLF, Director of Public Works, thanked all who made the day a success, as the group assembled for a group photo. He acknowledged that this event was made possible by the hard work of the public works staff, school staff, including the chaperones,

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On the left: Doug Shattuck, Applied Technology Teacher from Concord's Middle School, receives a framed National Public Works Week poster from Richard Reine, Director of Public Works.

who spent a great deal of time and effort to prepare for this event.

The event was a great success, providing a unique opportunity to show students what goes on "behind the scenes" and demonstrating how the students can have a positive effect on the environment.

Wayne Busa, Concord Schools Transportation Manager, coordinated the five buses and drivers that brought the students to three different locations throughout the day, which made things run smoothly. Ned Roos of WIQH (Concord Carlisle High School) radio station set up some music and a great sound system for the conclusion of the event.

Public Works was showcased by the following events:

**Stormwater System Maintenance** – CPW's Highway and Grounds Division including Jeff Koranda and Bob Trainor, along with Peter Hardy from CPW's Water/Sewer Division, and others conducted a session including

## Students saw what goes on "behind the scenes" and learned how they can have a positive effect on the environment.

a catch basin cleaning demonstration and information about how beavers can cause problems with drainage. Various equipment was set up for display including the Park & Tree Aerial Truck, which Tim Jones demonstrated. Tish Hopkins conducted a trivia contest that challenged the students' knowledge of local issues.

**Stormwater and Water Quality Overview** – CPW's Engineering Division led by Jake Zwicker, along with Tim Wilson and Nate Chin, conducted an educational session at "Junction Park" in West Concord to demonstrate the importance of stormwater management, showing how bioretention works while including some fun activities for the students.

**Hazardous Waste Disposal** – CPW's Administrative Division led by Rod

Robison, Environmental Svs. Program Administrator, along with Paul Reinhardt and Nancey Carroll, entertained the students with an educational skit which pointed out how important reuse is for the environment. The students were able to come up with their own innovative ideas in a friendly competition.

**Stormwater Pollution Prevention Videos** – Ben Clayman showed students the public service announcements that they created in class, demonstrating how to prevent stormwater pollution. There were a number of great videos shown.

**Wastewater Treatment Plant** – A tour of the plant was conducted by CPW's Water & Sewer Division, led by Valerie Doerrer with assistance from Woodard and Curran staff. Alex Wahlstrom and

Melissa Simoncini, from CPW's Water/Sewer Division, provided a presentation on water conservation including a lively water relay demonstrating the importance of conserving this valuable resource.

**Best Management Practice for Turf Grass** – Dan Rowley, Keith Baldinger and Mick Hone conducted a session at Keyes Road where the students learned about turf management and performed hands-on Ph testing of the soil. CPW's snowfighting procedures and tree program were also discussed.

Susan Clark and Chris Kizik operated the popcorn machine and distributed this tasty snack to hungry participants. There are many other employees who also aided with this great event including Andy Giles, Rich Weaver and Andrew Walker.

Anna Trout can be reached at (978) 318-3206 or [atrout@concordma.gov](mailto:atrout@concordma.gov).



Jake Zwicker and Tim Wilson of Concord Public Works' Engineering Division demonstrate the importance of stormwater management.

*"It Starts Here" is the theme for the 2019 National Public Works Week. This theme represents the many facets of modern civilization that grow out of the efforts put forth by the public works professionals across North America. APWA encourages public works agencies and professionals to take the oppor-*

*tunity to make their stories known in their communities. The National Public Works Week How-To Guide and Downloadables area are available to agencies to assist in the development and implementation of their own individual celebrations. For more information, please visit [www.apwa.net](http://www.apwa.net).*

# The Quality Stormwater Management System.

With BMP's advanced products—like the SNOUT<sup>®</sup>, the Bio-Skirt<sup>®</sup>, and our new Turbo Plate<sup>®</sup>, reducing pollutants in stormwater runoff has never been easier.

**Best Management Products**  
The Stormwater Quality Experts  
20TH ANNIVERSARY

Made in the USA with over 70,000 SNOUTs installed since 1999.  
For more information on how our system can solve your stormwater quality issues, contact us at **800.504.8008** or visit us at [bmpinc.com](http://bmpinc.com).

## CONCORD DPW NEWS

For detailed information: [concordma.gov](http://concordma.gov).

### Upcoming meetings

#### Public Works Commission:

7:15 p.m. to be announced, 141 Keyes Road

Cemetery Committee: 7 p.m. Sept. 5, 135 Keyes Road Conference Room

### Engineering (318-3210)

**Right-of-way and driveway permits:** All construction work within the town right-of-way (including driveways) requires a permit and must be completed typically before Nov. 15.  
**Roads/Sidewalk Program:** See

the website for project information and most up-to-date project schedule.

### GIS public access

-- Kiosk at 141 Keyes Road  
-- WebGIS available at [mapsonline.net/concord](http://mapsonline.net/concord)

### Highway, Grounds, Cemetery (318-3220)

-- Pothole patching  
-- Park and sports field maintenance  
-- Sidewalk and drainage repairs  
-- Roadside brush mowing  
-- Street sign installation

### Water and Sewer (318-3250)

-- Drain-layers working in Concord must be licensed. Drain-layer orientations are conducted on the second Thursday of every month at 7:30 a.m.; registration is required. Contact Water and Sewer for additional information and to register.  
-- Seasonal Water Conservation Advisory is in effect. Lawn-watering one day or 1 inch per week recommended. To find a watering day, visit [concordma.gov/wateringday](http://concordma.gov/wateringday).  
-- Town bylaws require in-ground irrigation systems to be registered and all new irrigation systems are assessed a one-time connection fee. For info.,

visit [concordma.gov/irrigation](http://concordma.gov/irrigation).

### Recycling/Trash/Yard Waste (318-3240)

**Composting site and paint shed (755 Walden St.):** The compost site and paint shed are open from 9 a.m. to 3 p.m. Saturdays and 3 to 6 p.m. Wednesdays. Concord Hazardous Waste Collection will be held from 4 to 7 p.m. Sept. 19 at 133 Keyes Road. Curbside subscribers can call for a free pass to attend the Minuteman Hazardous Waste Facility. DropOff/SwapOff event will be held Oct. 13. Contact the department for information on joining the town's curbside program.



# TOWN OF CONCORD

## Town Manager's Report

Week of June 3rd, 2019

### Special Election

A special election is being held June 4th. Polls will be open from 7:00 AM to 8:00 PM with voting taking place at precincts. More information can be found through the [Town Clerk's page](#).

The ballot question is as follows:

Shall the Town of Concord be allowed to exempt from the provisions of proposition two and one-half, so-called, the amounts required to pay for the bonds issued to study the feasibility of constructing a new middle school, which may be located at 835 Old Marlboro Road, Concord, Massachusetts (the present site of the Sanborn Middle School), including the schematic design of one or more options, consistent with Concord's sustainability goals and principles, including the payment of all costs incidental or related thereto?



**Concord Votes**

### Middlesex Jazz Fest

Join the 3rd Annual Middlesex Jazz Fest featuring 20 piece big bands, Latin Jazz, Jump Blues and Smaller Ensembles. The festival takes place on June 8th and a schedule can be found at the event's facebook page: [facebook.com/middlesexjazzfest](https://facebook.com/middlesexjazzfest)



### 755 Walden Street Walden Street Compost Site & Paint Shed

The Compost Site and Paint Shed have been quite busy this spring. Since opening on April 6th, residents have made nearly 2,000 visits to the Compost Site, dropping off leaves, grass clippings and brush, while 138 residents dropped off paint at the Paint Shed; 35 residents have picked up paint for reuse.

The Compost Site is open Saturdays 9:00AM – 3:00PM and Wednesdays 3:00PM – 6:00PM through mid-December.

The Paint Shed is open during the same hours through October 26th.



The Comprehensive Sustainability & Energy Committee  
invites you to:



# The Cooler Concord Sustainable Landscaping Fair



Saturday, 18 May 2019  
10AM - 2PM  
Concord Carlisle High School  
500 Walden Street | Concord, MA



Come explore the many different ways you can make your own garden/yard more sustainable. Speak with landscaping experts & organizations to learn how to create thriving, healthy landscapes.

Discover ways to:

- Reduce your carbon footprint
- Support local ecology
- Conserve & protect water resources
- Avoid pesticides & other chemicals
- Provide hospitable habitats for native species
- Create resilient landscapes that are adaptable to climate change

Carbon Gardening Presentation [11AM]  
Sharon Gensler, NOFA Mass

Sustainable Garden Tours [1PM-4PM]  
Visit local sustainable gardens. Pick up a map at the fair.

Refreshments, raffle prizes, plant sale,  
& fun activities for kids!

More info at: [www.coolerconcord.org](http://www.coolerconcord.org)



# Demonstration Gardens

## Lawn Alternative Plantings

A = Pennsylvania Sedge  
*Carex pensylvanica*

Watering – Minimal once established

Maintenance: 2x year (June & October)

Height: 5 inches

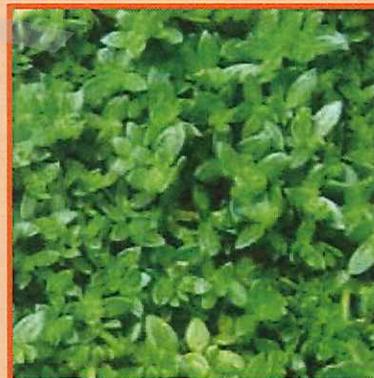


B = Green Carpet  
*Herniaria glabra*

Watering – Minimal once established

Maintenance: No mowing

Height: 3 inches max



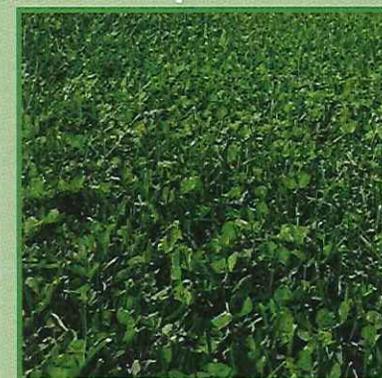
C = Micro-clover Fescue Mix  
*Microclover™ Black Beauty Blend*

Watering – Minimal once established

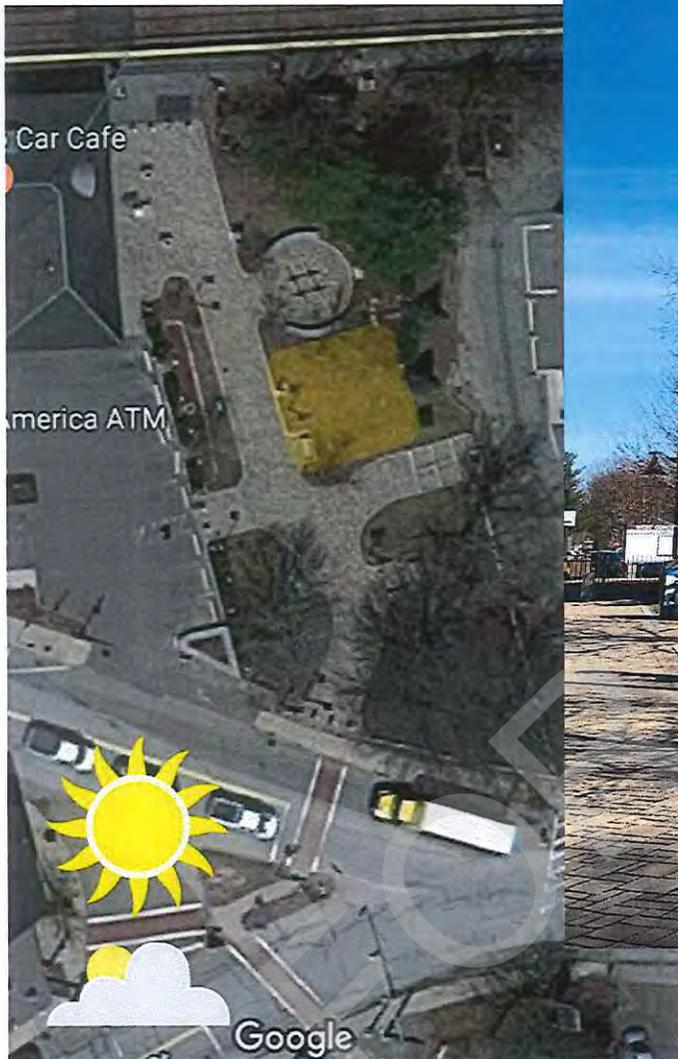
Maintenance: 1-2x month

Height: mow to 3-4 inches

Used by the New York City Parks Department



# Junction Park





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***K-2: MCM 2 - PUBLIC PARTICIPATION***

FOR COMMENT

### *Recycling Savings Exceed \$2.4M*

The curbside program received revenue of \$5,941 for paper and avoided \$74,854 in disposal costs by not disposing of paper as trash. Since July 1998, when the Town began receiving revenue for paper, paper revenue has totaled \$521,524, and avoided disposal costs have totaled \$1,917,767, for an overall savings of \$2,439,291.

### *Reuse and Recycling DropOff & SwapOff Events*

The Spring DropOff & SwapOff event on May 5th attracted 945 households. The Fall DropOff event on October 13th (the fall SwapOff was canceled due to rain) was also a great success with 865 households participating. Both events ran smoothly, thanks to the many volunteers who make these events possible.

#### **DropOff SwapOff Participants**

Year	May	October
1999	521	430
2009	889	981
2010	931	989
2011	979	891
2012	890	852
2013	893	851
2014	931	893
2015	929	928
2016	918	749
2017	894	947
2018	945	865

### *Unwanted Medication & Sharps Collection*

Unwanted medication & sharps were collected at the May 5th and October 13th DropOff events. Eight boxes of unwanted medication and six boxes of sharps were collected between the two events.

### *Hazardous Products Collection*

Subscribers to the curbside collection program receive one free pass per year to the Minuteman Household Hazardous Products Facility in Lexington (for up to 25 lbs. or 25 gallons of hazardous waste). The facility is open one weekend day a month from April – November. Seventy-four curbside subscribers visited the site in 2018, along with thirteen non-curbside subscribers who paid the vendor directly.

Additionally, Concord Public Works (CPW) hosted a hazardous waste collection for residents and

businesses on September 24th. The event was very well attended with 230 vehicles. This included 212 curbside program subscribers, 12 non-curbside program subscribers, 4 municipal sites and 2 businesses. This was CPW's largest hazardous waste collection event to date. As a comparison, there were 207 vehicles in attendance at the September 2016 hazardous waste collection event (these events are held every two years).

### *Composting Site Turns Yard Waste into Garden Gold*

From March through mid-December 2018, residents made more than 13,000 visits to the 755 Walden Street Compost Site, dropping off leaves, grass clippings and brush, while 492 residents dropped off paint at the paint shed and 177 residents picked up paint for reuse. At the Compost Site, 1,278 Christmas trees and 154 bags of Styrofoam™ were collected for recycling from the 2018 holiday season.

### *Landfill Inspection & Reporting*

MassDEP requires an annual landfill inspection by a third-party MassDEP-approved inspector for closed landfills in the Commonwealth. Concord Public Works coordinated the annual landfill inspection with Weston & Sampson. The inspection was conducted on November 8, 2018. The annual landfill inspection report included a summary of the 2018 monitoring results at the landfill.

The Town's closed landfill post closure monitoring and maintenance requirements in accordance with 310 CMR 19.132, mandate groundwater and landfill gas monitoring. There are nine groundwater wells and twenty-three soil gas probes associated with the 755 Walden Street closed landfill. The former landfill, which has now been put back into productive beneficial reuse with the construction of a utility scale solar facility, received formal closure certification from MassDEP on 10/16/13.

### *Keeping Mercury Out Of the Environment*

Concord Public Works collected 9,140 linear feet of fluorescent light bulbs and 265 lbs. of nickel cadmium, lithium, and lead acid batteries from residents and municipal facilities, for recycling. This is in addition to 20.11 tons of computers, TV's, and other electronics that were collected for recycling at the two DropOff events. Another 6,096 linear feet of fluorescent bulbs and 1.77 tons of computers and

## Visits to the Composting Site

Year	Leaves & grass	Brush	Paint Drop-off	Paint Pickup
2004	5,963	329	204	148
2005	6,078	418	230	118
2006	6,651	615	298	158
2007	7,880	697	296	171
2008	8,093	508	222	138
2009	6,723	667	210	145
2010	6,470	587	252	156
2011	5,106	650	279	156
2012	5,376	667	200	190
2013	6,547	675	341	183
2014	6,484	371	351	182
2015	7,556	489	432	196
2016	6,558	590	267	183
2017	9,968	684	437	178
2018	8,459	5,250	492	177

*NOTE: Brush activity was higher than usual in 2018, due to the amount of storm debris associated with nor'easters, including the March 7 th - 8th storm (one of four nor'easters over a 21 day period in March). Given the high volume of debris generated from the storms, residents were able to bring brush to the 755 Walden Street Compost Site during the off season, as well as regular hours, at no charge. Brush fees were waived for 2018.*

electronics were collected from businesses at the April and September business recycling events.

### **Annual Right-To-Know, Hazardous Waste Management, & SPCC Training**

Annual Right-To-Know (RTK), Hazardous Waste Management, and SPCC (Spill Control & Countermeasure) training was conducted for Concord Public Works employees on June 28th and July 11th. RTK training is required by the Mass. Division of Occupational Safety (DOS), while Hazardous Waste Management and SPCC training are mandated by the EPA and MassDEP.

### **Grants**

Concord Public Works obtained a Recycling Dividends Program (RDP) grant from MassDEP in the amount of \$6,000. This is a points-based grant. The Town earned ten points for its recycling programs. The grant can be utilized to purchase recycling-related equipment including but not limited to curbside recycling bins, compost bins, public space recycling bins, etc.

### **Bike Giveaway**

Concord Public Works hosted a bike giveaway on June 20, 2018. The bike giveaway included bikes collected at the DropOff portion of the October 14, 2017 and May 5, 2018 DropOff events. The bike giveaway was very popular with residents. There was a long line of residents at the door well in advance of the 4:00 PM start time. Leftover bikes were donated to Worcester Earn-a-Bike, a nonprofit organization. The next Concord Bike Giveaway will be held on May 16, 2019.



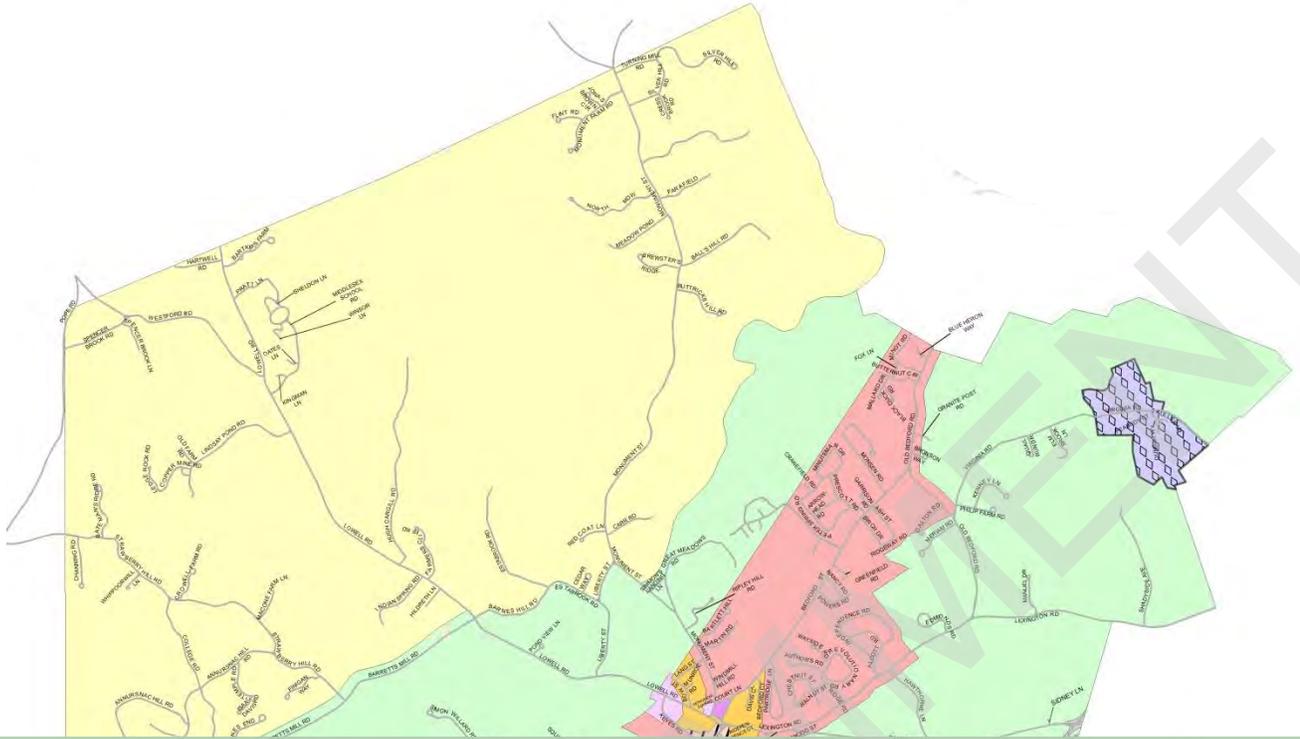
Compost Site. The bioassay test will be conducted over a period of twenty-one days. Previous bioassay tests have not indicated evidence of plant growth symptoms consistent with herbicide damage.

- Invasives—A 30 yard roll-off will be placed at the 755 Walden Street Compost Site in April for invasive plants such as bittersweet, buckthorn, garlic mustard, etc. MassDEP bans yard waste and plants from disposal in Massachusetts, but composting invasives would require that compost windrows reach a temperature of 145 degrees for a minimum of 30 days. This is not feasible or likely to occur, however. As such, MassDEP sometimes grants waivers for the incineration of invasive plants. The Town has an ongoing waiver from MassDEP which permits the invasives collected at the 755 Walden Street Compost Site to be incinerated at Wheelabrator Millbury. Waste Management will be hauling the roll-off of invasives to Wheelabrator Millbury for incineration when full.
- Brush Fee—As discussed and voted at the February 13, 2019 Solid Waste & Recycling Program Public Hearing, brush fees (formerly \$5 per load) will be reduced to zero /no cost effective April 6, 2019.
- No-cost Compost Site Sticker—As also discussed and voted at the February 13, 2019 Solid Waste & Recycling Program Public Hearing, beginning April 6, 2019 (the day the Compost Site opens for the season), only vehicles with Town-issued compost site stickers will be permitted to utilize the 755 Walden Street Compost Site. The purpose of this initiative is to prevent nonresidents from accessing the site. No-cost compost site stickers will be issued to residents at the 755 Walden Street Compost Site and also at CPW during business hours. No-cost compost site stickers will be distributed beginning April 6, 2019 or before.
- **Spring 2019 Events**
  - Business Recycling Event—The spring business recycling event is scheduled for Friday, April 5th, from 9:00 AM-12:00 PM. The event will be held at CPW. The vendors will be CRS (electronics & fluorescent bulbs) and A1 DATASHRED, LLC (secure document shredding). These events provide Concord businesses with a safe and low-cost opportunity to properly dispose of computers, monitors, printers, TV's, fax machines, other electronics, batteries, and fluorescent bulbs, in addition to secure document shredding.
  - DropOff-SwapOff—Planning for the May 4th DropOff-SwapOff is underway. There will also be an "early SwapOff" on Friday, May 3rd, from 11:00 AM – 2:00 PM, weather permitting. The early SwapOff was developed in an effort to alleviate traffic on Saturday and provide residents with another option to bring in items should they not be able to bring items to SwapOff on Saturday.
  - Unwanted Medication & Sharps Collection—The next unwanted medication & Sharps collection is scheduled for May 4th. This collection coincides with DropOff-SwapOff. Emerson Hospital will be providing a pharmacist for the event, as required by MassDEP. A Concord police officer will also be present as required by MassDEP. At the end of the event, the police officer will deliver the controlled substances to the PD for storage in the evidence locker until the PD delivers them

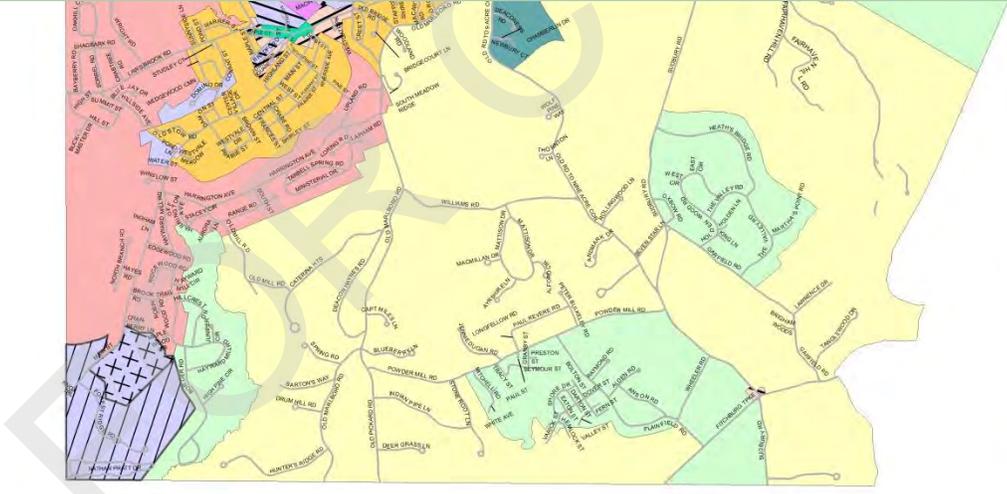
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***K-3: MCM 5 - POST-CONSTRUCTION STORMWATER MANAGEMENT IN  
NEW DEVELOPMENT AND REDEVELOPMENT***

FOR COMMENT



# GUIDE TO PERMITTING IN THE TOWN OF CONCORD, MASSACHUSETTS



Published May 2016



Office of the Town Manager  
Town of Concord  
22 Monument Square  
Concord, MA 01742

Thank you for your interest in the Town of Concord.

We developed this guide to help our residents, businesses, builders, and contractors better understand the development requirements and processes in Concord so that you can successfully move from a great idea to a completed project.

The purpose of our permitting process is to make sure that development is in keeping with the character of the town, that natural resources are protected, and that our infrastructure – roads, water, sewer, and drainage - can support the project. We are also charged with ensuring that construction is structurally sound, accessible, energy efficient, and that risks of damage from natural catastrophe or fire are minimized through proper design and construction.

Our goal is a process that is efficient, predictable, and fair. We hope this guide will assist you in your endeavor and welcome your feedback. If you have any questions, comments, or suggestions please feel free to contact my office at any time at (978) 318-3000.

Sincerely,

Christopher Whelan  
Town Manager

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*This guide serves as an introduction to the permitting requirements and policies of the Town of Concord. It is not comprehensive and is not intended to substitute for the regulations and codes followed by the Town.*

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# SECTION 1: QUESTIONS AND ANSWERS ABOUT DEVELOPMENT IN CONCORD

## WHAT DOES THE DEVELOPMENT PROCESS INVOLVE?

Every project, from a small home renovation to a large new business will require approvals. While the scale and complexity may vary, the following five steps are typically required to get you from an idea through implementation.

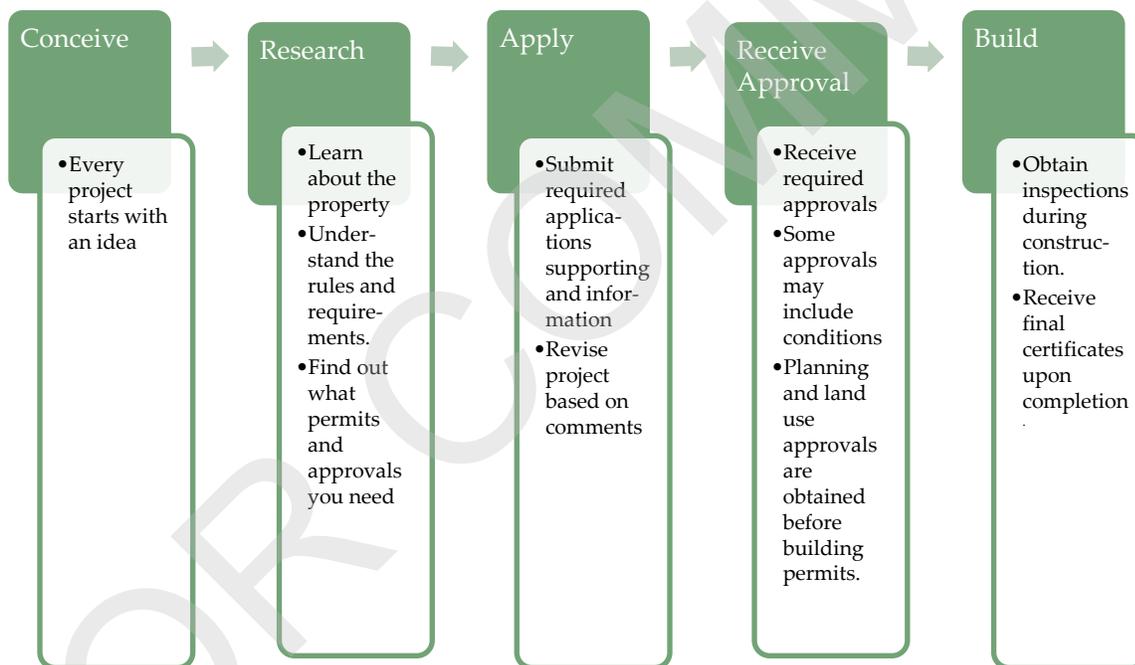


Figure 1: Steps in the development process

## WHAT TOWN DEPARTMENTS OR DIVISIONS MIGHT NEED TO REVIEW A PROJECT OR PERMIT APPLICATION?

Below is an overview of each department/division involved in development in Concord.

Table 1: Departments and their Role in Development

Department/Division	Major Development Role
Planning Division	Guides public and private land use decisions; <b>maintains the livability and character and protects the environmental integrity of Concord</b> by ensuring that development and construction is in conformance with the Town's Zoning Bylaw, Sign Bylaw, Subdivision Rules and Regulations, and long term development and conservation plans.
Building Inspections Division	<b>Ensures construction safety.</b> Enforces, issues and revokes permits under the provisions of the MA State Building Code for all construction, reconstruction, alteration, repair, demolition, removal, inspection, installation of mechanical equipment, etc. Enforces specialized codes such as the Architectural Access Code, the Plumbing & Gas Codes, and the Electrical Code and the provisions of the Town's Zoning Bylaw, Sign Bylaw, and other related regulations. Ensures code compliance associated with building safety, ingress and egress, energy conservation, and sanitary conditions and conducts annual inspection of all places of public assembly, restaurants, schools, dormitories, museums, nursing homes, farm labor camps, multi-family homes, day care facilities, inns, hotels, liquor establishments, and public pools.
Health Division	<b>Ensures the protection of the public health</b> by enforcing state and local health codes and regulations, including design and construction standards for food service establishments, on-site sewage disposal systems, swimming pools, and handling of hazardous materials. Works with Concord Water and Sewer Division through the Sewer Review process to determine impacts to town water and wastewater infrastructure resulting from development.
Natural Resources Division	<b>Preserve the character and natural resources of Concord</b> through overseeing the location and scope of all construction activities within wetland jurisdiction including the 100-foot Buffer Zone to wetlands, the 100-year floodplain, Certified Vernal Pool Habitats, and the 200-foot Riverfront Area associated with perennial streams. The Natural Resources Commission has established a 25-foot No Disturb Zone adjacent to wetlands where alteration is limited to enhancements of the resource area, and a 50-foot No Build Zone where new construction is prohibited.

Department/Division	Major Development Role
CPW - Water and Sewer Division	As <b>steward of the town's water and sewer infrastructure</b> , the Water & Sewer Division operates as an enterprise system and is responsible for reviewing and approving all water and sewer utility work including assessment of service eligibility, project design basis (with detailed assessment of water quality and quantity implications) as well as material and construction standards. Collects fees for projects that will increase demands on existing water and wastewater services and for services that will benefit primarily an individual property. Promotes and ensures water conservation measures in new development.
CPW - Engineering Division	The mission of CPW - Engineering Division is to provide comprehensive engineering and technical support and services that <b>promote safe, compliant, context-sensitive and environmentally sustainable infrastructure</b> . The Division provides a wide range of technical assistance and engineering services to achieve inter-departmental and Town goals and objectives. The Division provides recommendations to the town boards and commissions and reviews projects for compliance with local, state, and federal laws and regulations.
Fire Department	<b>Promotes fire safety.</b> Ensures fire truck access and adequate water supply in case of fire. Ensures building has required fire alarms, sprinklers, and other devices. Ensures appropriate exit paths for evacuations if needed. Ensures potentially hazardous activities such as welding are done safely.
Town Manager	Manages the application process of providing liquor licenses (required for any business selling or serving alcohol) and common victualler licenses (required for most food service establishments).
Concord Municipal Light Plant	Oversees all use of electric power including extensions of the electricity infrastructure as well as work that may have an impact on the power system.

## WHAT BOARDS AND COMMISSIONS MIGHT NEED TO APPROVE MY PROJECT?

Depending on the scope of the work and the characteristics of the property, you may need approval from one to several different Town boards and commissions.

Table 2: Boards and Commissions

Board or Commission	Major Development Role	Meeting Schedule * some dates may change due to holidays
<b>Planning Board</b>	Approving authority for subdivisions, site plans, and certain special permits & makes recommendations to the Zoning Board of Appeals.	2 <sup>nd</sup> and 4 <sup>th</sup> Tuesday evening of each month.
<b>Zoning Board of Appeals</b>	Approving authority for most special permits, variances, signs, comprehensive permits, and administrative appeals.	2 <sup>nd</sup> Thursday evening of each month.
<b>Historic Districts Commission</b>	Determines the appropriateness of any changes to buildings and structures located within the boundaries of the Historic Districts that are visible from public ways. Does not include plantings and vegetation except in specific situations.	1 <sup>st</sup> and 3 <sup>rd</sup> Thursday evening of each month.
<b>Natural Resources Commission</b>	Approving authority for any work within the wetlands, the 100-year floodplain, 200 feet of a river or perennial stream, or the 100-foot buffer zone to wetlands.	1 <sup>st</sup> and 3 <sup>rd</sup> Wednesday evening of each month.
<b>Public Works Commission</b>	Approving authority for any waivers from current Public Works standards, sewer main extensions, some water main extension projects and any connection or change in sewer use over 1,000 gallons per day peak service. Hears appeals of Public Works Director decisions related to areas within their jurisdiction. Makes recommendations to the ZBA for projects in the Groundwater Conservancy District.	2 <sup>nd</sup> Wednesday evening from September – May.
<b>Board of Health</b>	Approving authority for any variances from the state and local health codes and regulations. Reviews projects located in Zoning Bylaw's Groundwater Conservancy District. Reviews preliminary and definitive subdivisions.	3 <sup>rd</sup> Tuesday evening of each month.
<b>Select Board</b>	Approves and issues common victualler (food service), liquor licenses and new private utilities in the road right-of-way.	Every other Monday evening.

## WHAT QUESTIONS SHOULD I BE ASKING ABOUT A PROPERTY OR PROJECT IDEA?

Before you purchase a property, sign a lease, or embark on a new business, it is important to identify any issues that may affect what you can or cannot do. Below is an initial list of questions that you can ask that will help you through the due diligence process.

TABLE 3: QUESTIONS TO ASK WHEN CONSIDERING A PROJECT

Question	Why?
<i>What zoning district is the property in?</i>	Determines allowed uses, required setbacks, and allowed dimensions.
<i>Is the proposed use allowed in the zoning district?</i>	Ensure the project concept is allowed.
<i>What if any zoning restrictions exist for this property?</i>	Zoning restrictions (such as setbacks or lot coverage limitations) may limit or define the scope of the project.
<i>Does the current structure conform to existing zoning requirements?</i>	Many buildings were constructed and occupied prior to current requirements. If so, this may have an impact on your approvals. A legal nonconforming structure may be changed, altered and/or expanded by a Special Permit so long as it does not make it even more non-conforming or is deemed substantially detrimental to the neighborhood.
<i>Does the location have adequate parking for my proposed use?</i>	If the project does not meet parking standards it may not be allowed or may require special approvals.
<i>What kind of lighting will be allowed?</i>	Ensure you are aware of limitations on the type of exterior lighting permitted including the illumination of signs.
<i>Will the project need new or altered signage?</i>	Ensure you are aware of the limitations and restrictions regarding permitted signs as established in the Sign Bylaw. Review by the ZBA and HDC may be required.
<i>Does the project involve a change of use?</i>	Even if you are doing no construction, a change in use of a property may trigger the need for zoning and building approvals and sewer or septic review. For example, a warehouse being transitioned to a fitness center must have Site Plan approval from the Planning Board to ensure that the use has adequate provisions for items such as parking, refuse disposal, and emergency access from Building and to ensure there are enough exits, bathrooms, and other facilities required for the use.
<i>Will the project result in an increase in demand on municipal water and sewer systems?</i>	This project may trigger a review by the Health Division and a possible impact improvement fee(s) by the Water Division. A fee may be required even for relatively small projects, such as a transition from a retail use to a beauty salon or when adding a bedroom to a house.
<i>Are there any existing restrictions on the land in the land records or due to a Planning Board or Zoning Board of Appeals decisions?</i>	Earlier decisions by boards or commissions may have placed restrictions on the property. Conservation or deed restrictions may legally limit what is allowed on the property.

Question	Why?
<i>Is the project in a Historic District?</i>	Projects affecting the exterior may need to be approved by the Historic Districts Commission.
<i>Is the property subject to the demolition review bylaw?</i>	Under this bylaw, a building or structure built before 1941 is subject to review by the Historical Commission before it can be demolished.
<i>Is the project in or near a wetland or within a wetland resource area?</i>	Any work in or near wetlands is restricted and requires additional review and approvals.
<i>Is the project in a flood zone?</i>	Construction in a flood zone may not be allowed, or is required to meet strict standards and requires additional approvals.
<i>Does the project involve disturbing over an acre of land?</i>	Project size triggers stormwater review and other requirements from Engineering. In some cases, the scope of the project will require 3 <sup>rd</sup> party oversight, which must be paid for by the applicant.
<i>Is the project in a rare species habitat area?</i>	Additional approvals may be necessary from the State (Natural Heritage and Endangered Species Program).
<i>Is the project within the Groundwater Conservancy District?</i>	Additional approvals may be necessary or there may be limitations on use and/or lot coverage by impervious surfaces.
<i>Is the property currently or expected to be connected to a septic system?</i>	The Town will need to ensure that the septic system is adequate or if it needs to be expanded.
<i>Is the property currently or expected to be connected to Town sewer?</i>	Any new sewer connections or change in use must obtain approvals from Concord Public Works. Applicant should verify the ability to connect to municipal sewer. Change of use is reviewed by the Health Division through the sewer review process for impacts on wastewater flows, and associated fees.
<i>Will I need a separate Health Division approval for the work?</i>	Any project on septic will require Health Division approval. Commercial projects with a kitchen and certain other commercial projects or use types will also require Health Division approval.
<i>Will the project require a commercial kitchen?</i>	A commercial kitchen has specific design requirements that may affect the layout and amount of space required for the kitchen.
<i>What licenses are required for the work I want to do?</i>	All food service establishments must have a Common Victualler License and a Food Service Establishment license. All establishments serving or selling liquor must have a liquor license. If you are planning to serve liquor, it is important first to ensure that a license is available as there are a limited number of licenses available in Concord.
<i>Will my project cause traffic impacts or will it trigger a traffic study?</i>	For projects that will cause traffic impacts, the Town may impose certain limitations or restrictions. The Town may also require you to conduct a traffic study to assess the traffic impact and pay for a third party review of the traffic study.
<i>Will this include work in a public way or have an impact on the town's roads or other infrastructure?</i>	Any work in the public way requires coordination with and permits from Public Works.

## HOW DO I RESEARCH MY PROPERTY OR IDEA?

Most of the information required to undertake basic research can be obtained on-line, by reviewing our files, or by speaking with staff.

The Town has a robust **Geographic Information System** available to the public, which allows anyone to conduct research on a property. By entering an address into the GIS system, you can find out the zoning for the property, identify wetlands areas, flood zones, historic districts, and other important information.

The Town's GIS is available at this link:

<http://www.mapsonline.net/concordma/index.html>

If you have any questions or need assistance with GIS, call the Planning Division office at (978) 318-3290 and staff can assist you.

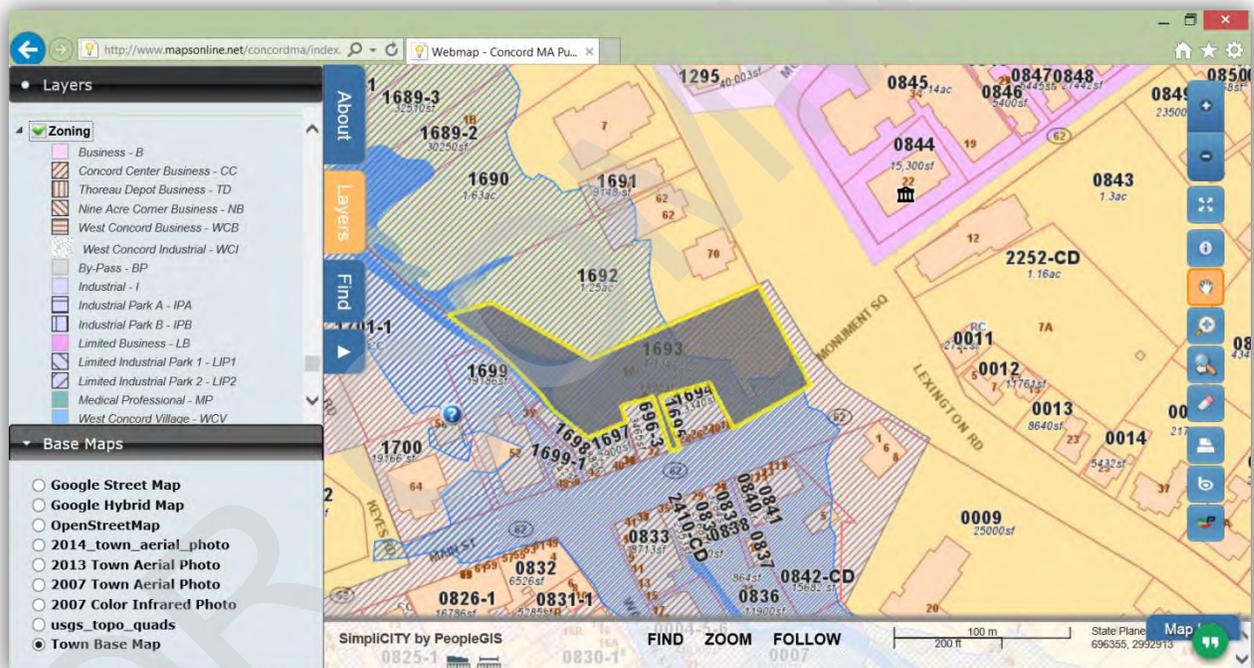


Figure 2: Sample GIS Screen

A second tool for research are **detailed property files** located at the Building Inspections Office on the second floor at 141 Keyes Road. These files provide extensive history on every address and property in Concord that has been developed. Files related to projects in historic districts are available in the Planning Office on the first floor at the same location.

In addition, all of our rules and regulations are on-line. You should start with our Zoning Bylaw, which is available at the following link:

[http://www.concordma.gov/Pages/ConcordMA\\_BOA/zone/index](http://www.concordma.gov/Pages/ConcordMA_BOA/zone/index).

Our Sign Bylaw regulates the size, placement, and illumination of signs.

[http://www.concordma.gov/Pages/ConcordMA\\_BOA/ConcordSignBylaw.pdf](http://www.concordma.gov/Pages/ConcordMA_BOA/ConcordSignBylaw.pdf)

With any projects involving land disturbance, work in the public way, or affecting utilities it is important to understand the Town's public works design and construction standards, which will have an impact on what can be done and on the costs involved. They can be found at this link:

[http://www.concordma.gov/pages/ConcordMA\\_PublicWorks/constructionstandards](http://www.concordma.gov/pages/ConcordMA_PublicWorks/constructionstandards)

All projects must comply with additional Town, State, and Federal regulations pertaining to health, natural resources, historic preservation, and building standards, which will be identified in more detail in later sections. Links to these regulations are available at each department or division's web site.

Staff is available to answer questions about regulations and standards. We recommend that once you have a project concept and have done your initial research, you meet with the Town Planner and the Building Commissioner to review the project, property, and next steps.

If needed, these individuals will coordinate additional meetings with departments and divisions, including Natural Resources, Health, Historic Districts, Engineering, Public Works, Water and Sewer, Fire, and Concord Municipal Light and Power.

Through research, you should be able to:

- Understand the broad parameters of what you can and cannot do for a project or property
- Identify what permits and approvals will be required
- Identify what materials you need to submit for approvals
- Prepare initial submittal materials for approvals

Table 4: Information Sources

GIS – <a href="http://www.mapsonline.net/concordma/index.html">http://www.mapsonline.net/concordma/index.html</a> Prepared maps – <a href="http://www.mapsonline.net/concord/pdfmaps.html">http://www.mapsonline.net/concord/pdfmaps.html</a>	
Physical Property files – <b>Building Inspections Division</b>	141 Keyes Rd, 2 <sup>nd</sup> floor 978-318-3280
For questions about land use and general permitting requirements – <b>Planning Division</b>	141 Keyes Rd, 1 <sup>st</sup> floor 978-318-3290 <a href="#">Planning Web Page</a>
For questions about zoning and building code requirements – <b>Building Inspections Division</b>	141 Keyes Rd, 2 <sup>nd</sup> floor 978-318-3280 <a href="#">Building Web Page</a>
For questions about signage – <b>Building Inspections Division</b>	141 Keyes Rd, 2 <sup>nd</sup> floor 978-318-3280
For questions about projects in the Historic Districts - <b>Historic Districts Commission</b>	141 Keyes Rd, 1 <sup>st</sup> floor (978) 318-3299 <a href="#">Historic Districts Web Page</a>
For questions about commercial kitchens, wells and about septic systems - <b>Health Division</b>	141 Keyes Rd, 2 <sup>nd</sup> floor 978-318-3275 <a href="#">Health Web Page</a>
For questions about wetlands, natural resource, and conservation restrictions - <b>Natural Resources Division</b>	141 Keyes Rd, 1 <sup>st</sup> floor 978-318-3285 <a href="#">NRC Web Page</a>
For questions about water and sewer requirements, including potential connection or improvement fees for projects which will increase water/sewer demands – <b>CPW - Water and Sewer.</b>	135 Keyes Road 978-318-3250 <a href="#">Water and Sewer Web Page</a>
For questions about stormwater, erosion control requirements, work in or affecting the right-of-way – <b>CPW - Engineering</b>	133 Keyes Road, 2 <sup>nd</sup> floor 978-318-3210 <a href="#">Public Works Web Page</a>
For questions about fire safety requirements - <b>Fire Department</b>	209 Walden Street 978-318-3488 <a href="#">Fire Department Web Page</a>
For questions about liquor licenses or common victualler licenses - <b>Town Manager’s Office</b>	22 Monument Square 978-318-3000 <a href="#">Town Manager Web Page</a>
For questions about projects requiring connection to the electrical grid - <b>Concord Municipal Light Plant</b>	1175 Elm Street 978-318-3101 <a href="#">Concord Light Web Page</a>
For questions about official land records and recording of deeds - <b>Registry of Deeds</b>	208 Cambridge Street Cambridge, MA 617-679-6300 <a href="#">Massachusetts Registry of Deeds</a>

## HOW DO I COORDINATE A PROJECT THAT REQUIRES APPROVALS FROM MULTIPLE BOARDS AND COMMITTEES?

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Some projects require approvals from several Town boards and committees, such as the Historic Districts Commission (HDC), the Natural Resources Commission (NRC), and the Zoning Board of Appeals (ZBA). In some cases, a Town board or committee is required to provide a recommendation to the board making the final decision, which may lead to some back-and-forth discussions. For example, a project or property near wetlands and in a historic district may impact the location and design of a building on the site, which affects the final outcome.

Town staff provides professional support to the Town board and committees and can help guide you through this process. We recommend that you work with the Town Planner to identify the sequence of approvals required for a project if several commissions are involved.

For projects that don't require multiple approvals, please contact the appropriate office (listed on Page 9) for guidance.

### **1. Projects that require Planning Board or ZBA Approval**

For projects that require Planning Board or ZBA approval, input will be provided by other departments or divisions (Engineering, Water/Sewer, Fire, Police, CMLP, etc.) in conjunction with that approval. At the conclusion of the Planning Board / ZBA process, the applicant will receive a decision of approval, approval with conditions or a denial. If approved and conditions of approval satisfied, then the applicant can then apply for and obtain a building permit. A flowchart of this process is provided on the following page.

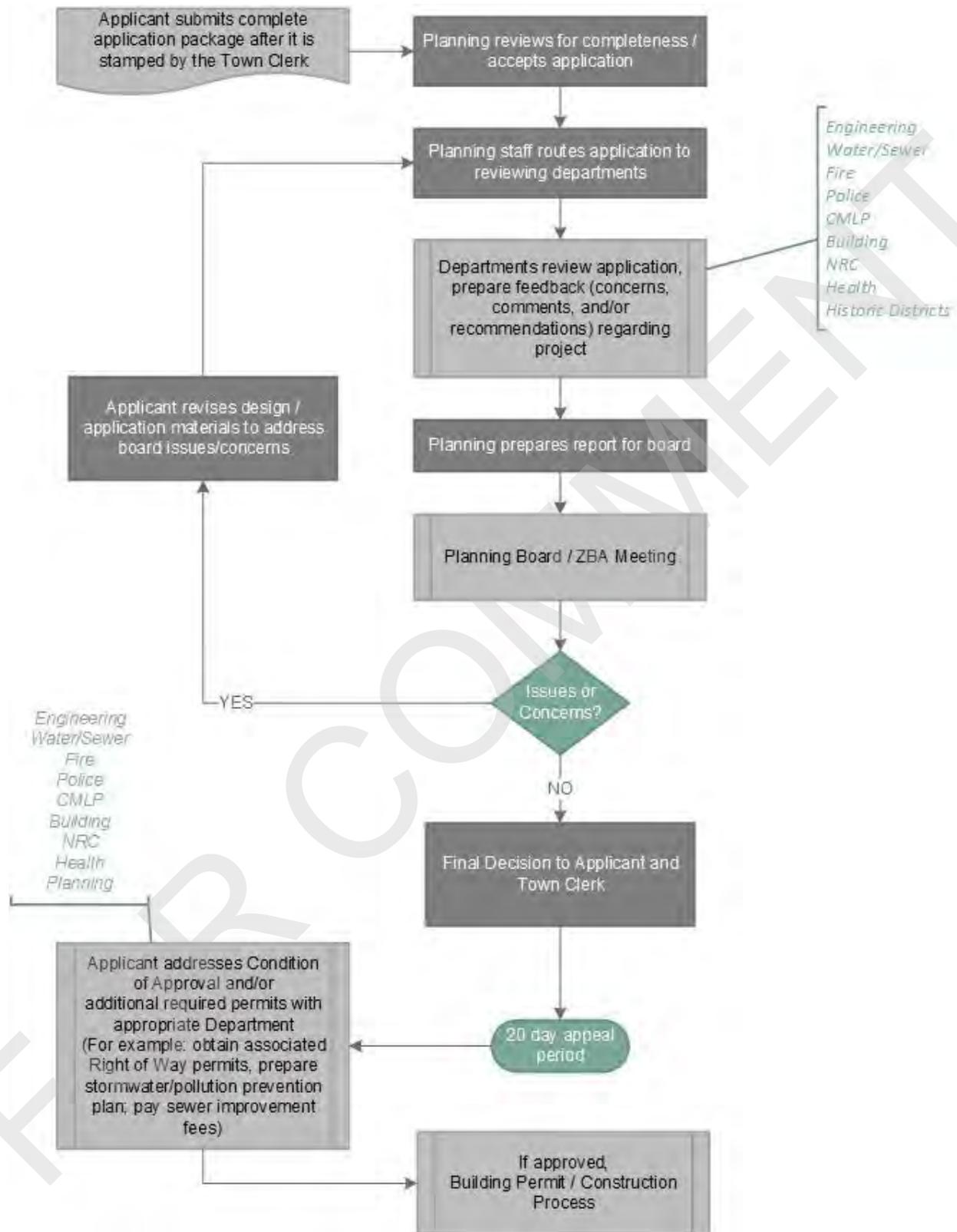


Figure 3: Work Flow for Projects Requiring Planning Board or ZBA approval

## 2. Projects that do not require Planning Board or ZBA Approval.

Projects that do not require Planning Board or ZBA approval may require sign offs from other divisions, such as Historic or Natural Resources. For these projects, the Building Division will ensure all approvals are obtained and assist with the overall process.

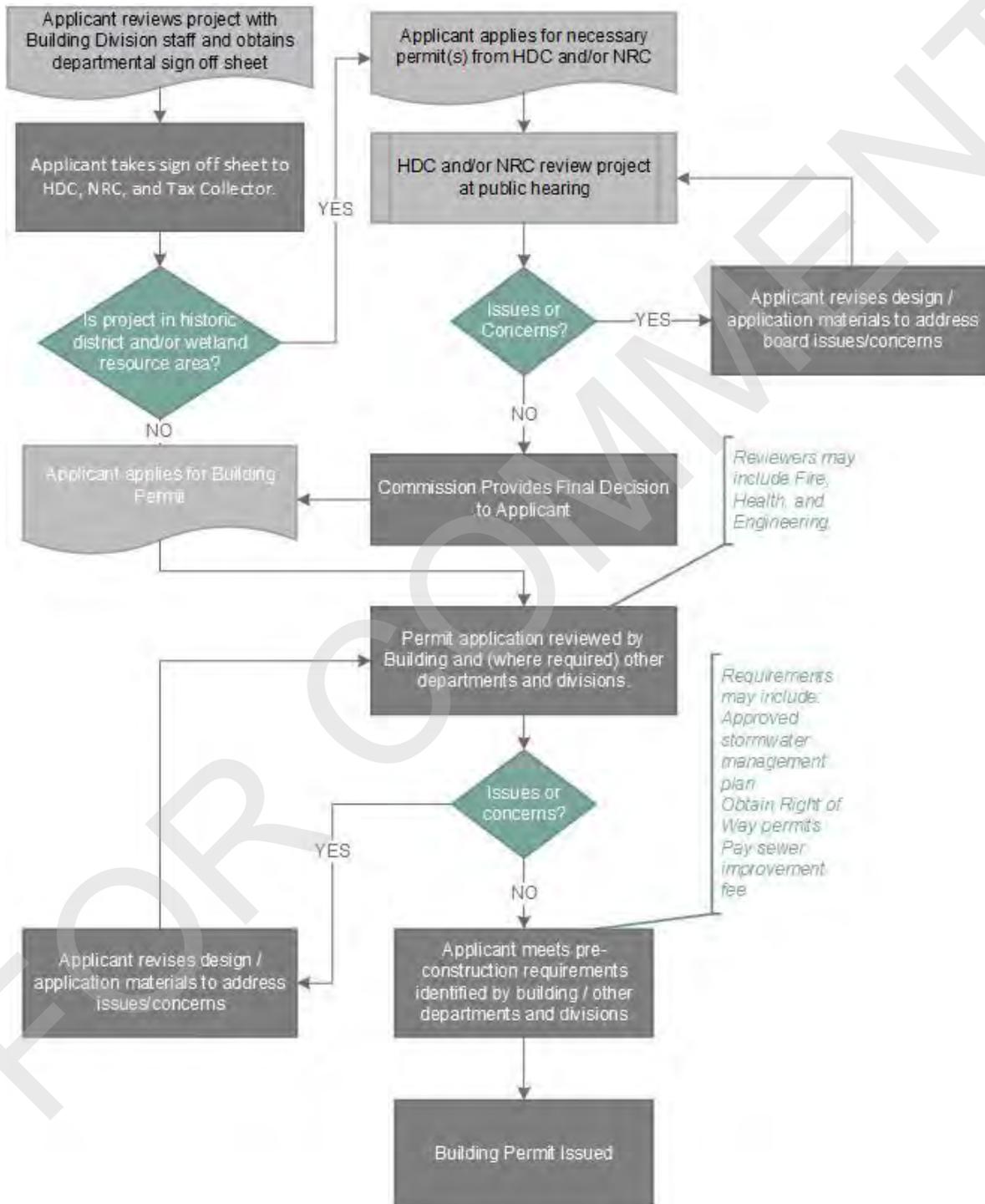


Figure 4: Work Flow for Projects Not Requiring Planning Board or ZBA Approval

## WHAT ARE MY OBLIGATIONS DURING PROJECT DESIGN, APPROVAL AND IMPLEMENTATION?

Below is a summary of the applicant's role and obligations throughout the review and approval process.

Project Design Phase	<ul style="list-style-type: none"> <li>• Thoroughly research the project and property.</li> <li>• Identify what approvals will be needed and in what order.</li> </ul>
Planning / Land Use Approval Phase	<ul style="list-style-type: none"> <li>• Prepare and submit all required applications.</li> <li>• Revise plans according to comments provided by staff, boards, and commissions.</li> <li>• Upon final approval, record Planning Board or ZBA decisions with the South Middlesex Registry of Deeds.</li> </ul>
Building Permitting	<ul style="list-style-type: none"> <li>• Prepare required architectural drawings.</li> <li>• Complete Sewer Review, Septic Review, or Building Review process with Health Division.</li> <li>• Obtain sign-offs from Natural Resources, Health, Planning, Historic Districts, and Tax Collector.</li> <li>• Have plans stamped and approved by the Fire Department (commercial projects only).</li> <li>• Prepare and submit application, architectural drawings, and all required exhibits to Building.</li> <li>• Revise plans according to comments provided by the Building Division.</li> </ul>
Pre-Construction	<ul style="list-style-type: none"> <li>• Review and understand all of the conditions of approval that are associated with the project by all boards, commissions, and departments.</li> <li>• Address any conditions that must be met prior to construction. <b>If additional permits and approvals are required prior to construction (for example, Right of Way permits or an approved Stormwater Management Plan), it is critical to plan for the time required for the department to review these documents and provide the necessary sign-offs.</b></li> <li>• Pay required Sewer Improvement fee.</li> <li>• Attend a pre-construction meeting with engineering and other departments to review required practices during construction to protect infrastructure, natural resources, and property.</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Build project according to approved plans.</li> <li>• Comply with requirements for erosion control, safety, right of way management, and related construction. Detailed design and construction standards are available at this link: <a href="#">Concord design and construction standards</a>.</li> <li>• Complete required on and off-site improvements (for example, for traffic mitigation).</li> <li>• Schedule and pass inspections as specified on your permit and approval documents.</li> </ul>

Post-Construction	<ul style="list-style-type: none"><li>• Satisfy all post-construction approval conditions specified on your permit(s).</li><li>• Obtain final sign offs from all required departments and divisions.</li><li>• Obtain and record required easements, obtaining approval from Public Works.</li><li>• If your project requires a separate permit by the Health Division, this permit must be obtained prior to beginning operations.</li><li>• If your project required an approval from the Natural Resources Commission, you must obtain and record a Certificate of Compliance from the NRC to release the lien on the property.</li><li>• Complete "as built" drawings and submit to the Town.</li><li>• Maintain the property as required in your conditions of approval and in accordance with the Town's bylaws.</li></ul>
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FOR COMMENT

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## SECTION 2: DEPARTMENT AND DIVISION OVERVIEWS

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### PLANNING AND ZONING

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Planning staff are responsible for managing a wide range of land use approvals, which are then presented to the Planning Board or Zoning Board of Appeals. In many cases, these approvals require input from a number of other Town departments and divisions, in particular Natural Resources, Historic Districts, Public Works (Engineering and Water/Sewer), Fire, and Police. The planning and zoning staff review projects for conformance with the Zoning Bylaw, Subdivision Rules & Regulations, and other land use rules. This staff also coordinate the review process among the different departments, consolidate comments from departments and, upon project approval, prepare the board or commission's decision, which may include conditions recommended by all reviewing departments.

When planning or zoning approval is not required but a project is within wetlands or historic jurisdiction, contact the appropriate division staff for guidance.

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#### PLANNING BOARD PERMITS ISSUED

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- Approval Not Required
- Preliminary Subdivision
- Definitive Subdivision
- Subdivision Amendment
- Site Plan Review (without waivers)
- Special Permit for common driveway; residential compounds, PRD, etc.

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#### ZONING BOARD OF APPEALS PERMITS ISSUED

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- Special Permit
- Special Permit with Site Plan Review
- Variance
- Comprehensive Permit
- Appeal of building inspector decisions
- Waivers from parking requirements and design standards
- Signage

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#### SUBMITTAL REQUIREMENTS

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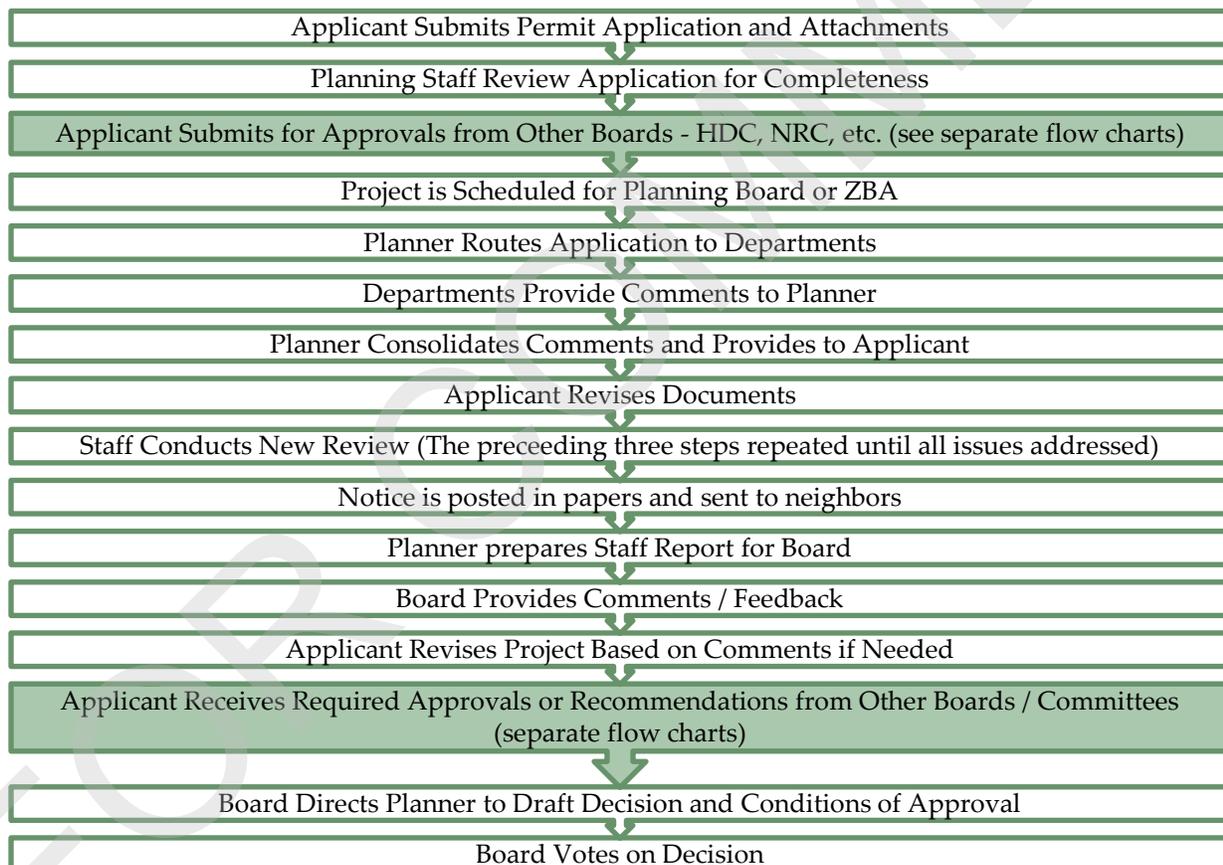
The submittal requirements for a specific application will vary depending on the nature of the project, scope, and individual department review triggers. At a minimum, most applications will require:

- A detailed site plan, prepared and stamped, by an engineer or surveyor.

- Architectural drawings of any buildings to be constructed.
- Details regarding stormwater, sewer, water, or road connections.
- Erosion and sedimentation control plans.
- Stormwater management plan.
- Stormwater design calculations.
- Utility connection information.

## PROCESS OVERVIEW

The graphic below provides an overview of the process. For projects that also require approval from other boards or commissions, you should work with the Planner and staff from the appropriate departments to determine how to coordinate different approvals. The timing varies depending on the project, as decisions from one commission may lead to changes in the project that may have an impact on another application.



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## GOVERNING REGULATIONS

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- Zoning Bylaw adopted at the Town Meeting of March 1928, and as subsequently amended.
- The Laws of Concord set forth in the Town Bylaws and Concord Town Charters.

FOR COMMENT

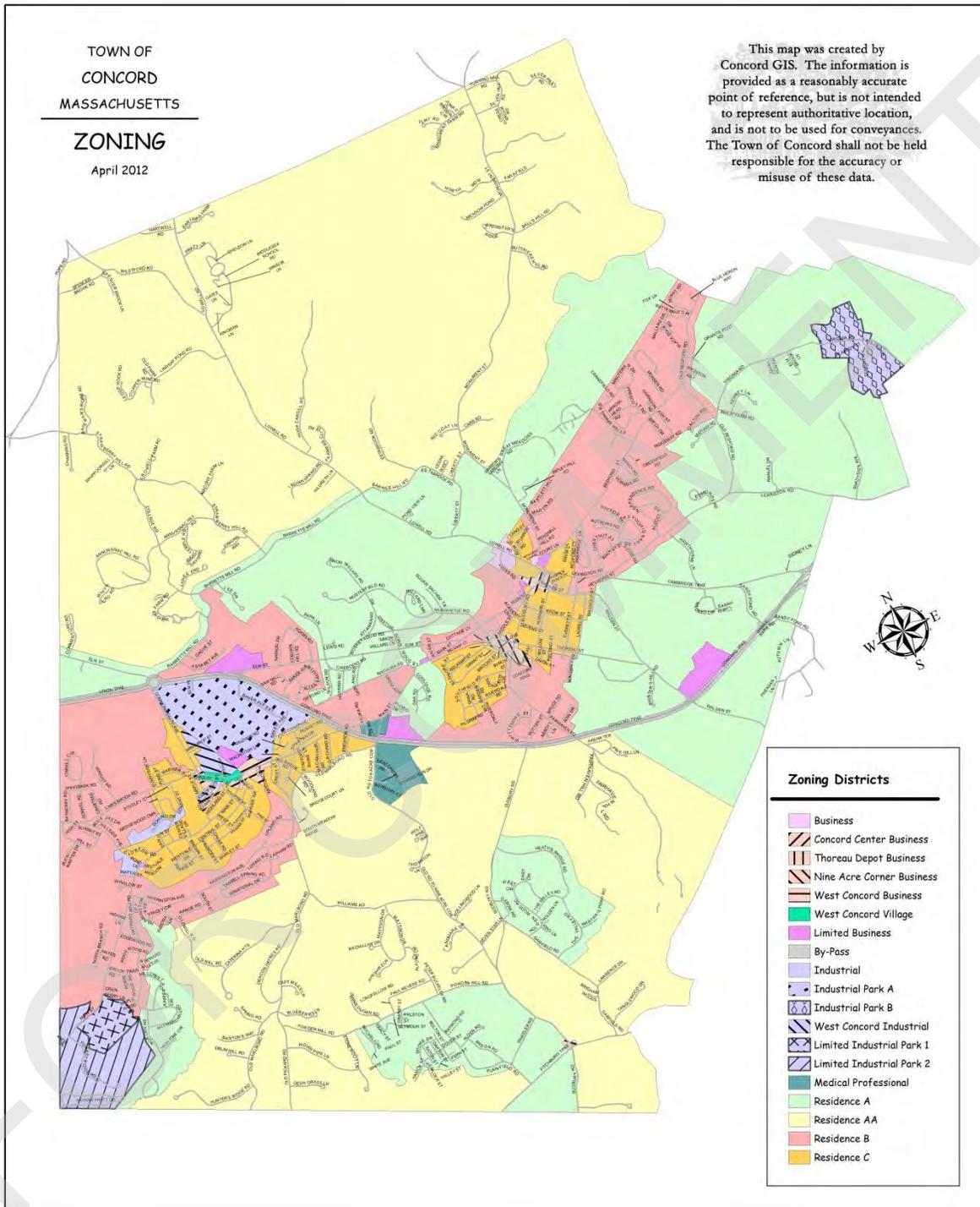


Figure 5: Concord Zoning Map

## NATURAL RESOURCES

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The Natural Resources Commission and staff oversee all work in and near the town's wetlands to ensure the protection of the town's natural resources. Any landscaping, clearing, filling, excavation, demolition, or construction within the wetlands, the 100-year floodplain, 200 feet of a river or perennial stream, 100 feet of a certified vernal pool, or the 100-foot buffer zone to wetlands requires review and approval from the Natural Resources Commission.

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### NATURAL RESOURCES COMMISSION PERMITS ISSUED

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- Determination of Applicability
- Administrative Approvals (staff permit)
- Order of Resource Area Delineation
- Orders of Conditions
- Amended Orders of Conditions
- Enforcement Orders
- Certificate of Compliance

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### SUBMITTAL REQUIREMENTS

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Submittal requirements vary depending on complexity. A complete checklist of requirements is available from staff and from the Division web page: [http://www.concordma.gov/pages/ConcordMA\\_NaturalResources/Wetlands%20Guidance](http://www.concordma.gov/pages/ConcordMA_NaturalResources/Wetlands%20Guidance)

The minimum requirements will include:

- Application forms.
- Locus map.
- Project plans prepared by a registered engineer, landscape architect, or wetland scientist.
- Narrative describing the work, compliance with standards and regulations.
- Certified abutters list from the Assessor's Office.
- US Geological Survey Map of the property.
- FEMA Flood Map of the property.

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## PROCESS OVERVIEW

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## GOVERNING REGULATIONS

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- Massachusetts Wetlands Protection Act (MGL c131 s40; 310 CMR 10.00)
- Rivers Act (MGL c258 of the Acts of 1996)
- Wetlands Bylaw and Regulations (Article 43 of 2009 Town Meeting, as amended; Article 59 of 2010 Town Meeting), and Policies

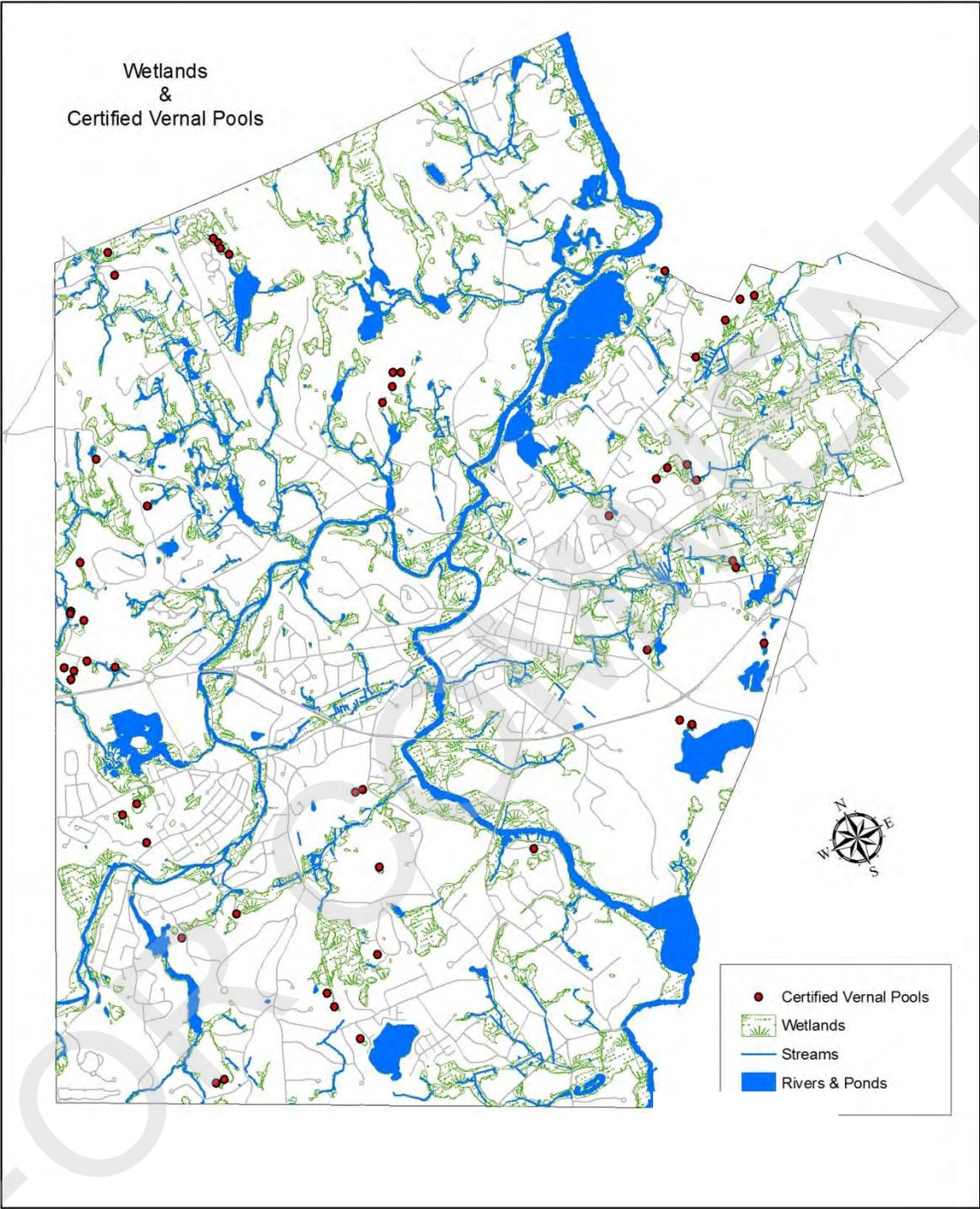


Figure 6: Wetlands and Certified Vernal Pools

## BUILDING INSPECTIONS DIVISION

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The Building Inspections Division reviews plans for compliance with the Zoning Bylaw as well as the State Building Code. You must get a building permit for any construction, alteration, repair, or demolition of a structure. You also may be required to get a permit for the change of use of a structure, even if no alteration is occurring.

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### STAFF PERMITS ISSUED

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- Building permit
- Alteration of existing permit
- Roofing, siding, windows, and doors permits
- Electrical permit
- Plumbing permit
- Gas permit
- Sign permit
- Wood Stove permit
- Tents and temporary structures permits
- Periodic inspection certificate
- Occupancy permit
- Demolition permit
- Fire alarm permit
- Sprinkler permit
- Sheet metal permit
- Mechanical permit
- Demolition permit
- Fire Alarm & Sprinkler permits
- Home occupation reviews
- Annual Liquor License Certificates for Select Board
- Certificates of Occupancy
- Former Rail Road land review by EOCD
- Gross Floor Area Analysis on non-conforming lot
- Gross Floor Area Determination
- Street address numbering
- Annual inspection certificates for all schools, day cares, restaurants

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### OTHER STAFF REVIEWS / APPROVALS

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- White Pond determination
- Stretch Energy Code review
- Architectural access board determination

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### SUBMITTAL REQUIREMENTS

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Submittal requirements vary depending on complexity of the project but will include:

- Building permit application
- Insurance form
- Contractor license information
- Contractor Supervisors license
- Home Improvement Registration (HIC)
- Certified Plot Plan
- Site Plan

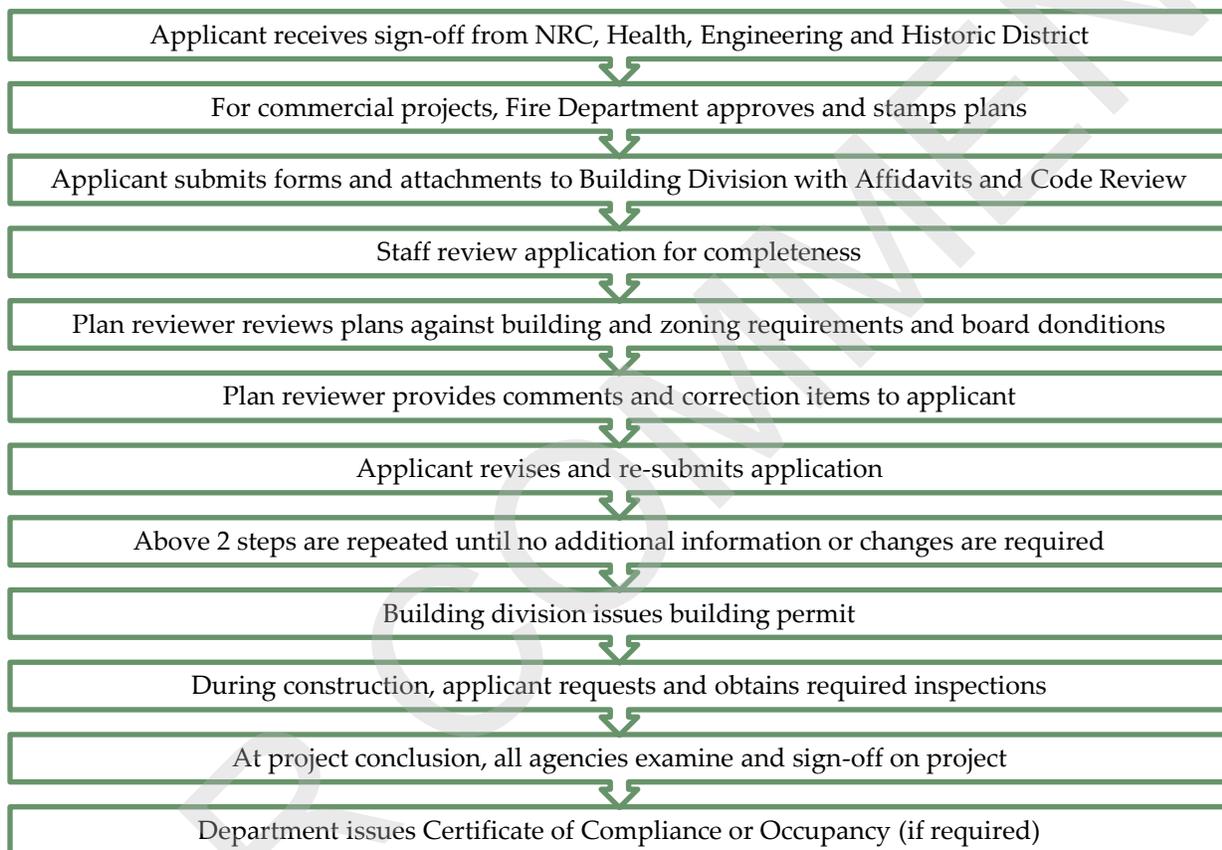
- Construction plans, including foundation, framing, and elevations
- Energy calculations

Building permit applications may only be submitted by the property owner or the owner's authorized agent. Electrical and plumbing permits must be submitted by a contractor with the applicable license.

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## PROCESS OVERVIEW

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## GOVERNING REGULATIONS

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- Zoning Bylaw adopted at the Town Meeting of March 1928, and as subsequently amended, sets forth certain requirements relating to land use and dimensional requirements.
- Concord Sign Bylaw
- Massachusetts State Building Code
- Massachusetts Stretch Energy Code Appendix 780CMR 115.AA
- Architectural Access Board Regulations

## HEALTH DIVISION

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The Health Division is responsible for overseeing all on-site septic systems and private well construction and alteration. The Division reviews projects that have or will require septic connections to ensure that the septic system can meet the needs of the property as well as conducts sewer reviews for all projects on town sewer. The Division is also responsible for approving and overseeing all commercial kitchens and for licensing a variety of establishments where there is a public health interest.

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### STAFF PERMITS ISSUED

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- Septic system construction
- Well permits
- Food service operation, including temporary food service establishments and temporary food events
- Catering
- Hazardous materials
- Swimming pools
- Animal keeping
- Funeral homes
- Motels
- Recreational camps
- Body art

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### OTHER STAFF REVIEWS/APPROVALS

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- Title 5 Building Review for any project to be served by an on-site septic system. This is to ensure that there is sufficient capacity to serve the property and protect the system from damage during construction.
- Form S Sewer Review for any project to be served by town sewer. The CPW-Water and Sewer Division will use this information to determine if the project will incur any Sewer Improvement Fees.

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### BOARD OF HEALTH APPROVALS ISSUED

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- Any plans requiring a variance from state and local regulations.
- Review of projects located in Concord Groundwater Conservancy District.
- Preliminary and definitive subdivision plans.

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## SUBMITTAL REQUIREMENTS SEPTIC SYSTEM

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The submittal requirements for a specific application will vary depending on the nature and scope of the project. At a minimum, most applications will require:

- Form A, Soil Test for Septic, submitted by a professional engineer
- Form B, Disposal System Construction
- Design plans for the septic system prepared by a professional engineer
- Form C, Building Review of Title 5
- Floor plans showing all habitable space within the building

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## SUBMITTAL REQUIREMENTS WELL

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- Application form(s)
- Plan signed by a registered surveyor or engineer
- Description of land uses within 200 feet of the well which may represent a potential source of contamination

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## SUBMITTAL REQUIREMENTS FOOD SERVICE

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Note: A guide with detailed information is available at:

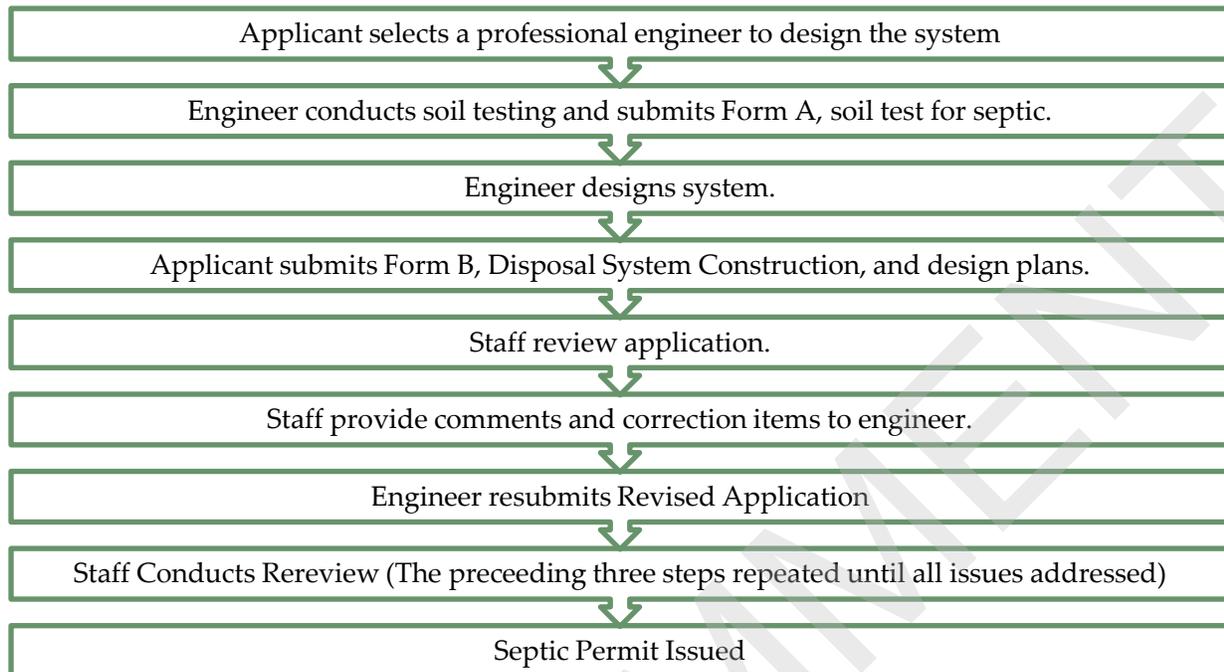
[http://concordma.gov/pages/ConcordMA\\_health/FoodEstablishmentNew](http://concordma.gov/pages/ConcordMA_health/FoodEstablishmentNew)

- Application form(s).
- To scale plan showing all equipment, plumbing, electrical service, and mechanical ventilation. All plans for food establishments must be prepared by a commercial kitchen designer.
- Form C Title 5 Building Review form if project is on septic system.
- Form S Request for Title 5 Sewer Review (if project is on the municipal sewer system).
- Manufacturer specification sheets for each piece of equipment.
- Equipment schedule.
- Proposed menu.
- Site plan showing the location of the business on the site, and the location of any outside equipment such as loading docks, dumpsters, grease storage, ventilation hoods, refrigerator compressors, wood storage, etc. and all outbuildings.
- Floor plans showing all habitable space.

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### PROCESS OVERVIEW- SEPTIC

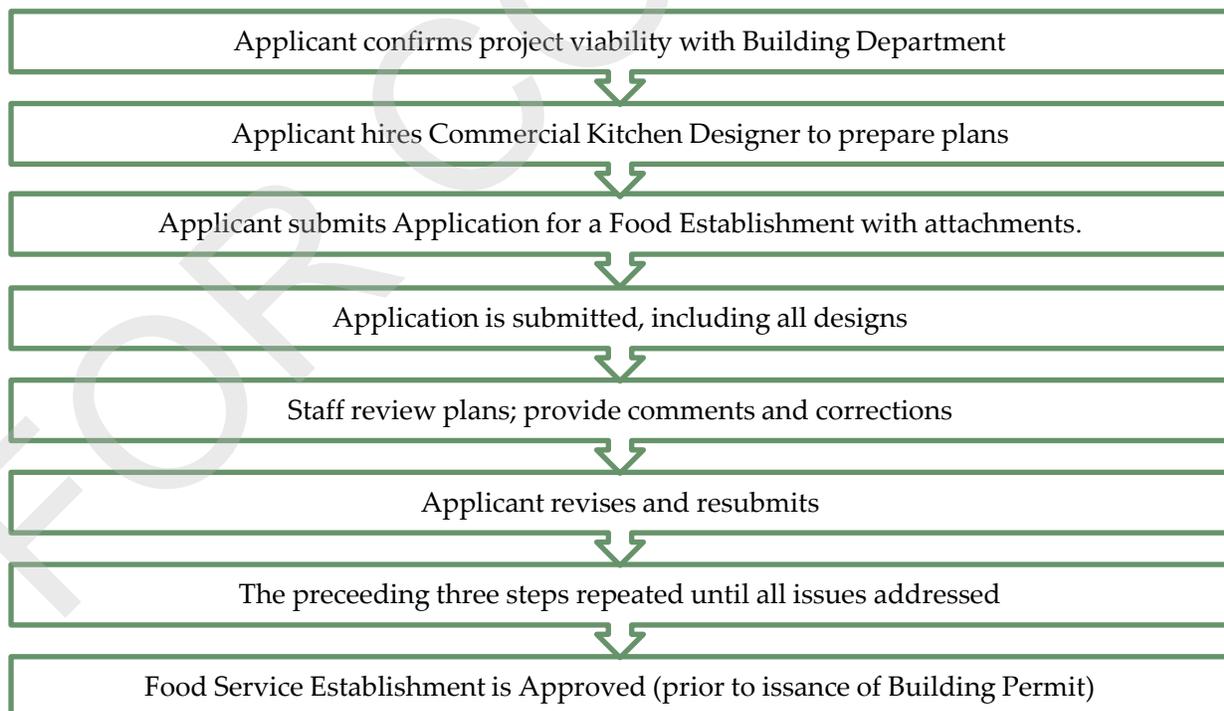
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### PROCESS OVERVIEW- FOOD SERVICE

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GOVERNING REGULATIONS

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Massachusetts State Sanitary Code 105 CMR 590.00 Massachusetts Food Code

Massachusetts Environmental Code – Septic Systems - Title 5 (310 CMR 15.000)

Concord Board of Health Regulations

FOR COMMENT

## HISTORIC DISTRICTS

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Approval from the Historic Districts Commission is required for any construction, demolition, painting, addition, removal, or alteration of a structure, or exterior signage in a Historic District.

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### STAFF PERMITS ISSUED

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- Approval on non-applicable items such as replacement in kind.

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### COMMISSION PERMITS ISSUED

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- Certificate of Appropriateness.

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### SUBMITTAL REQUIREMENTS

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Submittal requirements depend on the specific project involved. Applicants should refer to the HDC design guidelines at this link: [Historic District Design Guidelines](#)

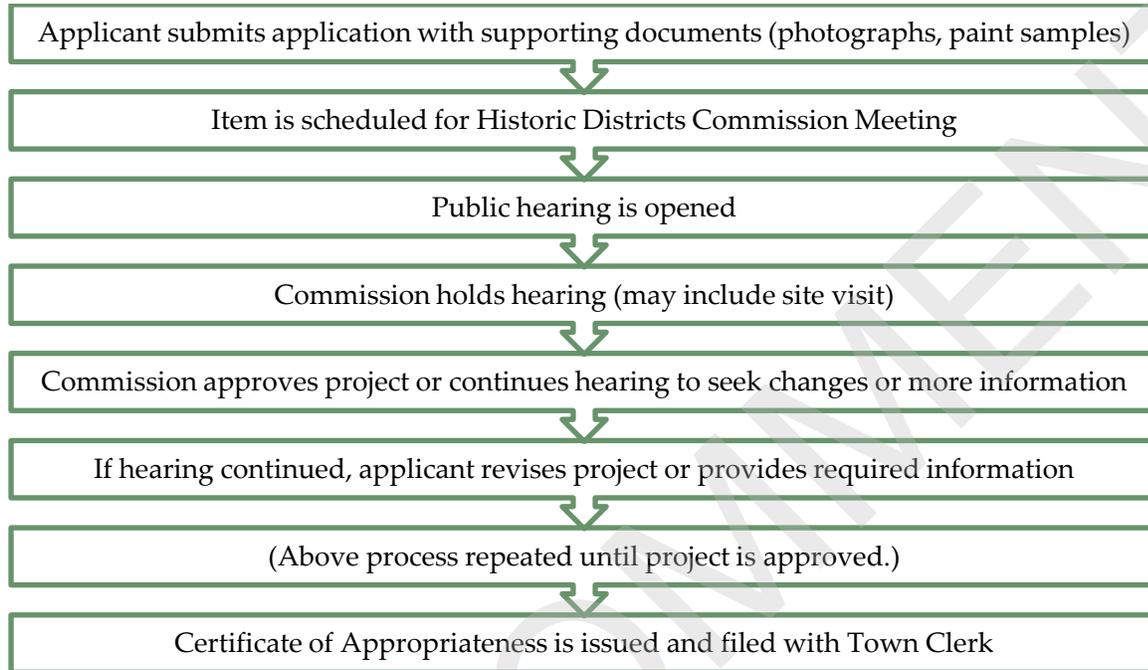
Typical submittal requirements include:

- Drawings of exterior elevations, to scale, showing existing and proposed conditions.
- Site plan, showing trees to be removed, if any.
- Photographs of existing conditions as seen from the public right of way, which includes municipal parking lots and rivers.
- List of exterior materials and colors.
- Sample colors on a surface of at least 8 x 10 inches.
- Manufacturer's brochures with illustrations and specifications for new material.

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## PROCESS OVERVIEW

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## GOVERNING REGULATIONS

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Concord Historic Districts Bylaw

Historic District Design Guidelines ([Historic District Design Guidelines](#))

### Town of Concord Historic Districts Map

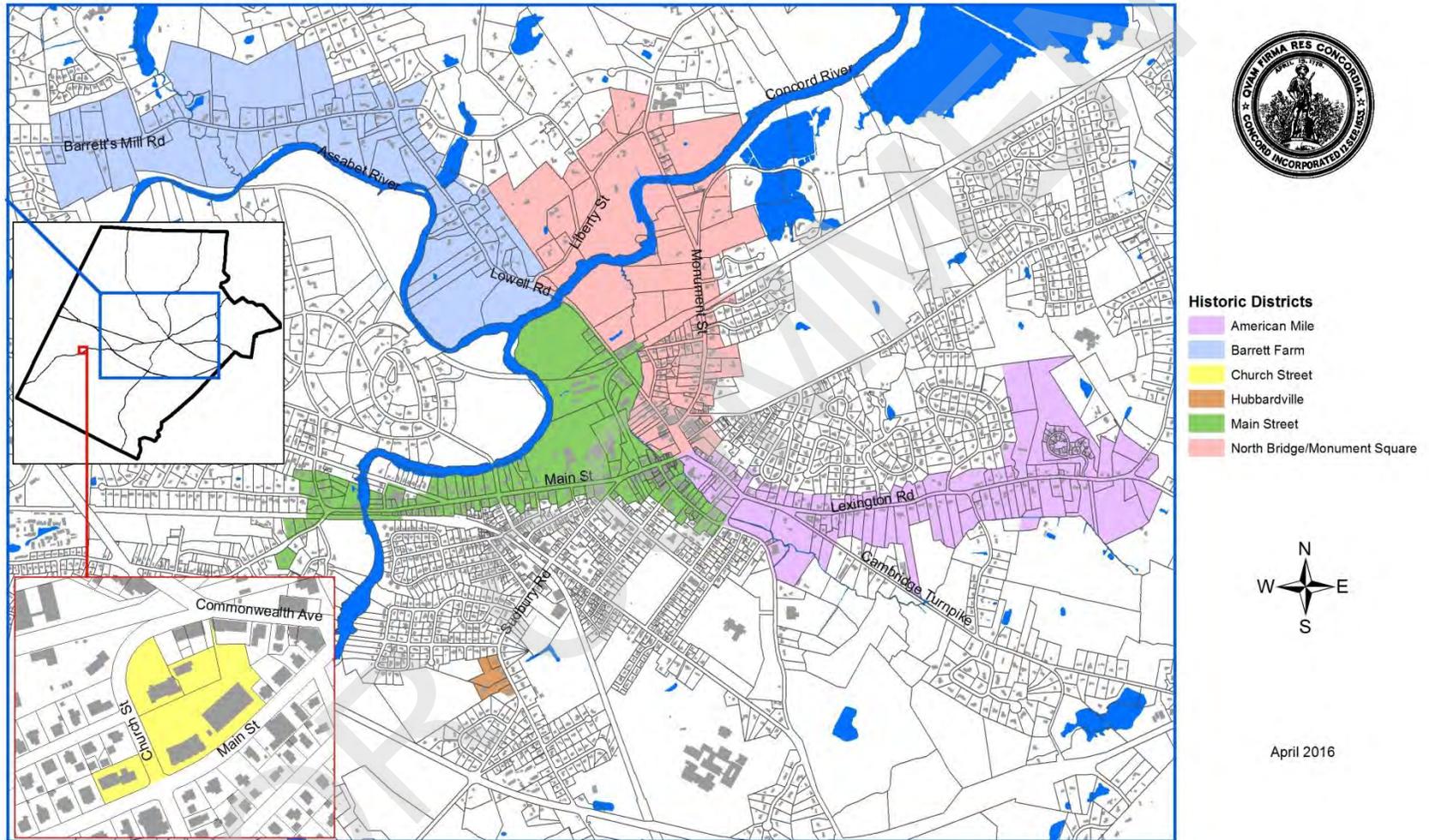


Figure 7: Historic Districts Map

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## PUBLIC WORKS DEPARTMENT

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Three divisions of Public Works are involved in project review.

The **Engineering division's** primary function in permitting involves detailed engineering review of site plans, subdivisions, and other projects, where the approval process is managed by the Planning and Zoning staff. The division also issues some permits directly.

The **Water and Sewer division** reviews and permits all connections, extensions, and alterations to the water and sewer systems. This division also collects connection or improvement fees if a project is anticipated to increase water/sewer system demands.

The **Grounds division** maintains all public shade and park trees, under the direction of the Park and Tree Supervisor who is also the Town Tree Warden. The Tree Warden reviews and permits all public shade tree removal/pruning.

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### STAFF PERMITS ISSUED

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- Right of way permit - Engineering
- Driveway permit - Engineering
- Trench permit - Engineering
- Drainage connection - Engineering
- Water connection - Water & Sewer
- Water change in use - Water & Sewer
- Sewer connection - Water & Sewer
- Sewer change in use - Water & Sewer
- Public shade tree removal/pruning – Grounds

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### OTHER PERMITS AND APPROVALS

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- Stormwater management plan
- Erosion and sedimentation control plan
- Groundwater Conservancy District
- Operations and maintenance plans
- Sewer fee determination and payment

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### PUBLIC WORKS COMMISSION PERMITS AND APPROVALS

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- Any project requiring a variation from established standards
- Water main extension not attached to a Planning or ZBA approval
- Sewer main extension

- Water/Sewer connection(s) if demand/capacity request exceeds threshold established by the Public Works Commission
- Appeals of staff decisions
- Layout / public acceptance of roadways

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## SUBMITTAL REQUIREMENTS

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Submittal requirements will depend on the specific permit and review type.

Engineering - Most projects require an engineering plan stamped by a Professional Engineer or surveyor registered in the Commonwealth of Massachusetts, to include:

- All property lines, easements and/or legal rights within the property lines
- Drainage/stormwater design calculations
- Roadway data, including elevations
- Utility data
- Stormwater Pollution Prevention Plan, Erosion Control Plan
- Topographical data
- Natural features

Water and Sewer Connections may require:

- Application forms
- Detailed description of service
- Water and sewer service plans (completed by a licensed drain layer or civil engineer)
- Water Impact Assessment
- Water/Sewer Connection Agreement
- Design data sheet form for backflow devices
- Trench permit or right of way permit
- Licensing information

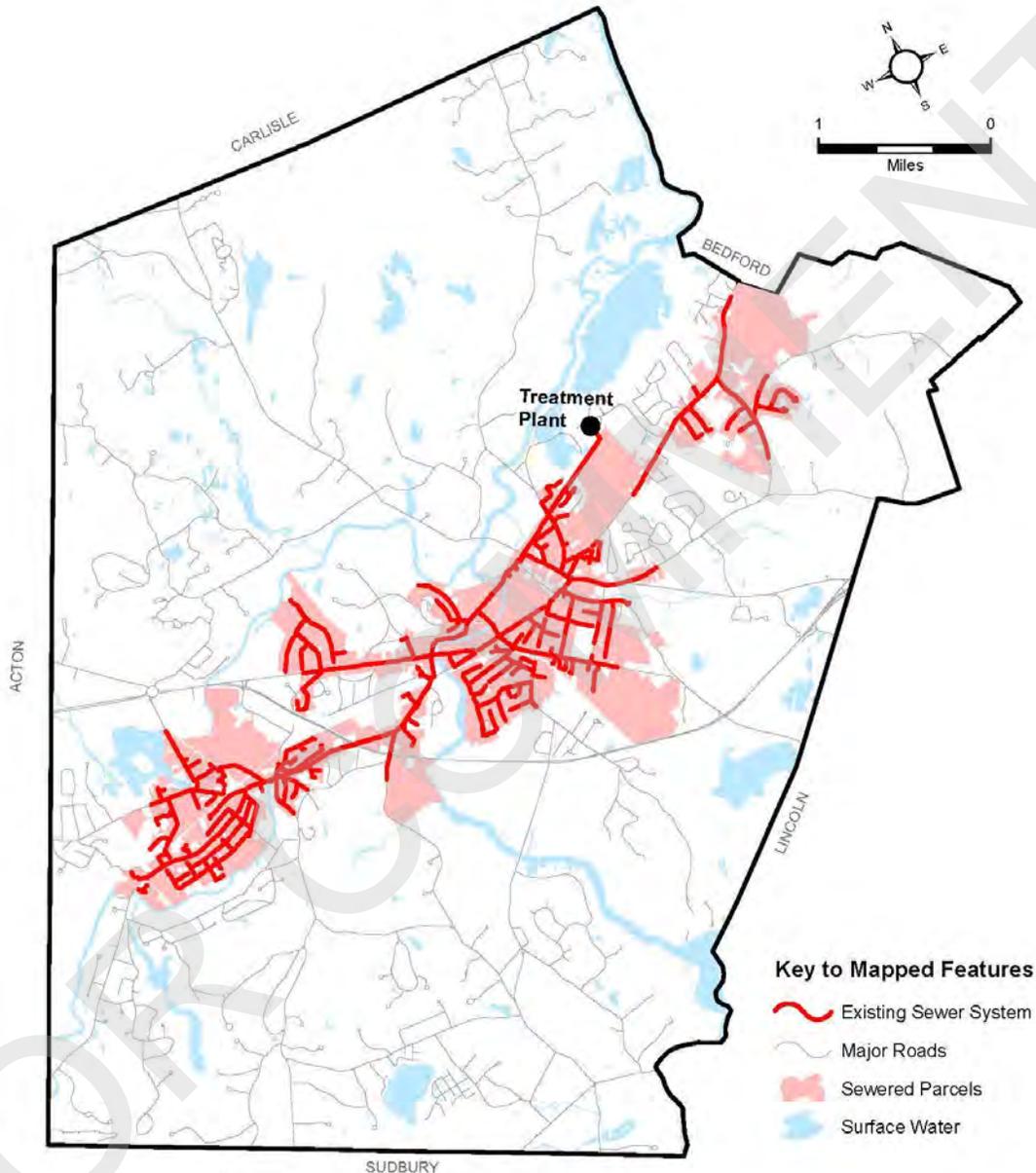
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## GOVERNING REGULATIONS

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- Concord Public Works Design and Construction Standards and Details, adopted by the Public Works Commission on March 15, 2011
- Concord Public Works Stormwater Regulations, adopted by the Public Works Commission on March 15, 2011
- Concord Public Works Rules and Regulations Governing Water Connection and Use adopted by the Public Works Commission on October 9, 2002.
- Concord Public Works Sewer Rules and Regulations adopted by the Public Works Commission on April 26, 2004.

## Concord Municipal Sewer System Service Area



This map was created by Concord GIS. The information is provided as a reasonably accurate point of reference, but is not intended to represent authoritative location, and is not to be used for conveyances. The Town of Concord shall not be held responsible for the accuracy or misuse of these data.

Note: Wastewater management for properties not shown in the Municipal Sewer System Service Area are served by on-site private septic systems

Figure 8: Town of Concord Water and Sewer Systems

## FIRE DEPARTMENT

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The Fire Department reviews site plans that will be going before the Planning Board and/or ZBA to ensure that there is proper access, water supply, and that unique fire protection problems are addressed. The Department also reviews building permit plans for fire safety issues, including proper addressing of buildings and existence of required fire alarms, required Emergency Responder Radio coverage, suppression devices, exit signage, and related safety issues. Questions may be directed to [fireprevention@concordma.gov](mailto:fireprevention@concordma.gov).

The department issues some stand-alone permits and licenses.

A guide with more detailed Fire Department requirements is available at [http://concordma.gov/Pages/ConcordMA\\_Fire/cfdguide](http://concordma.gov/Pages/ConcordMA_Fire/cfdguide)

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### STAFF PERMITS ISSUED

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- Blasting
- Cannon / Mortar firing
- Dumpsters (6yds or larger)
- Fire alarm repair/alteration
- Fire Protection System Impairment
- Flammable gas/liquid
- Fog/movie smoke
- Gun powder
- Hazardous materials processing
- Oil Burner Installation
- Hood extinguisher
- Open Burning
- Open flame tar kettle
- Propane storage, above and underground
- Salamander
- Sprinkler repair/alteration
- Storage tank installation or removal - above ground
- Storage tank installation - underground
- Storage Tank Removal - underground
- Tank trucks
- Tent
- Welding and cutting

Permits are available online at: [http://concordma.gov/Pages/ConcordMA\\_Fire/Permits](http://concordma.gov/Pages/ConcordMA_Fire/Permits)

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### OTHER PERMITS AND APPROVALS

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- Site plan review for Planning and Zoning and ZBA applications
- Fire Alarm and Sprinkler plans review for building permits

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### SUBMITTAL REQUIREMENTS

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Submittal requirements will depend on the specific permit and review type and may include:

- Permit application

- Cut sheets for devices being used (e.g., fire suppression hoods)
- Alarm system plan must be designed by a Massachusetts registered electrical engineer or licensed master electrician and include a letter certifying that the plan meets NFPA 72, the National Fire Alarm Code, and any other applicable codes.
- Sprinkler system, standpipe, or system additions must be designed by a Massachusetts registered fire protection engineer and include a letter certifying that the plan meets NFPA 13 and any other applicable codes. Relocations require the Sprinkler Fitter's license.

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### GOVERNING REGULATIONS

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- Massachusetts Fire Code, 527CMR1.00 (NFPA 1 with Massachusetts Amendments)
- Massachusetts State Building Code. Specifically, chapters 4, 9, & 34
- Town of Concord Codes and Ordinances

*By reference the following codes and standards are applicable:  
(This is a list of the most common reference standards, others may apply)*

- NFPA 72, National Fire Alarm and Signaling Code
- NFPA 13, Standard for Installation of Sprinkler Systems
- NFPA 14, Standard for Installation of Standpipe and Hose Systems
- NFPA 25, Standard for Inspection, Testing and Maintenance of Water Based Fire Protection Systems
- NFPA 58, Liquefied Petroleum Gas Code
- NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.
- International Fire Code

## SELECT BOARD

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The Select Board is the Local Licensing Authority and issues common victualler and liquor licenses.

Every food service establishment in Concord with the capability of cooking, preparing, and serving food is required to have a Common Victualler License.

The availability of annual liquor licenses ("all alcohol" or "wine and malt") is determined by population and is revised every ten years. Businesses seeking a liquor license should check with the Town Manager's office to determine what licenses are available.

A business seeking a liquor license must first obtain a common victualler license, which requires approval by the Building Inspections Division, the Health Division and the Water and Sewer Division.

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### LICENSES / PERMITS

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- Common victualler
- Alcohol service; Alcohol sale
- Location for private utility extensions in the public way

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### SUBMITTAL REQUIREMENTS

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Common victualler:

- License application.
- A floor plan approved by the Building Inspections Division.
- An affidavit stating that the applicant will comply with the floor plan.
- Approval by the Health Division of a Food Service Establishment application.
- A letter regarding any lease agreement.
- Evidence of Workers Compensation Insurance.
- Approval by the Water and Sewer Division.

Liquor license:

Liquor licenses are governed by MGL Ch, 138 and the Alcoholic Beverage Control Commission (ABCC). All of the forms needed to apply for a liquor license transaction can be found on-line: [ABCC forms](#)

- A Common Victualler License.
- Floor plan approved by the Building Inspections Division and confirmation of compliance with the Zoning Bylaw.

- Approval by Health Division of Food Service Establishment Application.
- License application from the Alcoholic Beverages Control Commission.
- An alternate "manager of record" who may be contacted if necessary.
- Approval by the Water and Sewer Division.

Utility Extensions:

- Surveyor site plan showing proposed and current conditions and utility locations.

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GOVERNING REGULATIONS

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- 204 CMR 2.00: REGULATIONS OF THE ALCOHOLIC BEVERAGES CONTROL COMMISSION
- 204 CMR 7.00: SPECIAL LICENSES
- Mass General Laws Chapter 138 (Alcoholic Liquors) and 140 (Licenses)



**TOWN OF CONCORD  
PLANNING BOARD**

141 KEYES ROAD, CONCORD, MASSACHUSETTS 01742  
TEL. (978) 318-3290 FAX (978) 318-3291

MARCIA A. RASMUSSEN, PLANNING DIRECTOR

## **Planning Board Procedures for Site Plan Review**

### **Applicant**

- ◆ Obtains Site Plan Review Application and Checklist from the Department of Planning & Land Management (Department).
- ◆ Files the required number of copies of the completed Application Form, Site Plan, and all supportive materials indicated on the Checklist to the Department.
- ◆ Applications will be scheduled for the earliest available regular Planning Board meeting, but no sooner than four (4) weeks from the application submittal date (Planning Board meetings usually held on the first and third Tuesdays of each month).
- ◆ The local newspaper will bill applicant for legal notice when the application does not require a special permit from the Board of Appeals.

### **Department of Planning & Land Management**

- ◆ Receives Application and assigns a file number.
- ◆ Places the Application on earliest possible regular Planning Board agenda.
- ◆ When a Site Plan Application does not require a special permit from the Board of Appeals, the Department will prepare and submit a notice for publication in the local newspaper not less than seven (7) days before the day of the public meeting. The Department will also send a notice by mail to immediate abutters of a site, including owners of land directly opposite the site on any public or private way.
- ◆ Routes copies of the Application, Site Plan, and supporting documents to other Town departments for review and comments.
- ◆ Coordinates review comments and reports thereon to the Planning Board.
- ◆ Sends copy of Planning Board decision to the Applicant and the Building Inspector.\*\*

### **Planning Board**

- ◆ Reviews the Application, Site Plan, supporting documentation, the report from the Department and other Town department comments.
- ◆ Endorses approval of the submitted Site Plan and/or modifies of the Plan.

\*\* **Special Note:** In the case where an application requires a Special Permit from the Board of Appeals, the Applicant must submit the Board of Appeals' Application and the Planning Board's Application simultaneously to each Board. The Planning Board follows the same procedure outlined above, but submits its recommendations to the Board of Appeals for its action.

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***K-4: MCM 6 - GOOD HOUSEKEEPING***

FOR COMMENT

# Bioassay Test for Herbicides in Compost

April 4, 2018



Prepared For:  
Concord Compost Site  
755 Walden Street  
Concord, MA 01742

Prepared By:  
Concord Public Works  
Solid Waste & Recycling Division  
133 Keyes Rd.  
Concord, MA 01742  
(978) 318-3240

## 1. OVERVIEW

Concord Public Works conducted a bioassay test from March 14, 2018 – April 4, 2018 to determine if there are herbicide residues in the compost at Concord's compost site located at 755 Walden Street, Concord, MA 01742. The bioassay test utilized was developed by Washington State University and is entitled *Washington State University Bioassay Test for Herbicide Residues in Compost*.

Washington State University developed this test to answer the following question:

*“Will this test material (compost) cause plant growth symptoms consistent with phenoxy herbicide damage in susceptible plants?”*

Concord's bioassay test was conducted over a period of twenty-one days (3/14/18 – 4/4/18). The bioassay test involved growing pea plants in compost-amended potting mix and comparing them to pea plants grown in 100% potting mix (referred to as a negative control). The pea seeds were planted ½” deep (three to a pot, nine pots in all), on 3/14/18. There were three pots of 100% potting mix; three pots of a 2:1 ratio of finished compost: potting soil; and three pots containing a 2:1 ratio of unfinished compost: potting soil.

The plants were equally watered and exposed to equal sunlight & artificial light. The temperature was always above fifty degrees. Plant growth was monitored and recorded, and a score was assigned to each pot upon completion of the test.

## 2. PROTOCOL - MATERIALS

- Potting Mix (peat-based w/ fertilizer)
- Finished Compost
- Unfinished Compost
- Nine 4” plastic pots w/ saucers
- Garden pea seeds.
- Ziploc plastic bags
- Water
- Photographs

## 3. PROTOCOL – PROCEDURES

1. Three pots (pots 1-3) were filled with potting mix. Each pot was tapped several times afterward to help the mix settle uniformly. Three seeds were planted in each pot approx. ½” deep. Seeds were watered.
2. Three pots (pots 4-6) were filled with a 2:1 ratio of finished compost: potting mix. Finished compost & potting mix was first measured, placed in a plastic Ziploc bag, and shaken vigorously for thirty seconds. Each pot was tapped several times to help the mix settle uniformly. Three seeds were planted in each pot approx. ½” deep. Seeds were watered.

3. Three pots (pots 7-9) were filled with a 2:1 ratio of unfinished compost: potting mix. Unfinished compost & potting mix was first measured, placed in a plastic Ziploc bag, and shaken vigorously for thirty seconds. Each pot was tapped several times to help the mix settle uniformly. Three seeds were planted in each pot approx. ½” deep. Seeds were watered.
4. Pots were placed in random order on flat surface, spread far enough apart to avoid splashing media from one pot to another.
5. Pots were watered equally and exposed to sunlight and artificial light equally
6. Plant growth was evaluated and logged.
7. Photographs were taken during the various stages of plant growth
8. On day 21 (April 4, 2018) the plants from the finished compost blend and unfinished compost blend were compared against the negative control (plants in 100% potting mix). A score was assigned to each of the compost blend pots. The scoring scale is outlined below (NOTE: Score scale is an excerpt from: *Washington State University Bioassay Test for Herbicide Residues in Compost*):

#### 4. SCORING SCALE

The scoring scale for this protocol utilized four different ratings ranging from “no symptoms” to “severe damage, as outlined below. The photographs in Appendix A were used as a comparison tool.

- 0 “No symptoms” – Leaves lie flat before opening. Leaves do not cup or curl upward
- 1 “Slight damage” – Leaves are somewhat cupped. Leaves do not lie flat before opening.
- 2 “Moderate damage” – Leaves are obviously cupped
- 3 “Severe damage” – Most leaves are cupped. Stems are twisted.

#### 5. GENERAL OBSERVATIONS / TIME TABLE

\*See Appendix E for growth chart and additional info.

Three pea seeds were planted at a depth of ½” in each of the nine pots on 3/14/2018. Bud(s) began to appear on 3/19/18 (Day 5).

Plant growth monitoring commenced on 3/22/18. Growth rates were monitored from 3/22/18 – 4/4/18 (as indicated in Appendix E). As the table in Appendix E indicates, growth rates varied.

All plants were equally watered (see Appendix E), and each plant was exposed to equal daylight and artificial light. The temperature never dropped below fifty degrees.

As indicated in Appendix E, as of Day 21, the tallest plant was 15.25 inches (Pot #3 – 100% potting soil). The second tallest plant was 15.25 inches (Pot #6 – finished compost blend), while the shortest plant was 4.375 inches (also Pot#6 – finished compost blend).

No “cupping” or upward curling of leaves was observed on any of the plants.

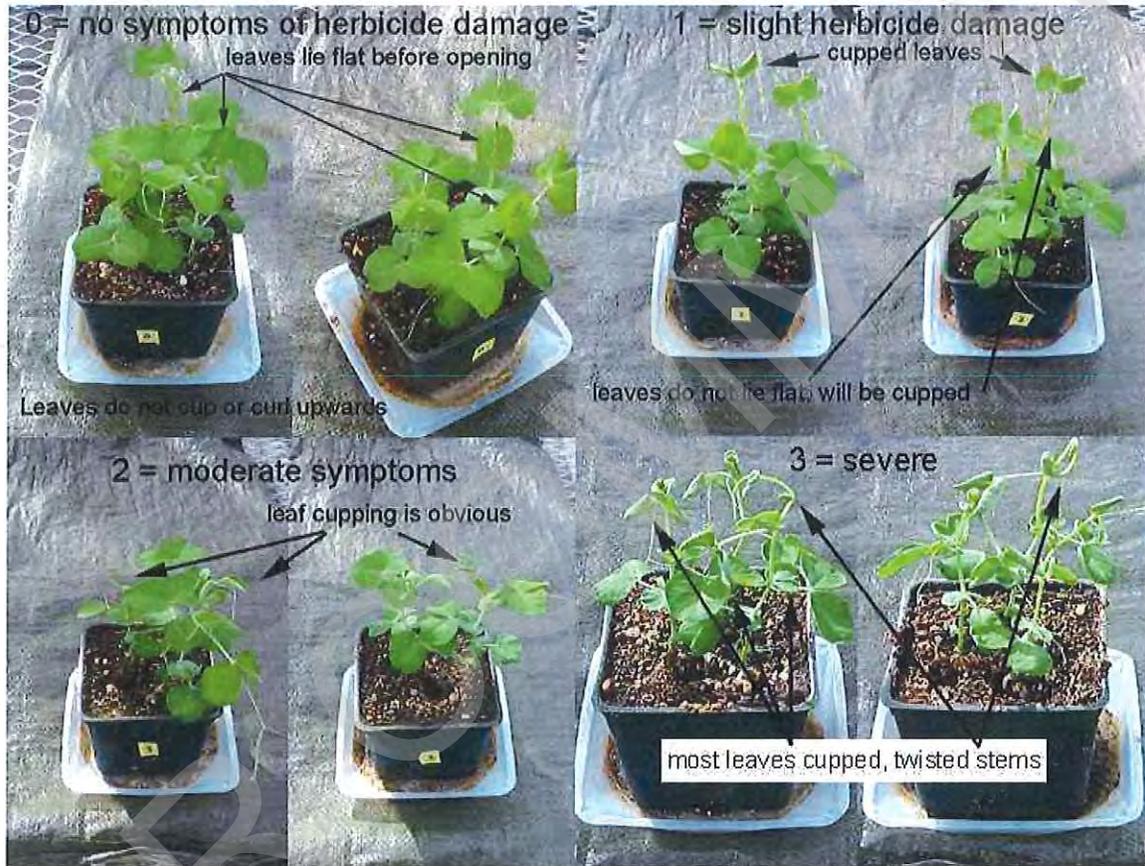
## **6. CONCLUSION:**

On day 21 (April 4, 2018) the plants in the finished compost blend (pots 4-6) and the plants in the unfinished compost blend (pots 7-9) were compared against the negative control plants (pots 1-3).

No “cupping” or upward curling of leaves was observed in any of the plants. The plants in all nine pots were scored as “0 - No symptoms.” There did not appear to be any indication of plant growth symptoms consistent with herbicide damage.

## Appendix A.

PHOTOGRAPHS OF PEA PLANTS WITH & WITHOUT CLOPYRALID DAMAGE  
(Excerpt: *Washington State University Bioassay Test for Herbicide Residues in Compost*)  
<http://www.puyallup.wsu.edu/soilmgmt/Pubs/CloBioassay.pdf>



**Appendix B**

Negative Control  
(100% Potting Mix)

April 4, 2018

Day 21



## Appendix C.

2:1 Finished Compost / Potting Mix

April 4, 2018

Day 21



**Appendix D.**

2:1 Unfinished Compost / Potting Mix

April 4, 2018

Day 21







## CONCORD PUBLIC WORKS

Highway and Grounds Division  
135 Keyes Road  
Concord, Massachusetts 01742

### **Concord Public Works Catch Basin Cleaning**

#### **Overview**

Concord Public Works' catch basin cleaning program encompasses the upkeep of catch basins, gutter inlets, leaching catch basins, and manholes to ensure the storm water drainage network is functioning properly.

#### **Catch Basin Cleaning Objectives**

Utilizing GIS mapping and a tablet for data tracking, at least 25% of the Town's catch basins are cleaned each year. During the cleaning process, the condition of the catch basin is assessed and any issues are recorded on the tablet, the height of the debris is measured prior to cleaning, and a measurement is taken when the basin cleaning is complete. During the process, the operator is continuously inspecting the debris for any unusual materials. This work is primarily completed with Town staff and contractors will assist as needed. This data collected during the inspection is entered into the tablet and stored within the Town's GIS database.

#### **Equipment**

The Town primarily uses a Town-owned clamshell catch basin cleaner and has access to a Town-owned vacuum/jetter truck.

#### **Management of Collected Debris**

There is a dedicated collection area at the Concord Public Works material storage yard located at 133 Keyes Road used to temporarily store catch basin debris during daily cleaning operations. The Town's Compost Site, located at 755 Walden Street, is used for debris storage during the season. Both areas have protective measures in place to prevent the debris from leaching away from the piles. Annually, the catch basins debris is disposed of in accordance with MassDEP regulations through the use of a contractor.



## CONCORD PUBLIC WORKS

Highway and Grounds Division  
135 Keyes Road  
Concord, Massachusetts 01742

### Snow and Ice Control Program Information

#### Concord Public Works and Public Works Commission Policy

To maintain a level of service that keeps Concord's street system, which includes sidewalks and parking lots, passable and safe for pedestrian and vehicular traffic; especially for emergency vehicles such as Fire, Police, Ambulance or any other vital service as much of the time as possible within the limitations imposed by the extremes of nature and the resources available.

#### Areas of Responsibility

- 107 miles of roadway
- 4 miles of private roads
  - In accordance with Town Bylaw adopted in 1964
- 44 miles of sidewalks
  - Clearing throughout network with treatment occurring only in proximity to schools and centers
- 12 Parking Lots
- Snow loaded out and hauled to either the snow storage site at the Landfill or Commonwealth Ave. during storm events

#### Program Goals

- Safety for all stakeholders including travelling public and public works employees
- Hydrant clearing for fire protection
- Utilization of technology and best management practices to improve efficiency
  - Brining
  - GPS
  - Ground speed controlled closed loop computerized spreader controls with annual calibration of all equipment
- Maintenance of equipment
  - Proper replacement schedule
  - Scheduled maintenance
  - Preventative maintenance
- Communication and outreach
  - Concord Journal
  - Town of Concord Website
  - Targeted mailings
- Environmental stewardship
- Prudent fiscal management

### **Plowing and Treatment Goals**

- Prevent bonding of snow and/or ice to pavement and sidewalks
- Sidewalk clearing has same priority as street clearing to ensure pedestrians are equally protected
- By-Law in place to address plowing of snow into public way – these activities usually leave large snow banks in the travel lane that can be hazardous to motorists

### **Snow Removal Program**

- Snow is removed from parking lot areas during storms when 3 or more inches of snow has accumulated
- Snow is removed from commercial areas at night after the storm has concluded, as needed, based on several factors to ensure a fiscally responsible decision is made:
  - Total accumulation and anticipated snowfall
  - Time of the year
  - Weather – will there be significant melting
- Snow removal for intersection visibility, road widening, and hydrant accessibility is completed when necessary

### **Equipment**

- 28 trucks/loaders with plows
- 5 sidewalk machines with plows and snow blowers
- 2 ground speed controlled salt applicators for sidewalk de-icing
- 10 salt spreaders for roadways
- Loader mounted snow blower
- 6 wing plows
- 5 underbody scrapers
- 8 trucks with SwapLoaders – bodies can be easily changed for different tasks
- Closed loop computerized ground speed controllers for precise salt application on all of the frontline salting trucks

### **Treatment Materials**

- Liquid salt brine pre-treatment applied to arterial roads and hills up to 36 hours before a storm to prevent the bond of snow and ice to paved surfaces and reduce the use of salt during a storm
- Salt
  - Due to the success of the pilot program in 2013-2014 to discontinue use of sand except for very limited use on sidewalks and steep grades for icing, Concord Public Works has continued the program
  - Results in reduction of catch basin maintenance issues and street sweeping
  - Minimization of airborne particulates caused by abrasives application
  - The primary supply of salt is stored in a covered shed and a small emergency supply is stored in a bin surrounded by large concrete blocks and covered with a trap. Both locations prevent the salt from leaching out of the structures.

- Liquid calcium chloride or liquid magnesium chloride with an organic additive is applied at a rate of 8 gallons per ton of salt when temperatures are at or are expected to fall below 17 degrees improve salt effectiveness

### **Snow Storage**

- Two locations are used for snow storage in accordance with MassDEP guidelines:
  - Compost Site at 755 Walden Street is used for snow removed from the downtown Concord area
  - MCI (Massachusetts Department of Corrections) property at 407 Commonwealth Avenue and Town of Concord property at 40A Commonwealth Avenue (adjoining properties) is used for snow removed in the West Concord business district
- The sites are prepared prior to winter with the appropriate erosion controls installed which are removed in the spring
- Both properties cleaned and fully restored in the spring

### **Annual Training**

- Staff training held each fall highlighting program expectations
- Review of reduced salt areas to protect water supply
  - Hugh Cargill Well
    - Reduce salt on Walden Street from Magnolia Street to Rte. 2 and Walden Street from Everett Street to Walden Street
  - Deaconess Well
    - Reduce salt on Old Road to Nine Acre Corner from Old Marlboro Road to Williams Road
  - Robinson Well
    - Reduce Salt on Sudbury Road from Rte. 2 to Heath's Bridge Road
- Assign routes and responsibilities
- Inspection and orientation of equipment as assigned
- Driving of routes to mark hazards
- Safety reminders, customer service responses, radio operations
- Coordination with School Dept., Fire, Police and Chamber of Commerce



## CONCORD PUBLIC WORKS

Highway and Grounds Division  
135 Keyes Road  
Concord, Massachusetts 01742

### **Concord Public Works Street Sweeping Program**

#### **Overview**

Concord Public Works' street sweeping program covers approximately 107 lane miles of public roadways, the paved portion of the four miles of private roads that the Town plows and treats during the winter, Town parking lots, and the sidewalks included in the sidewalk sweeping program (described below).

#### **Objectives**

##### Spring Sweeping

- All 107 miles of public streets, the paved portion of the four miles of private roads the town maintains during the winter, all Town parking lots, and sidewalks included in the sidewalk program are swept beginning in the early spring with the goal of completion by the beginning of June. The goal of this portion of the program is to remove sand, silt, and other debris that has accumulated in roadway gutters and on sidewalks over the winter.

##### Weekly Sweeping

- Beginning in the early spring and continuing into the late fall, the downtown and commercial areas in Concord and West Concord are swept early Friday Mornings. The goal of this program is to remove debris from the roadways and to enhance the beauty of the areas.

##### Fall Sweeping

- As time and resources permits, fall sweeping is limited to arterial roads to remove leaf debris that could restrict water flow into the drainage structures. The goal of this program is to minimize the debris entering the MS4 system and prevent drainage issues caused by blocked catch basins.

##### Sidewalk Sweeping Program

Paved surfaces of sidewalks included in this program are mechanically swept once in the spring using a small tractor with a power rotary broom. The tractor is equipped with an enclosed cab and a water system for dust suppression. A crew member with a backpack blower follows behind the sidewalk broom. The backpack blower will clean the paved surface of the sidewalk, tree lawn areas, grass areas where there may be a stone wall or guardrail near the sidewalk, and the ends of driveways. Enough water must be applied with the sidewalk broom to suppress any dust and the crew member must wear the appropriate

respiratory protection as part of their PPE. This crew member should be picking up any large debris and disposing of it in the front bucket of the sweeper.

**Sidewalks included in the program:**

Lowell Rd (Town line to Main St)  
Barretts Mill Rd (Rt 2 to Lowell Rd)  
Old Bedford Rd (Town line to Lexington Rd)  
Bedford St (Old Bedford to Main St)  
Lexington Rd (Old Bedford Rd to Main St)  
Cambridge Turnpike (Hawthorne Ln to Lexington Rd)  
Keyes Rd (Lowell Rd to Main St)  
Heywood St (Lexington Rd to Walden St)  
Walden St (Heywood Rd to Main St)  
Laurel St (Walden St to Thoreau St)  
Everett St (Walden St to Thoreau St)  
Hubbard St (Walden St to Thoreau St)  
Stow St (Laurel St to Sudbury Rd)  
Main St (Lexington Rd to town line)  
Sudbury Rd (Main St to Heath's Bridge Rd)  
Elm St (Main St to Rt 2)  
ORNAC (Main St to Newbury Ct)  
Old Marlboro Rd (ORNAC to Hunter's Ridge Rd)  
Old Pickard Rd (Old Marlboro to town line)  
Powder Mill Rd (Stone Root Ln to Peter Bulkeley Rd)  
Commonwealth Ave (Main St to RT 2)  
Laws Brook Rd (Commonwealth Ave to town line)  
Conant St (Laws Brook to Main St)  
Church St (Main St to Main St)  
Prairie St, Brown St, Central St, West St, Pleasant St, Pine St neighborhood

**Equipment**

The Town uses two Elgin Pelican three-wheel mechanical broom sweepers to complete the street sweeping program in a timely manner. The Town utilizes a Holder sidewalk tractor and a Whacker wheel loader both equipped with power rotary brooms for the sidewalk program. Each of the sweepers is equipped with water systems for dust suppression.

**Management of Collected Debris**

There is a dedicated collection area at the Concord Public Works material storage yard located at 133 Keyes Road used to temporarily store street sweeping debris during daily cleaning operations. The Town's Compost Site, located at 755 Walden Street, is used for debris storage during the season. Both areas have protective measures in place to prevent the debris from leaching away from the piles. Annually, the catch basins debris is disposed of in accordance with MassDEP regulations through the use of a contractor.



## CONCORD PUBLIC WORKS

Highway and Grounds Division  
135 Keyes Road  
Concord, Massachusetts 01742

### **Concord Public Works Grounds Maintenance Program**

#### **Overview**

Concord Public Works' utilizes best management practices in its care of the Town's athletic fields, parks, lawn areas, and other maintained open spaces. These areas are maintained in a manner that enhances their beauty and functionality to promote use and enjoyment of this precious resource.

#### **Turf Care Objectives**

##### Mowing

- Areas are mowed on a regular basis so no more than 1/3 of the leaf blade is removed
- Mowing height is 2.5"-3.0"
- Blades are sharpened regularly
- All landscaping equipment is inspected daily to ensure there are no fluid leaks
- All Grass clippings are mulched and reincorporated back into the lawn
- At the conclusion of mowing, any grass clippings on paved surfaces are blown onto the grass surface.

##### Soil Testing

- Soil testing is completed every two years on all areas

##### Fertilization and pH Adjustments

- Fertilizer is applied 3-4 times annually in accordance with Massachusetts Department of Agricultural Resources regulations
- Fertilizers containing some organic materials are preferred
- Soil pH is adjusted as needed based on test results

##### Pesticides

- The Town of Concord does not use pesticides in the maintenance of the Town's grounds

##### Aeration and Overseeding

- In the fall, grass areas are aerated and slice seeded at a rate 3-4 pounds of seed per 1000 square feet of lawn area to promote healthy turf without the use of pesticides

#### **Spring and Fall Cleanup Objectives**

- When leaves begin to accumulate on the grass surfaces, the Town mulches the leaves with mowers and incorporates the mulch into the soil

- Once it is not feasible to mulch leaves with mowers, the Town uses a powered leaf vacuum to load leaves into a dump truck
- Paved surfaces near grass areas are cleared using blowers to prevent leaf debris from entering the MS4 system
- Every attempt is made to get all of the leaf debris removed before winter; spring cleanups are completed as needed.

### **Equipment**

A wide variety of equipment is utilized to maintain the Town's athletic fields, parks, lawn areas, and other maintained open spaces. All mowing equipment is either side discharge or mulching.

### **Management of Collected Debris**

The Town's Compost Site, located at 755 Walden Street, is used to compost leaf debris. After the appropriate time has passed for composting, the material is screened and provided to residents free of charge.