

City of Chicopee

STORMWATER MANAGEMENT PLAN

NPDES Permit # MA041003

June 2019

Tighe&Bond
Engineers | Environmental Specialists

Tighe&Bond

CONTENTS

Section 1 Introduction

1.1 Purpose of this Plan1-1

1.2 Regulatory Requirements1-2

 1.2.1 Overview of EPA's NPDES MS4 Program1-2

 1.2.2 Chicopee's Regulated Area1-3

1.3 Chicopee's Stormwater Management Program under the 2003 Small MS4 General Permit.....1-4

 1.3.1 MCM 1: Public Education and Outreach1-4

 1.3.2 MCM 2: Public Involvement and Participation1-5

 1.3.3 MCM 3: Illicit Discharge Detection and Elimination.....1-5

 1.3.4 MCM 4: Construction Site Stormwater Runoff Control and MCM 5: Post-Construction Stormwater Management1-5

 1.3.5 MCM 6: Pollution Prevention and Good Housekeeping1-6

 1.3.6 Additional Permit Requirements1-6

1.4 Summary of Requirements of the 2016 Small MS4 General Permit1-7

1.5 Authorization for the City of Chicopee to Discharge Stormwater Under the 2016 Small MS4 General Permit1-8

1.6 General Eligibility Determination1-8

1.7 Special Eligibility Determinations.....1-8

 1.7.1 Endangered Species Act1-8

 1.7.2 National Historic Preservation Act1-9

1.8 SWMP Program Implementation1-9

Section 2 Watershed Resources

2.1 Watershed Inventory2-1

2.2 Receiving Waters2-1

2.3 Water Quality2-3

 2.3.1 2014 Integrated List of Waters2-3

 2.3.2 Draft 2016 Integrated List of Waters2-5

 2.3.3 Stormwater Pollutants of Concern2-5

 2.3.4 Applicable TMDLs2-5

Section 3 BMPs to Address 2016 Small MS4 General Permit MCMs

3.1 MCM 1: Public Education and Outreach3-1

 3.1.1 MCM 1 BMPs from NOI3-1

 3.1.2 MCM 1 Implementation Plan3-2

 3.1.3 MCM 1 Implementation Schedule3-5

 3.1.4 Public Education and Outreach Goals and Progress3-5

 3.1.5 MCM 1 Guidelines and Resources3-6

 3.1.6 MCM 1 Checklist of Key Documentation.....3-6

3.2 MCM 2: Public Involvement and Participation3-7

- 3.2.1 MCM 2 BMPs from NOI 3-7
- 3.2.2 MCM 2 Implementation Plan 3-8
- 3.2.3 MCM 2 Implementation Schedule 3-9
- 3.2.4 MCM 2 Guidelines and Resources 3-9
- 3.2.5 MCM 2 Checklist of Key Documentation..... 3-9
- 3.3 MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program 3-10
 - 3.3.1 MCM 3 BMPs from NOI 3-10
 - 3.3.2 MCM 3 Implementation Plan 3-10
 - 3.3.3 MCM 3 Implementation Schedule 3-13
 - 3.3.4 MCM 3 Guidelines and Resources 3-13
 - 3.3.5 MCM 3 Checklist of Key Documentation..... 3-14
- 3.4 MCM 4: Construction Site Stormwater Runoff Control 3-14
 - 3.4.1 MCM 4 BMPs from NOI 3-14
 - 3.4.2 MCM 4 Implementation Plan 3-15
 - 3.4.3 MCM 4 Implementation Schedule 3-17
 - 3.4.4 MCM 4 Guidelines and Resources 3-17
 - 3.4.5 MCM 4 Checklist of Key Documentation..... 3-17
- 3.5 MCM 5: Post-Construction Stormwater Management 3-18
 - 3.5.1 MCM 5 BMPs from NOI 3-18
 - 3.5.2 MCM 5 Implementation Plan 3-19
 - 3.5.3 MCM 5 Implementation Schedule 3-20
 - 3.5.4 MCM 5 Guidelines and Resources 3-21
 - 3.5.5 MCM 5 Checklist of Key Documentation..... 3-21
- 3.6 MCM 6: Good Housekeeping and Pollution Prevention 3-22
 - 3.6.1 MCM 6 BMPs from NOI 3-22
 - 3.6.2 MCM 6 Implementation Plan 3-23
 - 3.6.3 MCM 6 Implementation Schedule 3-24
 - 3.6.4 MCM 6 Guidelines and Resources 3-25
 - 3.6.5 MCM 6 Checklist of Key Documentation..... 3-25

Section 4 BMPs to Address Specific Waterbody Requirements

- 4.1 Long Island Sound TMDL for Nitrogen 4-1
 - 4.1.1 Enhanced BMPs..... 4-1
 - 4.1.2 Other Enhanced Requirements 4-2
- 4.2 Water Quality Limited Waterbodies 4-2
 - 4.2.1 Enhanced BMPs for *E. Coli* and Fecal Coliform 4-2
 - 4.2.2 Enhanced BMPs for TSS 4-3
- 4.3 Additional Requirements for Discharges to Surface Drinking Water
Supplies and Their Tributaries..... 4-4

Section 5 Program Evaluation, Record Keeping, and Reporting

- 5.1 Program Evaluation 5-1

5.2 Record Keeping.....5-1
5.3 Annual Reports5-1
5.4 SWMP Modifications.....5-3

Section 6 SWMP Certification

List of Tables

Table 1-1 Names and Titles of Persons Responsible for SWMP Implementation
Table 2-1 Summary of Receiving Waters and Number of Outfalls
Table 2-2 Year 2014 Integrated List of Waters Impairments in Chicopee, MA

List of Figures

Figure 1.1 Location of Chicopee, Hampden County, Massachusetts
Figure 1.2 Chicopee’s Urbanized Area Based on 2000 and 2010 Census
Figure 2.1 Subdrainage Basins of the CT River Watershed
Figure 2.2 Major Watersheds of the Long Island Sound Drainage Basin
Figure 2.3 2010 Waterbody Assessment and TMDL Status Map of Chicopee

Appendices

Appendix A Notice of Intent and Authorization to Discharge Letter from EPA
Appendix B Summary of 2003 and 2016 Small MS4 General Permit BMPs
Appendix C Endangered Species Act Eligibility Certification Documentation
Appendix D National Historic Preservation Act Eligibility Certification Documentation
Appendix E Reference Documents
Appendix F Record Keeping
Appendix G Sanitary Sewer Overflow Inventory
Appendix H Plan Amendment Log
Appendix I Delegation of Authority Documentation
Appendix J IDDE Plan

J:\C\C5000 Chicopee\027 MS4 SWMP\Permitting\SWMP\Draft Chicopee SWMP.docx

Commonly Used Abbreviations	Definition
BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMRSWC	Central Massachusetts Regional Stormwater Coalition
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DPW - WPC	Department of Public Works - Water Pollution Control
EPA	Environmental Protection Agency
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
MACRIS	Massachusetts Cultural Resources Information System
MassDEP	Massachusetts Department of Environmental Protection
MCM	Minimum Control Measure
MSGP	Multi-Sector General Permit
MS4	Municipal Separate Storm Sewer System
MWRA	Massachusetts Water Resources Authority
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
POTW	Publicly Owned Treatment Works
PSA	Public Service Announcement
PVPC CRSWC	Pioneer Valley Planning Commission Connecticut River Stormwater Coalition
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow
SWMP	Stormwater Management Program
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USFWS	U.S. Fish & Wildlife Service
WPCF	Water Pollution Control Facility

Tighe&Bond

SECTION 1

Section 1

Introduction

The City of Chicopee is located on the Connecticut River in Hampden County in the Pioneer Valley region of southwestern Massachusetts. Chicopee is a part of the City of Springfield Metropolitan Statistical Area, and is approximately three miles northwest of downtown Springfield. It is abutted by the Cities of Springfield to the south, West Springfield to the southwest, and Holyoke to the west, the Towns of Ludlow to the east, South Hadley to the north, and Granby to the northeast. The western border of the City is the Connecticut River.

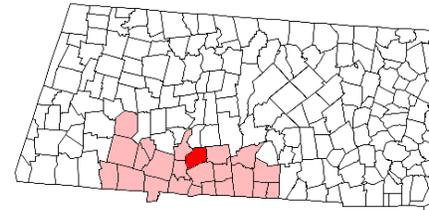


Figure 1.1 Location of Chicopee, Hampden County, Massachusetts

The City of Chicopee is made up of the neighborhoods of Aldenville, Willamansett, Chicomansett, Ferry Lane, Chicopee Center (Cabotville), Sandy Hill, Chicopee Falls, Fairview, and Burnett Road, and is home to the Westover Air Reserve Base and Elms College.¹ The total area of Chicopee includes 22.91 square miles of land and 1.13 square miles of water.² As of the 2010 Census, Chicopee had a population of approximately 55,298 residents in 23,739 households, making it the second largest city by population in Western Massachusetts after Springfield.³

Protecting the quality of Chicopee's water resources, including ponds, rivers, and wetlands, is a priority for the City. The City has developed stormwater policy initiatives, provided education to its businesses and citizens, publicly discussed the issues related to stormwater runoff, and offered opportunities for residents and businesses to pitch in with clean-up efforts.

1.1 Purpose of this Plan

In an on-going effort to minimize stormwater impacts within Chicopee, the City has developed this Stormwater Management Plan (SWMP). The SWMP is required by the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts ("Small MS4 General Permit"). The SWMP describes and details the activities and measures that will be implemented by the City to meet the terms and conditions of the permit.

The City of Chicopee has combined sewer overflows (CSOs), and has been actively working to address CSO discharges. As areas of the combined sewer are eliminated, they will be incorporated into the MS4 system.

¹ City of Chicopee's website accessed online at: <https://www.chicopeema.gov/438/About-Chicopee>

² City of Chicopee, *Connections, Chicopee's Open Space and Recreation Plan*, July 2015. Accessed online at: <https://www.chicopeema.gov/DocumentCenter/View/3018/Chicopee2015OSRP?bidId=>

³ U.S. 2010 Census City of Chicopee, Massachusetts Quick Facts Table, accessed online at: <https://www.census.gov/quickfacts/fact/table/chicopeecitymassachusetts,US/PST045218>

The SWMP will be updated and/or modified during the permit term as the City's activities are modified, changed, or updated to meet permit conditions. Other requirements of the 2016 Small MS4 General Permit, such as a Notice of Intent (NOI), Authorization to Discharge letter, and Endangered Species Act and Historic Properties eligibility criteria documentation are located in the Appendices of this Plan.

1.2 Regulatory Requirements

1.2.1 Overview of EPA's NPDES MS4 Program

Through the NPDES program, the EPA nationally regulates the discharge of stormwater runoff that is transported into local water bodies via MS4s.

EPA's MS4 stormwater program was enacted in two phases:

- Phase I, issued in 1990, requires *medium* and *large* cities or certain counties with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges.
- Phase II, issued in 1999, requires regulated *small* MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges.

A **municipal separate storm sewer system (MS4)** is a conveyance or system of conveyances that is:

- owned by a state, city, City, village, or other public entity that discharges to waters of the U.S.,
- designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
- not a combined sewer, and
- not part of a sewage treatment plant, or publicly owned treatment works (POTW).

In Massachusetts, the EPA Region 1 and the Massachusetts Department of Environmental Protection (MassDEP) jointly administer the municipal stormwater program. EPA and MassDEP originally authorized Chicopee to discharge stormwater in 2003 under a *NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems*, known as the "2003 Small MS4 General Permit."

Under the 2003 Small MS4 General Permit, the City has developed and implemented a Stormwater Management Program to reduce the contamination of stormwater runoff. The Small MS4 Program contains six "minimum control measures" (MCMs) that, when implemented, should result in a reduction in pollutants discharged into receiving waters:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Good Housekeeping and Pollution Prevention

The 2003 Small MS4 General Permit expired in May 2008, but remained in full force and effect until the 2016 replacement permit, became effective on July 1, 2018. The reissued NPDES *General Permit for Stormwater Discharges from Small MS4 in Massachusetts* substantially increases stormwater management requirements and mandates specific timelines for compliance. This SWMP was developed to be consistent with the requirements of the 2016 Small MS4 General Permit for Massachusetts. Once implemented, the SWMP described herein will satisfy the requirements for compliance under the 2016 Small MS4 General Permit.

1.2.2 Chicopee’s Regulated Area

The City of Chicopee meets EPA’s regulatory threshold for Phase II of the MS4 program, and therefore is required to be covered under a NPDES permit for its stormwater discharges from the MS4 in its Urbanized Area. The City of Chicopee is charged by the EPA with operating and maintaining its MS4 to manage stormwater runoff, as well as to protect public health and safety, preserve environmental resources, and safeguard City character.

Urbanized Areas (also known as “regulated areas”) are defined by the latest U.S. decennial census. An urbanized area encompasses a densely settled territory that consists of core census block groups or blocks that have a population of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile or are included to link outlying densely settled territory with a densely settled urban core.⁴

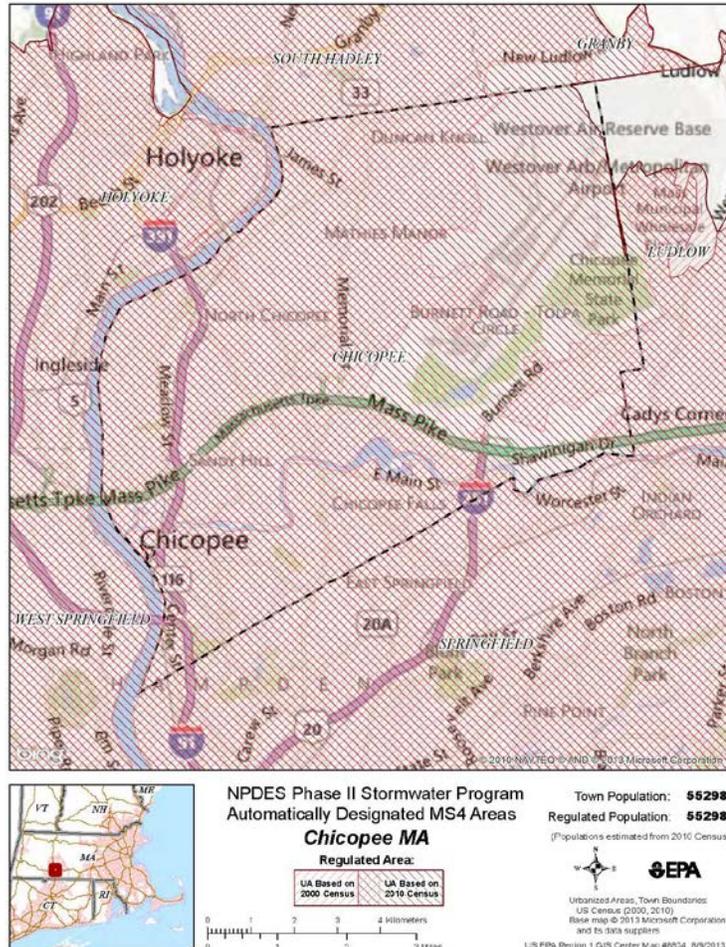


Figure 1.2. Chicopee’s Urbanized Area based on the 2000 and 2010 Census.

⁴ U.S. EPA. *Fact Sheet: Draft General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts*. September 2014. For a complete definition of Urbanized Area see Census Bureau; Urban Area Criteria for the 2010 Census, 76 Federal Register 53030 (August 24, 2011) <https://www.federalregister.gov/documents/2011/08/24/2011-21647/urban-area-criteria-for-the-2010-census>

According to EPA Region 1, the area covered by the 2000 census and the 2010 census are regulated by EPA under the MS4 program. Chicopee is considered to be urbanized area regulated under the MS4 program throughout the City with the exception of a small portion of the Westover Air Reserve Base in the northeast corner of the City, as illustrated by the hatching in Figure 1.2⁵.

1.3 Chicopee's Stormwater Management Program under the 2003 Small MS4 General Permit

Chicopee's stormwater management program is managed within the Department of Public Works - Water Pollution Control (DPW-WPC). Currently, stormwater management tasks are carried out by various City departments and volunteer boards, including the Planning Department, DPW, Engineering Department, GIS Department, and Conservation Commission. In 1999, the City of Chicopee adopted a user fee for stormwater management to generate revenue to support the City's sewer separation work and stormwater management program. The current stormwater fee structure⁶ charges \$25 per quarter for single family residential properties, and \$0.45 per 1,000 square feet of property for commercial, industrial, multiple dwelling, and all other properties.

The City of Chicopee has achieved all of the measurable goals for the BMPs selected in the 2003 NOI and those added in subsequent years to reflect unplanned stormwater activities by the City. The following paragraphs include brief descriptions of current practices the City undertakes as part of its Stormwater Management Program.

1.3.1 MCM 1: Public Education and Outreach

The City met the 2003 Small MS4 General Permit requirement of distributing educational material to the community early in the permit term through passive distribution of educational materials via educational displays and videos on the City's website⁷, and continues to post stormwater information and links to educational information regarding stormwater and the Connecticut River, proper methods for pet waste disposal, and pollution prevention for residents and businesses.

The City continues to perform public education and outreach through various media methods, including membership in the Pioneer Valley Planning Commission's Connecticut River Stormwater Committee (PVPC CRSWC). The City has public service announcements (PSAs) on three of its vehicles: one stormwater pollution and cigarette butts PSA on a combined sewer overflow (CSO) work truck, and two PSAs on stormwater pollution and pet waste on vacuum trucks. Additionally, the city has posted signs at all active CSOs to inform residents of the location and possibility of overflows, created and posted 10 signs throughout the City to remind pet owners about proper pet waste disposal, supported water quality testing of local waterbodies by the Chicopee High School Chemistry class, and offered tours of the treatment works at the City of Chicopee Water Pollution Control Facility (WPCF) for students and residents of the City.

⁵ NPDES Phase II Stormwater Program Regulated Area Map for the City of Chicopee, accessed online at: <https://www3.epa.gov/region1/npdes/stormwater/ma/ram/Chicopee.pdf>

⁶ City of Chicopee Sewer and Storm Fee Rates, <https://www.chicopeema.gov/704/Sewer-and-Storm-Fee-Rates>

⁷ City of Chicopee Water Pollution Control Department website accessed online at: <https://www.chicopeema.gov/246/Water-Pollution-Control>

The City also places door hangers on homes in neighborhoods where catch basins are being cleaned and conducts an annual household hazardous waste collection day.

1.3.2 MCM 2: Public Involvement and Participation

The City posts notices of public meetings and hearings on the City website, which complies with State and Local public meeting notice requirements. The City provides many opportunities for the public to participate in implementation of the stormwater management program. Residents of all ages can participate in pollution prevention through recycling, Adopt-a-Road program cleanup events, and proper disposal of household hazardous waste. The door hangers provided by the City during catch basin cleaning publicize a community hotline to facilitate reporting of dumping, spills, and illicit discharges, and the DPW-WPC continues to install placards on catch basins with “no dumping” messages.

1.3.3 MCM 3: Illicit Discharge Detection and Elimination

The City has developed and implemented an Illicit Discharge Detection and Elimination (IDDE) program in accordance with the requirements of the 2003 Small MS4 General Permit. The City met the illicit discharge educational requirements through press releases and website article publication early in the permit term.

All known stormwater outfalls are mapped in the City’s GIS, and new outfalls are added as they are constructed or identified. The City’s *Stormwater Management Ordinance* (City Code Chapter 231⁸), adopted by the Board of Aldermen (now City Council) on October 21, 2003, prohibits illicit connections and unauthorized discharges to the MS4, defines prohibited non-stormwater discharges, and establishes the City’s authority to ensure compliance through inspection, monitoring, and enforcement.

The City continues to work on identifying illicit discharges through an outfall sampling program, uses a video camera to inspect storm drain pipes and sewer mains as needed to follow up on illicit discharge discoveries, inspects septic system failures to identify problem areas through the Health Department, and allows Chicopee residents with recreational vehicles to dump their septage at the WPCF at no cost in order to deter illegal dumping.

1.3.4 MCM 4: Construction Site Stormwater Runoff Control and MCM 5: Post-Construction Stormwater Management

The City’s *Stormwater Management Ordinance* (Chapter 231) applies to activities that will result in disturbance of 40,000 square feet of land or will be part of a segmented or phased project that will eventually disturb greater than 40,000 square feet of land, and requires proponents of such projects to prepare, submit, and follow an approved stormwater management and erosion control plan. The ordinance includes penalties for violations and requirements for inspections and long-term operation and maintenance.

⁸ City of Chicopee Code of Ordinances, accessed online at: <https://ecode360.com/6480440>

The Planning Department reviews projects for stormwater management compliance, the Conservation Commission reviews projects under jurisdiction of the Massachusetts Wetlands Protection Act and the City of Chicopee Wetlands Protection Ordinance for stormwater management compliance, and the Engineering Department reviews commercial and subdivision sites along with infrastructure improvements.

1.3.5 MCM 6: Pollution Prevention and Good Housekeeping

The City of Chicopee has developed and implemented a Good Housekeeping and Pollution Prevention Program in accordance with the 2003 Small MS4 General Permit requirements. All streets in the City are swept at least twice per year, with three mechanical sweepers on the road continuously from March through December. Per the 2017-2018 Annual Report, the Central business districts, Chicopee Falls, Fairview, Willamansett, Aldenville, and Chicopee Center areas were all swept once per week in 2017. The City annually cleans and maintains catch basins, with 692 catch basins cleaned in 2018.⁹ Maintenance/housekeeping training is held annually.

1.3.6 Additional Permit Requirements

1.3.6.1 Groundwater Recharge and Infiltration

The City currently operates and maintains two green infrastructure facilities, a rainwater harvesting system at the Jones Ferry Combined Sewer Treatment System and stormwater infiltrators along a section of upper Granby Road.¹⁰

Item B(1a) in §231-5, Stormwater management performance standards, Minimum control requirements of Chapter 231, *Stormwater Management Ordinance*, ranks infiltration as the most preferred stormwater management measure, and item B(2) requires that infiltration practices be utilized to reduce increases in runoff volume. Item B(6)(c) in §231-5 requires that loss of annual recharge to groundwater be minimized through the use of infiltration measures to the maximum extent practicable.

1.3.6.2 Record Keeping

The City maintains stormwater management program records and summarizes the actions taken by MCM in the annual report to EPA.

1.3.6.3 Discharges to Water Quality Impaired Waters and Total Maximum Daily Load (TMDL) Allocations

Per the Massachusetts Year 2014 Integrated List of Waters, within the City of Chicopee, segments of the Connecticut River, Chicopee River, and Stony Brook, Poor Brook, Fuller Brook, and Abbey Brook are designated as Category 5 waters "requiring a TMDL" (Total Maximum Daily Load). The BMPs implemented as part of the 2003 Small MS4 General Permit MCMs and stormwater management program addressed reduction of contaminants from sources such as lawn care products, litter, winter road maintenance materials, construction activity erosion, illicit sewer discharges, pet waste, and failing septic systems.

⁹ City of Chicopee NPDES Phase II 2017 Annual Report, accessed online at: <https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/ma/reports/2018/Chicopee18.pdf>

¹⁰ PVPC, *Pioneer Valley Green Infrastructure Plan*, February 2014, accessed online at: <http://www.pvpc.org/sites/default/files/PVPC%20Green%20Infrastructure%20Plan%20FINAL%202018-14.pdf>

1.4 Summary of Requirements of the 2016 Small MS4 General Permit

EPA released a draft of a “next generation” Massachusetts Small MS4 General Permit for public comment on September 30, 2014. Following the public comment period and public hearings (which ended February 29, 2015), EPA responded to comments and finalized and promulgated the permit. The final permit was issued on April 13, 2016 with an effective date of July 1, 2017. On June 29, 2017, the EPA administratively postponed the effective date of the permit for one year to July 1, 2018. The MassDEP also adopted this delayed effective date.

The 2016 Small MS4 General Permit is intended to be more prescriptive than the 2003 Small MS4 General Permit, and to build upon the regulations already in place. The new General Permit substantially increases stormwater management requirements and mandates specific timelines for compliance, as summarized below:

1. **Public Education and Outreach:** More specific messages are required, and prescriptive deadlines compared to the 2003 Small MS4 General Permit.
2. **Public Involvement and Participation:** Public notice of the SWMP and an annual public meeting to provide an opportunity for public comments required.
3. **Illicit Discharge Detection and Elimination (IDDE) Program:** Interconnections are required to be added to the outfall inventory. Catchment areas need to be delineated and investigations prioritized. Dry weather screening and sampling of high priority and low priority MS4 interconnections and outfalls is required to be performed by the end of permit year 3. Wet weather screening is required to be performed in the spring for catchments with the presence of one or more System Vulnerability Factors. For impaired waters without TMDLs, a multi-step approach to address the discharges is required to be implemented, including Best Management Practices (BMPs), source identification, and an evaluation of retrofit feasibility.
4. **Construction Site Stormwater Runoff Control:** If it does not already exist, inspection and enforcement is required to be added to the site plan review procedure.
5. **Stormwater Management in New Development and Redevelopment:** For new development, the first inch of runoff from all impervious surfaces on site is required to be retained on-site, or pollutant removal shall be provided via a BMP. For redevelopment, the first 0.80 inches of runoff is required to be retained from all impervious surfaces on site or pollutant removal shall be provided via a BMP. Offsite mitigation may be used for redevelopment projects.
6. **Good Housekeeping and Pollution Prevention:** A program to repair and rehabilitate the MS4 infrastructure is required to be developed, and municipal streets are required to be swept/cleaned a minimum of once per year in the spring. All activities that occur at a municipal facility and potential pollutants associated with each activity are required to be included in the SWPPP for the facility.
7. **TMDLs:** Increased requirements for public outreach, street sweeping, and pollution source identification and removal relative to the 2003 Small MS4 General Permit.

According to Section 1.10.b of the 2016 Small MS4 General Permit, Chicopee must modify or update the BMPs being implemented under the 2003 Small MS4 General Permit to meet the terms and conditions of part 2.3 of the 2016 Small MS4 General Permit. **Appendix B** includes a list of BMPs completed under the 2003 Small MS4 General Permit and BMPs included in the NOI and SWMP which comply with the 2016 Small MS4 General Permit. This list identifies how the intent of each 2003 BMP is being met under the 2016 BMPs.

1.5 Authorization for the City of Chicopee to Discharge Stormwater Under the 2016 Small MS4 General Permit

A copy of the NOI submitted to EPA on September 25, 2018¹¹ for coverage under the 2016 Small MS4 General Permit is included in **Appendix A**. Documentation of the City of Chicopee's Authorization to Discharge issued by EPA on February 14, 2019¹² is also provided in **Appendix A**.

1.6 General Eligibility Determination

Section 1.2.1 of the 2016 Small MS4 General Permit authorizes the discharge of stormwater from small MS4s if the MS4 is determined to meet general eligibility criteria:

- *Small MS4 within the Commonwealth of Massachusetts*
- *Not a large or medium MS4 as defined in 40 CFR 122.26(b)(4) or (7)*
- *Located either fully or partially within an urbanized area as determined by the 2010 Census or located in a geographic area designated by EPA as requiring a permit*

The City of Chicopee is located within Hampden County, Massachusetts. The population of the City of Chicopee was 55,298 according to the 2010 Census, the MS4 is not within a designated County, and the City has not been designated by the Director as part of a large or medium MS4. As shown on Figure 1.2, based on 2000 and 2010 census listings, Chicopee is located within an urbanized area.

1.7 Special Eligibility Determinations

1.7.1 Endangered Species Act

Based on the National Endangered Species Eligibility Determination screening process outlined in Part 1.9.1 and Appendix C of the 2016 Small MS4 General Permit, the City of Chicopee meets Criterion C, where it has been determined that the City's 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 US Fish and Wildlife Service (USFWS). Refer to **Appendix C** of the SWMP for supporting information, including the USFWS New England Field Office Official Species List for the project area.

¹¹ <https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/chicopee.pdf>

¹² <https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/chicopee-auth.pdf>

1.7.2 National Historic Preservation Act

Based on the National Historic Preservation Act Eligibility Determination screening process outlined in Part 1.9.2 and Appendix D of the 2016 Small MS4 General Permit, the City of Chicopee meets Criterion A, as the discharges do not have the potential to cause effects on historic properties. Refer to **Appendix D** of the SWMP for supporting information, including a list of the federal- and state-listed historic areas, buildings, burial grounds, objects, and structures in the City of Chicopee's regulated area downloaded from the Massachusetts Cultural Resource Information System (MACRIS) and the National Register of Historic Places.

1.8 SWMP Program Implementation

As required by Section 1.10.2 of the 2016 Small MS4 General Permit, Table 1-1 below includes the names and titles of people responsible for program implementation and shall be updated annually. If a position is unfilled, the title of the position shall be listed and the SWMP will be modified to include the name once the position is filled.

Table 1-1
Names and Titles of Persons Responsible for SWMP Implementation

Name	Title	Department	Contact Information	Role / Responsibilities
Quinn Lonczak	Project Supervisor	DPW - WPC	QLonczak@ChicopeeMA.gov (413) 594-3588	Manages the City's SWMP and compliance with the MS4 Permit. Oversees stormwater operations, including outfall screening, IDDE training, and the Good Housekeeping program
Lee Pouliot	Director	Planning	LPouliot@ChicopeeMA.gov (413) 594-1515	Assists with development of construction and post-construction regulations, written procedures, inspections, and enforcement, and assessment of green infrastructure feasibility
(Vacant)	City Engineer	DPW	(Vacant)	Assists with development of construction and post-construction regulations, written procedures, inspections, and enforcement, and assessment of green infrastructure feasibility
Jim Dawson	Development Manager	Planning	(413) 594-1515	Assists with development of construction regulations and procedures
Barry Brouillard	Environmental Programs Coordinator	DPW	BBrouillard@ChicopeeMA.gov (413) 594-3557	Develops and implements Good Housekeeping programs
Elizabeth Botelho	DPW Superintendent	DPW	EBotelho@ChicopeeMA.gov (413) 594-3441	Assists with development, implementation, and enforcement of construction and post-construction regulations and written procedures, MS4 infrastructure O&M

Tighe&Bond

SECTION 2

Section 2 Watershed Resources

2.1 Watershed Inventory

The City of Chicopee is located within the Connecticut River and Chicopee River sub-watersheds within the Connecticut River watershed (Figure 2.1), which is a part of the Long Island Sound Drainage Basin (Figure 2.2).

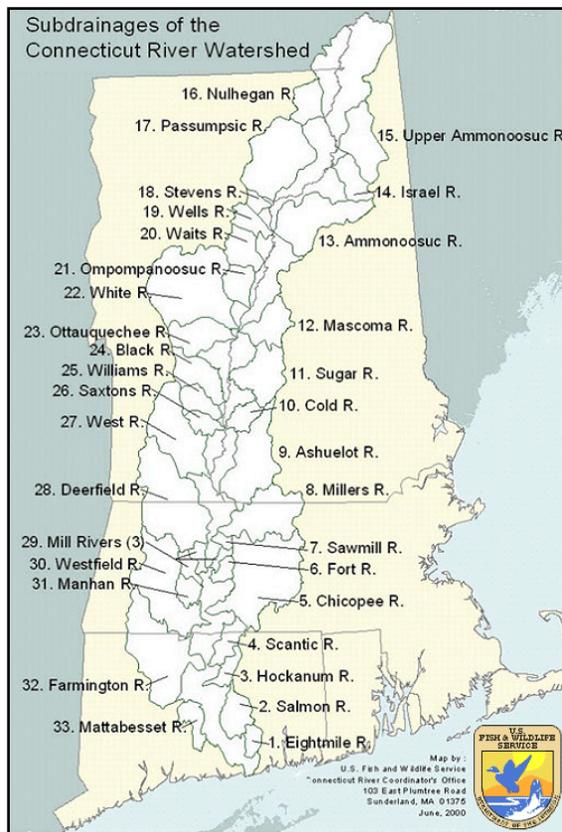


Figure 2.1. Subdrainage Basins of the CT River Watershed; the Chicopee River subdrainage is labeled as number 5.

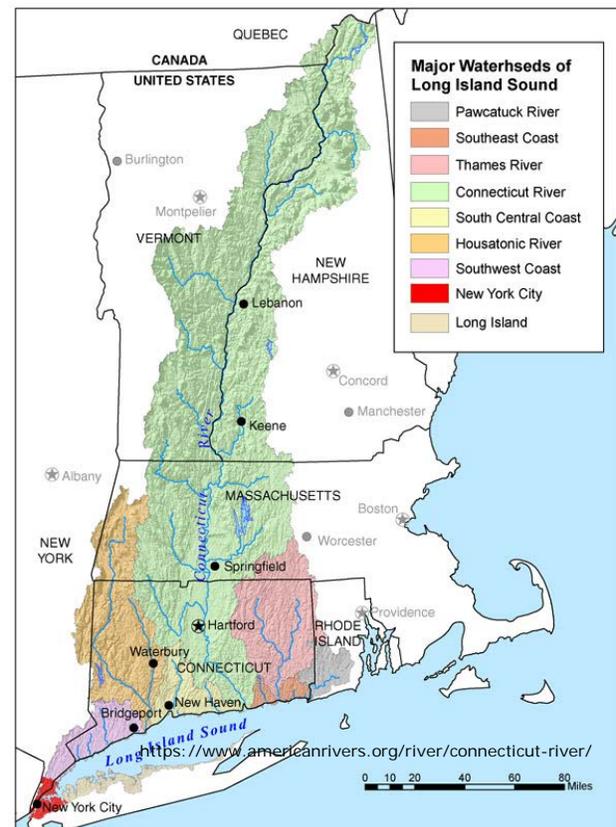


Figure 2.2. Major Watersheds of the Long Island Sound Drainage Basin; the Connecticut River is highlighted in green.

The Connecticut and Chicopee Rivers are the primary water resources for the City of Chicopee and provide the City with about 19 miles of riverfront land. The Chicopee River watershed is the largest of the 27 major drainage basins in Massachusetts and incorporates 842 miles of brooks and streams and 170 lakes, ponds, and reservoirs.

The section of the Connecticut River south of the Holyoke Dam to the Massachusetts / Connecticut state border is impacted by CSOs such that several locations within Chicopee are tested for *E. coli* weekly from May to September at popular river access spots, including the Medina Street boat ramp. The City has been working to reduce and eliminate its CSOs since 2001 and is implementing the plan recommended in its 2006 Final Long Term CSO Control Plan. The City is currently working with EPA and MassDEP on an Integrated Management Plan (IMP) to measure the success of completed CSO reduction projects and prioritize future CSO reduction projects among other needed infrastructure improvements,¹³ with submission of an IMP in October 2016 and revised submissions in September 2017 and October 2018. The IMP included a City-wide GIS-based Green Infrastructure Evaluation to screen available parcels for green infrastructure viability, as further discussed in BMP 5B in Section 5.1.2.

Other important waterbodies within the City include tributaries to the Chicopee River: Bisbee Brook, Poor Brook, Cooley Brook, Fuller Brook, Abbey Brook, Hearthstone Brook, and Girl Scout Brook; and tributaries to the Connecticut River: Willamansett Brook, Theroux Brook, and Stony Brook, and several ponds, vernal pools, and wetlands.

Although the majority of the land underneath the City is identified as an aquifer recharge area with potential for groundwater supply,¹⁴ the City of Chicopee's drinking water is supplied by the Quabbin Reservoir through the Metropolitan Water Resources Authority (MWRA). After leaving the reservoir, the raw water is treated at the William A. Brutsch Water Treatment Plant in Ware, stored at the covered Nash Hill storage tank in Ludlow, conveyed for further treatment at the City of Chicopee Water Treatment Plant, then then conveyed to distribution.¹⁵ A former public water supply reservoir in Chicopee is now part of Chicopee Memorial State Park and is used for recreational purposes only.

2.2 Receiving Waters

Table 2-1 lists all receiving waters and number of outfalls discharging to each waterbody segment. Receiving waters and outfalls are also shown on the map provided with the NOI in **Appendix A**. Waters identified as impaired per the Massachusetts Year 2014 Integrated List of Waters are further discussed in Section 2.3.

¹³ City of Chicopee, *Integrated Water Resources Mgmt Plan*, <https://www.chicopeema.gov/607/Integrated-Water-Resources>

¹⁴ City of Chicopee, *Connections, Chicopee's Open Space and Recreation Plan*, July 2015, accessed online at: <https://www.chicopeema.gov/DocumentCenter/View/3018/Chicopee2015OSRP?bidId=>

¹⁵ MWRA information on Quabbin water treatment and covered storage tanks, accessed online at: <http://www.mwra.com/04water/html/cvauv.html> and <http://www.mwra.state.ma.us/04water/html/cov.htm>

Table 2-1
Summary of Receiving Waters and Number of Outfalls

Waterbody Segment that Receives Flow from the MS4	# of Outfalls into Receiving Water Segment	Pollutant(s) Causing Impairments Per the Massachusetts 2014 Integrated List of Waters
Cooley Brook (MA36-38)	3	None listed
Wetland/Tributary to Cooley Brook (MA36-38)	3	None listed
Fuller Brook (MA36-41)	4	<i>Escherichia coli</i> (<i>E. Coli</i>)
Wetland/Tributary to Fuller Brook (MA36-41)	1	<i>E. coli</i>
Abbey Brook (MA36-40)	13	Total Suspended Solids
Unnamed Tributary (Poor Brook) (MA36-39)	1	<i>E. coli</i>
Wetland/Tributary to Unnamed Tributary (Poor Brook) (MA36-39)	2	<i>E. coli</i>
Chicopee River (MA36-24)	16	Fecal Coliform
Wetland/Tributary to Chicopee River (MA36-24)	31	Fecal Coliform
Chicopee River (MA36-25)	32	<i>E. coli</i>
Wetland/Tributary to Chicopee River (MA36-25)	36	<i>E. coli</i>
Connecticut River (MA34-05)	37	<i>E. coli</i> Total Suspended Solids PCB in Fish Tissue
Wetland/Tributary to Connecticut River (MA34-05)	9	<i>E. coli</i> Total Suspended Solids Polychlorinated Biphenyls (PCB) in Fish Tissue
Stony Brook (MA34-19)	1	<i>E. coli</i> Total Suspended Solids Non-Native Aquatic Plants*
Chicopee Reservoir (MA36033)	2	None listed
Mountain Lake	8	None listed
Wetland/Tributary to Mountain Lake	9	None listed
Isolated Wetland Blanchard Street	1	None listed
Isolated Wetland Burnett Road	2	None listed
Isolated Wetland Granby Road	2	None listed
Isolated Wetland Montgomery Street	9	None listed
Isolated Wetland Springfield Street	1	None listed
Outside Receiving Waterbody	587	Not applicable
Total	810	

* No TMDL required

2.3 Water Quality

To meet the requirements of the Clean Water Act (CWA), States must assess and categorize surface water bodies for attainment of designated uses (habitat for fish, fish and shellfish consumption, swimming, etc.). States must also identify any water bodies that are not expected to meet surface water quality standards after implementation of technology-based controls. These sources are prioritized for establishing TMDLs for use in permit setting.

Massachusetts meets the CWA reporting requirements through the creation of an Integrated Waters List in which waters are categorized as follows:

1. Unimpaired
2. Attaining some uses; others not assessed
3. No uses assessed
- 4a. TMDL completed
- 4b. Impairment controlled by alternative pollution control requirements
- 4c. Impairment not caused by pollutant (i.e., non-native aquatic plants)
5. TMDL required

Waterbodies classified as Category 4a and Category 5 (“water quality limited” waterbodies) do not meet CWA designated uses, and stormwater pollutants of concern will need to be addressed. Figure 2.3 shows the 2010 TMDL status of waterbodies within the City of Chicopee.

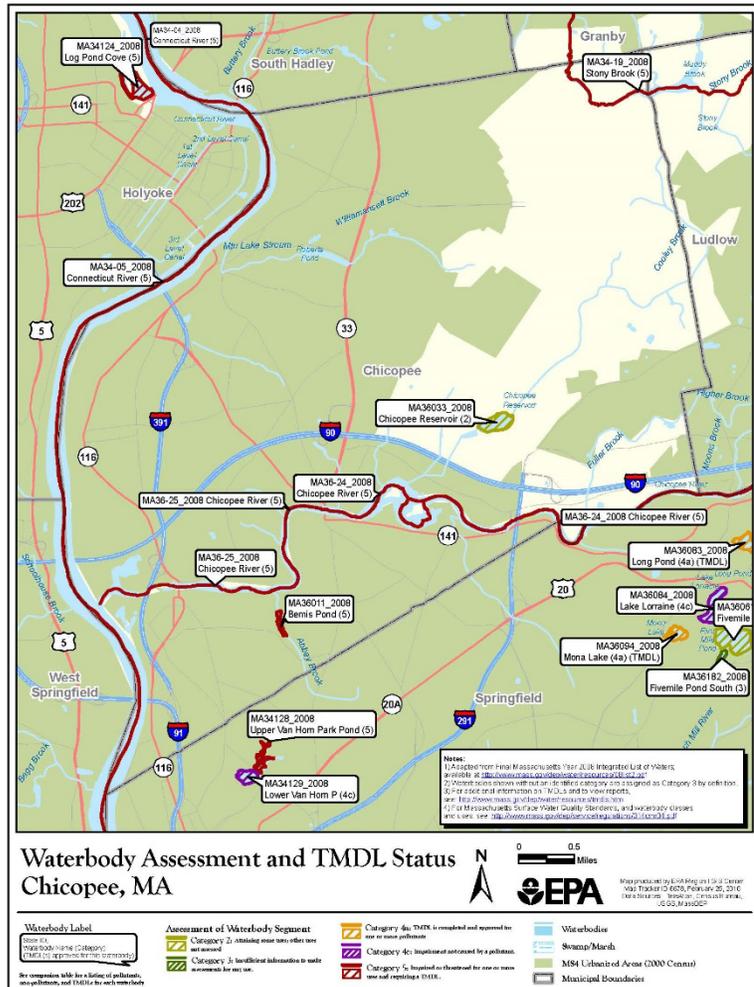


Figure 2.3. 2010 Waterbody Assessment and TMDL Status Map of Chicopee.

2.3.1 2014 Integrated List of Waters

As of the date of this SWMP, Massachusetts waters categorized as impaired surface waters were identified in the Final Massachusetts Year 2014 Integrated List of Waters.¹⁶ Waterbodies identified on the Integrated List within Chicopee are listed in Table 2-2.

¹⁶ MassDEP, Bureau of Water Resources, *Final Massachusetts Year 2014 Integrated List of Waters*, December 2015, accessed online at: <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>.

Table 2-2

Massachusetts Year 2014 Integrated List of Waters Impairments in Chicopee, MA

Category 2 Waters: Attaining Some Uses; Other Uses Not Assessed						
Waterbody Segment	Uses Attained					
	Aesthetic	Fish, other Aquatic Life and Wildlife	Primary Contact Recreation	Secondary Contact Recreation	Shellfish Harvesting	
Cooley Brook (MA36-38)	X	X	X	X		
Higher Brook (MA36-42)	X	X	X	X		
Category 3 Waters: No Uses Assessed						
Waterbody Segment	Location Description					
Chicopee Reservoir (MA36033)	Chicopee					
Category 5 Waters: Waters Requiring a TMDL						
Waterbody Segment	Location Description	Impairment Cause				
Abbey Brook (MA36-40)	Headwaters west of St. James Avenue, Springfield through Bemis Pond to confluence with Chicopee River	Total Suspended Solids (TSS)				
Chicopee River (MA36-24)	Wilbraham Pumping Station, Wilbraham / Ludlow to Chicopee Falls Dam	Fecal coliform				
Chicopee River (MA36-25)	Chicopee Falls Dam, Chicopee to confluence with Connecticut River, Chicopee	<i>Escherichia coli</i>				
Fuller Brook (MA36-41)	From Ludlow / Chicopee boundary where name changes from Higher Brook to confluence with Chicopee River	<i>Escherichia coli</i>				
Unnamed Tributary (Poor Brook) (MA36-39)	From headwaters near Conrail tracks, Springfield to confluence with Chicopee River	<i>Escherichia coli</i>				
Connecticut River (MA34-05)	Holyoke Dam, Holyoke / South Hadley to MA / CT border	<i>Escherichia coli</i> PCB in Fish Tissue Total Suspended Solids (TSS)				
Stony Brook (MA34-19)	Headwaters, Granby to confluence with Connecticut River, South Hadley	(Non-Native Aquatic Plants)* <i>Escherichia coli</i> Turbidity				
*TMDL not required (non-pollutant)						

2.3.2 Draft 2016 Integrated List of Waters

A draft 2016 Integrated List of Waters is available from MassDEP,¹⁷ which makes the following changes from the 2014 Integrated List of Waters:

- Chicopee Reservoir (MA36033): listing changed from Category 3 (No uses assessed) to Category 2 (Attaining some uses; other uses not assessed) with Primary and Secondary Contact Recreation Uses Attained
- Cooley Brook (MA36-38) and Higher Brook (MA36-42): Category 2 uses of Aesthetic and Primary and Secondary Contact Recreation no longer listed as uses attained
- Abbey Brook (MA36-40) and Chicopee River (MA36-24): added *E. coli* as a Category 5 impairment
- Unnamed Tributary (Poor Brook, MA36-39): added Bacterial Slimes and Debris/Floatables/Trash as Category 5 impairments (but no TMDL required for either newly listed impairment)
- Connecticut River (MA34-05): removed Total Suspended Solids from list of Category 5 impairments
- Added Unnamed Tributary (Willamansett Brook, MA34-60) as Category 5 water requiring a TMDL for *E. coli* impairment

The 2016 Integrated List of Waters has not been finalized as of the date of this SWMP and is not yet the official EPA 303(d) list.

2.3.3 Stormwater Pollutants of Concern

Based on the 2014 Integrated List of Waters, the stormwater-related pollutants of concern for Chicopee's impaired waters include bacteria, pathogens, and total suspended solids concentrations. More information about these pollutants and their potential sources are included in **Appendix E**.

2.3.4 Applicable TMDLs

Several waterbodies within the City of Chicopee are identified as Category 5 waters (impaired and requiring a TMDL), as described in Section 2.2.1, but approved TMDLs have not yet been developed for those waterbodies.

The Connecticut River watershed contributes to the Long Island Sound. Although none of the receiving waterbodies in Chicopee are impaired for nitrogen according to the Massachusetts Integrated List of Waters, the City of Chicopee is required by EPA to incorporate additional MCMs and BMPs to address the Final TMDL for Nitrogen in the Long Island Sound.

¹⁷ MassDEP, Bureau of Water Resources, *Draft Massachusetts Year 2016 Integrated List of Waters*, June 2017, accessed online at: <https://www.mass.gov/files/documents/2017/08/zu/16ilwplist.pdf>

Tighe&Bond

SECTION 3

Section 3

BMPs to Address 2016 Small MS4 General Permit MCMs

3.1 MCM 1: Public Education and Outreach

Objective: *The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced.*

This section of the SWMP describes how to comply with the Public Education and Outreach requirements in General Permit Section 2.3.2.

3.1.1 MCM 1 BMPs from NOI

BMP ID	BMP Media/ Category	BMP Description	Targeted Audience	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
1A-1	Web Page	City website has link for Pollution Prevention for residents with stormwater education	Residents	Water Pollution Control (WPC)	Distribution of website link via City's mass notification software	2019
1A-2	Web Page	City website has link for Pollution Prevention for businesses with stormwater education	Businesses, Institutions, & Commercial Facilities	WPC	Distribution of website link via City's mass notification software	2019
1A-3	Web Page	City website has link for Pollution Prevention for developers with stormwater education	Developers (construction)	WPC	Distribution of website link via City's mass notification software	2019
1A-4	Web Page	City website has link for Pollution Prevention for industries with stormwater education	Industrial Facilities	WPC	Distribution of website link via City's mass notification software	2019
1B-1	Brochures / Pamphlets	Information on pesticides will be made available	Residents	WPC	Will be distributed to local lawn and garden centers	2019
1B-2	Brochures / Pamphlets	Information on pesticides will be made available	Businesses, Institutions, & Commercial Facilities	WPC	Will be distributed to commercial business owners	2019

BMP ID	BMP Media/ Category	BMP Description	Targeted Audience	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
1C	Meeting	Site Plan Review Advisory Committee Meetings	Developers (construction)	Engineering, WPC	Regulates and informs developers of BMPs required by MS4	2018
1D	Brochures / Pamphlets	Information on chemical spills will be distributed to industrial users	Industrial Facilities	WPC, Industrial Pretreatment Program	All chemical spills are reported	2019
1E	School Curricula / Programs	World is Our Classroom Program educates every 5 th grade student in City on water, stormwater, and wastewater	General Public	WiOC Personnel, WPC	List of all school visits is kept	2018

3.1.2 MCM 1 Implementation Plan

BMPs 1A-1, 1B-1, and 1E: Education and Outreach to Residents

Education and outreach goals for BMP 1A include:

- Increasing awareness of the impact of human activities on stormwater runoff and water quality
- Changing residential behavior over time
- Reaching broad audiences with information that appeals to a diverse public
- Meeting the education and outreach requirements of the 2016 Small MS4 General Permit Appendix F part B.I., Nitrogen TMDL requirements associated with the Long Island Sound TMDL

The City will build upon the existing public education and outreach program to disseminate educational materials to residents via posting of educational links on the website (with the website link distributed through the City's mass distribution software) and distribution of brochures/pamphlets with information on pesticides to local lawn and garden centers. The City will continue to coordinate with the World is Our Classroom (WiOC) program to integrate stormwater topics into school curricula.

As the City of Chicopee is located within the Long Island Sound and is subject to the Long Island Sound TMDL for Nitrogen, the City will supplement the education and outreach to residents with annual timed messages in accordance with the requirements of 2016 Small MS4 General Permit Appendix F part B.I. as follows:

- Annual spring message (April/May) encouraging proper use and disposal of grass clippings and encourages use of slow-release fertilizers
- Annual summer message (June/July) encouraging proper pet waste management
- Annual fall message (August/September/October) encouraging proper disposal of leaf litter

The City will coordinate public educational strategies with the PVPC CRSWC and take advantage of existing materials wherever possible. Section 3.1.5 includes free resources the City can take advantage of to supplement the program, including educational documents targeted towards residents.

BMPs 1A-2 and 1-B-2 Education and Outreach to Businesses, Institutions, and Commercial Facilities

Education and outreach goals for BMP 1B include:

- Increasing awareness of business practices that may contribute to stormwater pollution
- Changing behavior over time
- Improving compliance with local code
- Meeting the education and outreach requirements of 2016 Small MS4 General Permit Appendix F part B.I., Nitrogen TMDL requirements associated with the Long Island Sound TMDL

The City will build upon the existing public education and outreach program to disseminate educational materials to businesses, institutions, and commercial facilities within Chicopee via posting of educational links on the website (with the website link distributed through the City's mass distribution software) and distribution of brochures/pamphlets with information on pesticides to local lawn and garden centers.

In accordance with the enhanced public education requirements associated with the Long Island Sound TMDL for Nitrogen outlined in Appendix F part B.I. of the 2016 Small MS4 General Permit, Chicopee will supplement the education and outreach to businesses, institutions, and commercial facilities by distributing annual timed messages as follows:

- Annual spring message (April/May) encouraging proper use and disposal of grass clippings and encourages use of slow-release fertilizers
- Annual summer message (June/July) encouraging proper pet waste management
- Annual fall message (August/September/October) encouraging proper disposal of leaf litter

The City will coordinate public educational strategies with the PVPC CRSWC and take advantage of existing materials wherever possible. **Appendix E** includes the PVPC CRSWC's public education plan with descriptions of topics and distribution methods of anticipated materials to be developed. Additionally, Section 3.1.5 includes free resources the City can take advantage of to supplement the program, including educational documents targeted towards businesses, institutions, and commercial facilities.

BMPs 1A-3 and 1C Education and Outreach to Developers

Education and outreach goals for BMP 1C include:

- Increasing awareness of the impact of construction activities on stormwater runoff and water quality
- Changing developer behavior over time
- Improving compliance with local code

Chicopee will provide educational materials and general outreach to developers for stormwater management topics relevant to Chicopee via posting of educational links on the website (with the website link distributed through the City's mass distribution software) and through Site Plan Review Advisory Committee Meetings. Stormwater management topics of interest to developers may include:

- Proper sediment and erosion control management practices
- Information about Low Impact Development (LID) principles and technologies
- Information about EPA's construction general permit (CGP)

The City will coordinate public educational strategies with the PVPC CRSWC and take advantage of existing materials wherever possible. Section 3.1.5 includes free resources the City can take advantage of to supplement the program, including educational documents targeted towards developers.

BMPs 1A-4 and 1D Education and Outreach to Industrial Facilities

Education and outreach goals for BMP 1D include:

- Increasing awareness of industrial activities that may contribute to stormwater pollution
- Changing behavior over time
- Improving compliance with local code

Chicopee will provide educational materials and general outreach to industrial facilities within the City for stormwater management topics relevant to Chicopee. Topics may include:

- Equipment inspection and maintenance
- Proper storage of industrial materials (emphasize pollution prevention)
- Proper management and disposal of wastes
- Proper management of dumpsters
- Minimization of use of salt or other de-icing/anti-icing materials and proper storage
- Benefits of appropriate on-site infiltration of stormwater runoff from areas with low exposure to industrial materials such as roofs or employee parking
- Proper maintenance of parking lot surfaces (sweeping)
- Chemical spill reporting
- Requirements for coverage under EPA's Multi-Sector General Permit (MSGP)

The City will build upon the existing public education and outreach program to disseminate educational materials to industrial facilities within City via posting of educational links on the website (with the website link distributed through the City's mass distribution software) and distribution of brochures/pamphlets with information on chemical spill reporting requirements through the City's industrial pretreatment program.

The City will coordinate public educational strategies with the PVPC CRSWC and take advantage of existing materials wherever possible. Section 3.1.5 includes free resources

the City can take advantage of to supplement the program, including educational documents targeted towards industrial facilities.

3.1.3 MCM 1 Implementation Schedule

Outreach Method	PY1	PY2	PY3	PY4	PY5
Website					
Brochures/pamphlets					
Targeted outreach					
Targeted outreach					
Targeted outreach					
Targeted outreach					

	Residents
	Businesses, Institutions, and Commercial Facilities
	Developers
	Industrial Facilities
	All Audiences

3.1.4 Public Education and Outreach Goals and Progress

Per Section 2.3.2.e of the 2016 Small MS4 General Permit, the public education and outreach program shall provide focused messages for specific audiences and show evidence that progress toward the goals of the program have been achieved.

The following methods may be used by the City to evaluate the effectiveness of the educational messages and overall education program:

- Quantify the number of each audience that is reached during distribution of links, brochures/pamphlets
- Quantify the number of attendees at Site Plan Review Advisory Committee Meetings and participants in WiOC programs
- Track changes in behavior for specific issues addressed with education throughout the permit term (e.g., issues with erosion/sediment control during construction, chemical spill reporting, pet waste bags found in catch basins, etc.)

The above methods used to evaluate the effectiveness of the program, and any additional methods developed after the date of this SWMP, shall be tied to the defined goals of the program and the overall objective of changes in behavior and knowledge.

3.1.5 MCM 1 Guidelines and Resources

The following links include free or low-cost resources Chicopee can use to supplement the Public Education program.

EPA Public Education Materials

<https://cfpub.epa.gov/npstbx/>

EPA Stormwater Management Program Resources – Public Education

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

EPA Stormwater Education Toolkit (SET)

<http://www.stormwater.ucf.edu/toolkit/>

EPA National Menu of BMPs for Stormwater

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu>

MassDEP Public Education Outreach Materials

<https://www.mass.gov/guides/stormwater-outreach-materials-to-help-City-comply-with-the-ms4-permit>

Northern Middlesex Council of Governments and Merrimack River Watershed Council - *Developing an Effective Stormwater Education and Outreach Program for Your Community*

http://www.urbanwaterslearningnetwork.org/wp-content/uploads/2016/04/Manual-Stormwater-Education-and-Outreach_2014.pdf

EPA Evaluation of the Role of Public Outreach and Stakeholder Engagement in Stormwater Funding Decisions in New England: Lessons from Communities

<https://www.epa.gov/sites/production/files/2015-09/documents/eval-sw-fundingnew-england.pdf>

Urban Waters

<http://www.nmstormwater.org/for-municipalities>

Think Blue Massachusetts: Residents, Businesses, Developers, Industrial Facilities, and MS4 Communities

<https://www.thinkbluemassachusetts.org/>

3.1.6 MCM 1 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 1. See Section 5 of this Plan for additional record keeping information.

- All educational materials provided to target audiences
- Distribution lists for target audiences
- Dates of distribution of educational materials
- Site Plan Review Advisory Committee Meeting minutes
- List of WiOC school visits, topics discussed, and number of participants
- Note educational goals and opinion on effectiveness based on results tracked; modify education and outreach program if necessary

3.2 MCM 2: Public Involvement and Participation

Objective: *The permittee shall provide opportunities to engage the public to participate in the review and implementation of the SWMP.*

This section of the SWMP describes how to comply with the Public Involvement and Participation requirements in General Permit Section 2.3.3.

3.2.1 MCM 2 BMPs from NOI

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
2A	Public Review	SWMP Review	WPC, City Solicitor, Planning	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
2B	Public Participation	SWMP Review	WPC	Allow public to comment on stormwater management plan annually	2019
2C	Public Participation	Cleanups – Shoreline / Waterbody	External Contractor	Connecticut River Conservancy coordinates annual shoreline cleanup of CT Riverbank. Chicopee DPW donates use of sanitation packers / land use for dumpsters	2018
2D	Public Participation	Hotline / webl ine – reporting problems / violations	WPC	Web posting lists phone number and encourages reporting of illegal catch basin dumping. All reports are documented and followed up. Violators are warned or fined.	2018
2E	Public Participation	Household hazardous waste / used oil collection	DPW	Held annually by Chicopee DPW. City also participates in an agreement with other local towns for residents to bring hazardous waste to the drop-off day	2018

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
2F	Public Participation	Partnership – Advocacy Groups	WPC	City is partnered with PVPC to have river water quality tested and published weekly during swimming and boating months	2018
2G	Public Review	Stormwater Committee / Task Force	WPC	City is longstanding member of CT River Stormwater Committee which advocates for stewardship of stormwater in CT River Valley	2018

3.2.2 MCM 2 Implementation Plan

BMP 2A and 2B Stormwater Management Plan Public Review

Chicopee shall provide the public with an opportunity to review this Stormwater Management Plan prior to finalizing it, and with other opportunities to participate in the City's Stormwater Program on an annual basis.

This SWMP was presented at a public meeting of the Board of Water and Sewer Commissioners on June 19, 2019 to solicit input from the general public. The SWMP is also available to the public for review and comment at the WPC office.

BMPs 2C-2F Public Participation in Stormwater Management Program

Public involvement and participation goals for BMP 2B include:

- Increasing public involvement in and knowledge of Chicopee's stormwater program
- Improving water quality through local clean up and waste collection events

Chicopee shall continue to provide notice for public meetings per Massachusetts General Law requirements, including meetings pertaining to the Stormwater Management Program.

The City shall continue to provide annual opportunities for public participation in the Program. These opportunities may include, but are not limited to:

- Stormwater-related events with school groups (see BMP 1E)
- Household Hazardous Waste Collection Day(s)
- Hotline/weblines for reporting problems/violations
- Ongoing partnerships with advocacy groups
- Stormwater Committee meetings
- Shoreline clean-up events

Appendix E includes a document with helpful tips for organizing and conducting volunteer clean-up events that Chicopee may reference. The City shall document all public participation activities in Annual Reports, and documentation should seek to quantify results or impact to better evaluate the public involvement and participation program effectiveness.

3.2.3 MCM 2 Implementation Schedule

BMP	PY1	PY2	PY3	PY4	PY5
2A & 2B Stormwater Management Plan Public Review	●	●	●	●	●
2C–2E Public Participation in Stormwater Management Program	←————→				

● = annual requirement
 ←————→ = ongoing requirement

3.2.4 MCM 2 Guidelines and Resources

The following links include free or low-cost resources Chicopee can use to supplement the Public Involvement program.

EPA National Menu of BMPs for Stormwater
<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#inv>

EPA - Evaluation of the Role of Public Outreach and Stakeholder Engagement in Stormwater Funding Decisions in New England
<https://www.epa.gov/sites/production/files/2015-09/documents/eval-sw-funding-new-england.pdf>

Manchester Urban Ponds Restoration Program - Tips for Organizing and Conducting Volunteer Clean-up Events
 Available in Appendix E of this SWMP

Massachusetts Open Meeting Law Guide
<http://www.mass.gov/ago/docs/government/oml/oml-guide.pdf>

3.2.5 MCM 2 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 2. See Section 5 of this Plan for additional record keeping information.

- Public meeting dates and topics when stormwater management is discussed
- Dates of public participation activities and quantification of participation (such as number of volunteers/participants, number of bags collected, etc.)
- Connecticut River water quality testing locations, dates, and results

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

Objective: *The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.*

This section of the SWMP describes how to comply with the Illicit Discharge Detection and Elimination Program requirements in General Permit Section 2.3.4.

3.3.1 MCM 3 BMPs from NOI

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
3A	SSO Inventory	Develop SSO inventory in accordance of permit conditions	WPC, DPW, Engineering, Planning	Complete within 1 year of effective date of permit	2019 (completed)
3B	Storm sewer system map	Create map and update during IDDE program completion	Engineering, DPW, WPC	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2020
3C	Written IDDE program	Create written IDDE program	WPC, DPW, Planning, Conservation Commission	Complete within 1 year of the effective date of permit and update as required	2019 (completed)
3D	Implement IDDE program	Implement catchment investigations according to program and permit conditions	DPW, Engineering, WPC	Complete 10 years after effective date of permit	2019
3E	Employee training	Train employees on IDDE implementation	DPW	Train annually	2019
3F	Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	WPC, DPW, Engineering	Complete 3 years after effective date of permit	2020
3G	Conduct wet weather screening	Conduct in accordance with outfall screening procedure and permit conditions	WPC, DPW, Engineering	Complete 10 years after effective date of permit	2020
3H	Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	WPC	Complete ongoing outfall screening upon completion of IDDE program	2020

3.3.2 MCM 3 Implementation Plan

A written IDDE Plan has been developed by the City of Chicopee and is provided in **Appendix J**. Refer to this Plan for the complete IDDE program and requirements of MCM 3. This section presents a summary of the information presented in the IDDE Plan.

IDDE Ordinance

The IDDE program shall include adequate legal authority to prohibit, investigate, and eliminate illicit discharges and implement enforcement procedures and actions. Chicopee has met this requirement by adopting *Stormwater Management* (Chapter 231 of the City's Ordinances) in October of 2003. This ordinance prohibits illicit discharges to the City's drainage system. The DPW, its employees or its designated agents serve as the authorized enforcement agency for the ordinance. See the IDDE Plan for additional information.

BMP 3A SSO Inventory

The City must identify all known locations where sanitary sewer overflows (SSOs) have discharged to the municipal drainage system within the past five (5) years and create an inventory in accordance with the requirements of Section 2.3.4.4 of the 2017 Small MS4 General Permit that includes the following information:

- Location (approximate street crossing/address and receiving water, if any)
- Date(s) and time(s) of each known SSO occurrence
- Estimated volume(s) of each known SSO occurrence
- Description of the occurrence indicating known or suspected cause(s)
- Mitigation and corrective measures completed, with dates implemented
- Mitigation and correction measures planned, with implementation schedules

Refer to the SSO Inventory in **Appendix G** and the IDDE Plan in **Appendix J** for additional information.

SSO Reporting: *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. Follow up the verbal notification with a written report following MassDEP's SSO/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup.*

The MassDEP contacts are:
 Western Region (413) 784-1100
 436 Dwight Street
 Springfield, MA 01103
 24-hr Emergency Line: (888) 304-1133

The EPA contacts are:
 EPA New England (617) 918-1510
 5 Post Office Square
 Boston, MA 02109

BMP 3B Storm Sewer System Map

A comprehensive map of Chicopee's drainage system has been developed, and the City has met a large portion of the requirements of this BMP. City staff should continue to update the map as necessary to reflect new infrastructure, newly discovered information, corrections or modifications, improved connectivity, and progress made. See the IDDE Plan for additional information.

BMP 3C Written IDDE Program

Chicopee has implemented a City-wide IDDE Plan, finalized in 2019, which includes procedures and timelines developed in accordance with the 2016 Small MS4 General Permit. The City should continue to update and modify the Plan on an as-needed basis.

The IDDE Plan will include outfall screening on High and Low Priority Outfalls within 3 years of the permit's effective date, catchment investigations for 100% of the Problem Outfalls within 7 years of the permit's effective date, and 100% of all catchment investigations within 10 years of the permit's effective date. The outfall/interconnection inventory and initial ranking and the dry weather outfall and interconnection screening and sampling results will be included in the IDDE Plan. See the IDDE Plan in **Appendix J** for additional information.

BMP 3D Implement IDDE Program

Catchment investigation procedures are described in the IDDE Plan. Each catchment associated with an outfall or interconnection within the MS4 must be investigated based on identified System Vulnerability Factors (SVFs, i.e., the likelihood that illicit discharges/connections exist) in that area. For all catchments, key junction manholes shall be opened and inspected for evidence of illicit connections during dry weather conditions. The City will identify the number of outfall catchments in the MS4 that have been evaluated using the catchment investigation procedure developed under BMP 3C.

All data gathered during implementation of this BMP must be reported annually, including number and percentage of MS4 catchments evaluated, number of illicit discharges identified, corrective measures planned and implemented, estimated volume removed, and a summary of screening/sampling results. See the IDDE Plan for additional information.

BMP 3E Employee Training

Employees involved in the IDDE Program must be trained annually on the Program, including how to recognize illicit discharges and SSOs in accordance with the IDDE Plan. Training occurs annually. See the IDDE Plan for additional information.

BMP 3F Dry Weather Screening

Dry weather outfall screening and sampling methods are described in the IDDE Plan. Field investigations must be completed during dry weather conditions to confirm whether any Low or High Priority outfalls have dry weather flow, which may be indicative of illicit connections/discharges. The initial catchment delineation and priority ranking must be updated by the end of Permit Year 3 based on the data gathered in the field. All data gathered during implementation of this BMP must be reported annually, including the number of illicit discharges identified, corrective measures planned and implemented, estimated volume removed, and a summary of screening and sampling results. See the IDDE Plan for additional information.

BMP 3G Wet Weather Screening

Wet weather outfall monitoring must be completed for catchments with one or more System Vulnerability Factors, as described in the IDDE Plan. All data gathered during implementation of this BMP must be reported annually, including number of illicit discharges identified, corrective measures planned and implemented, estimated volume removed, and a summary of screening/sampling results. Refer to the IDDE Plan for additional information.

BMP 3H Ongoing Screening

At the conclusion of field work for BMPs 3F and 3G, the outfall/interconnection inventory should be updated and reprioritized for ongoing screening once every five years. Ongoing dry and wet weather screening will continue after completion of the written IDDE program. See the IDDE Plan for additional information.

3.3.3 MCM 3 Implementation Schedule

EPA’s implementation timeline for the IDDE Program is available in **Appendix E**.

BMP	PY1	PY2	PY3	PY4	PY5
IDDE Ordinance	✓				
3A SSO Inventory	✓	●	●	●	●
3B Storm Sewer System Map	←—————●————→				
3C Written IDDE Program	✓				
3D Implement IDDE Program	←————→				
3E Employee Training	●	●	●	●	●
3F Dry Weather Screening	←————→				
3G Wet Weather Screening		←————→			
3H Ongoing Screening	←————→				

✓ = BMP complete
 ● = annual requirement or year due
 ←————→ = ongoing requirement

3.3.4 MCM 3 Guidelines and Resources

The following links include free or low-cost resources Chicopee can use to supplement the IDDE program. The City-specific procedures in the IDDE Plan were developed using the IDDE Guidance Manual and New England Source Tracking Protocol linked below. A link to the City’s *Stormwater Management Ordinance* is also provided below.

Center for Watershed Protection - Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments
https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

EPA Stormwater Management Program Resources – IDDE
<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde>

EPA New England - Bacterial Source Tracking Protocol
<https://www3.epa.gov/region1/npdes/stormwater/ma/2014AppendixI.pdf>

EPA National Menu of BMPs for Stormwater
<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#ill>

Chicopee Stormwater Management Ordinance (City Code Chapter 231)
<https://ecode360.com/6480440>

3.3.5 MCM 3 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 3. More information about IDDE reporting is located in the IDDE Plan. See Section 5 of this Plan for additional record keeping information.

- Log of phone calls and complaints received regarding suspected illicit connections and other storm drain issues, including dates and actions taken
- SSO inventory (updated annually), including the number of illicit discharges/connections identified and/or removed and the volume of sewage removed
- Illicit discharge corrective measures implemented and/or proposed, with implementation schedule
- Drainage system map
- Data collected during dry and wet weather outfall/interconnection investigations, including the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation within the previous 48 hours, field screening results, and results of all analyses (summarize on an annual basis and for the entire permit term)
- Number and percent of total outfall catchments served by the MS4 evaluated using the catchment investigation procedure
- Presence or absence of SVFs for each catchment
- Data collected during key junction manhole investigations
- Inspection and maintenance records
- Frequency and type of employee training, including employees trained, training topic, date/time, and materials presented

3.4 MCM 4: Construction Site Stormwater Runoff Control

Objective: *To minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S. through the permittee's MS4.*

This section of the SWMP describes how to comply with the Construction Site Stormwater Runoff Control requirements in General Permit Section 2.3.5.

3.4.1 MCM 4 BMPs from NOI

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
4A	Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedure	Planning, Engineering, WPC	Complete within 1 year of the effective date of permit	2018 (completed)

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
4B	Site Plan Review	Complete written procedures of site plan review and begin implementation	Planning	Complete within 1 year of the effective date of permit	2018 (completed)
4C	Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	Planning	Complete within 1 year of the effective date of permit	2018 (completed)
4D	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	Planning, DPW, Engineering, WPC, Conservation Commission	Complete within 1 year of the effective date of permit	2019 (completed)
4E	Pre-Construction / Coordination Meetings	Already exists as necessary for DPW and Engineering to coordinate with developers	DPW, Engineering	Meeting notes are kept	2018

3.4.2 MCM 4 Implementation Plan

Per the 2016 Small MS4 General Permit, Chicopee must develop and implement the following items, which will be adopted as regulation modifications or a formalized procedure. Note that while Chicopee can choose to implement these items City-wide, they are only required for disturbances within the regulated area that are greater than or equal to one acre or less than one acre if that disturbance is part of a larger common plan of development or sale that would disturb one or more acres.

- A regulatory mechanism that requires the use of sediment and erosion control practices at construction sites, as well as controls for other wastes on construction sites such as demolition debris, litter, and sanitary wastes
- Written procedures for site inspections and enforcement of sediment and erosion control measures, including the responsible party for site inspections and enforcement authority, due within one year of the effective date of the permit
- Requirements for construction site operators performing land disturbance activities within the MS4 jurisdiction that result in stormwater discharges to the MS4 to implement a sediment and erosion control program that includes BMPs appropriate for the conditions at the construction site
- Requirements for construction site operators within the MS4 jurisdiction to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes

- Written procedures for site plan review and inspection and enforcement, due within one year of the effective date of the permit

BMP 4A Site Inspection and Enforcement of Erosion and Sediment Control (ESC) Measures

The City implements and enforces a program to reduce pollutants in stormwater runoff discharged to the MS4 system from construction activities, including use of sediment and erosion control practices, at sites greater than one acre. The City adopted an ordinance entitled *Stormwater Management Ordinance* (Chapter 231) in 2003 that provides guidance for site planning and stormwater runoff control during construction and post-construction to protect local water resources from discharges, with the DPW serving as the enforcement agency.

Section 231-4, part B. Inspections of the *Stormwater Management Ordinance* requires that applicants arrange with the City Engineer for initial, erosion control, bury, and final inspections, with the Superintendent inspecting the work and either approving it or notifying the applicant in writing of required corrections. Failure of the applicant to promptly correct any failures to comply with the requirements of an approved plan will result in the applicant becoming subject to the bonding provisions of Section 231-22 or the penalty provisions of Section 231-21. Refer to **Appendix E** for standard operating procedures (SOPs) and inspection forms developed by the Central Massachusetts Stormwater Coalition (CMRSWC) for site inspections, inspections of erosion and sediment controls, and constructed stormwater BMPs.

BMP 4B Site Plan Review

Chicopee shall continue to implement and enforce the existing *Stormwater Management Ordinance* (Chapter 231) and Stormwater Discharge Permit Application requirements for consideration of potential water quality impacts and evaluation of opportunities for use of Low Impact Design (LID) and green infrastructure. The application will be modified to include procedures for receipt and consideration of information submitted by the public and procedures for tracking site reviews, inspections, and enforcement actions.

BMP 4C Erosion and Sediment Control

Chicopee shall continue to implement and enforce the existing *Stormwater Management Ordinance* (Chapter 231) requirements for construction site operators to implement an erosion and sediment control (ESC) program on-site. Current procedures will be reviewed and modified if necessary to comply with the requirements of the 2016 Small MS4 General Permit.

BMP 4D Waste Control

The existing *Stormwater Management Ordinance* includes construction wastes and residues in the definition of "pollutant" and per Section 231-7, pollutants are prohibited from dumping or discharging pollutants into the municipal storm drain system, watercourse, or into waters of the Commonwealth. Section 231-5 requires pollutant removal of runoff on-site and the employment of BMPs to minimize pollutants in stormwater runoff prior to discharge into a combined or separate storm drainage system.

BMP 4E Pre-Construction / Coordination Meetings

The DPW and Engineering Departments will continue to hold pre-construction/coordination meetings with developers. Meeting notes will be included in **Appendix F**.

3.4.3 MCM 4 Implementation Schedule

BMP	PY1	PY2	PY3	PY4	PY5
4A Construction Ordinance and Regulations, Site Plan Review Procedures	●				
4B Site Inspections and Enforcement Procedures	●				
4C Erosion and Sediment Control	●				
4D Waste Control	●				
4E Pre-Construction / Coordination Meetings	←————→				

● = year due

3.4.4 MCM 4 Guidelines and Resources

The following links include Chicopee-specific regulatory documents and free or low-cost resources Chicopee can use to supplement the Construction program.

EPA Construction General Permit SWPPP template and inspection forms
<https://www.epa.gov/npdes/epas-2017-construction-general-permit-cgp-and-related-documents>

Massachusetts Stormwater Handbook
<https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards>

EPA SWMP Resources – Construction Site Runoff Control
<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#csrc>

EPA National Menu of BMPs for Stormwater
<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr>

Chicopee Stormwater Management Ordinance (City Code Chapter 231)
<https://ecode360.com/6480440>

3.4.5 MCM 4 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 4. See Section 5 of this Plan for additional record keeping information.

- Number of site reviews, inspections, and enforcement actions
- Site inspection forms
- Modifications to Chicopee’s ordinances, regulations, policies, and/or procedures as necessary
- Pre-Construction / Coordination Meeting dates, attendees, and notes

3.5 MCM 5: Post-Construction Stormwater Management

Objective: Reduce the discharge of pollutants found in stormwater through the retention or treatment of stormwater after construction on new or redeveloped sites.

This section of the SWMP describes how to comply with the Stormwater Management in New Development and Redevelopment requirements in General Permit Section 2.3.6.

3.5.1 MCM 5 BMPs from NOI

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
5A	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	Engineering	Require submission of as-built plans for completed projects	2019 (completed)
5B	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	Planning, Engineering, WPC	Complete 4 years after effective date of permit and report annually on retrofitted properties	2022
5C	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	Planning	Complete 4 years after effective date of permit and implement recommendations of report	2022
5D	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	Planning	Complete 4 years after effective date of permit and implement recommendations of report	2022

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
5E		Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Adoption, amendment, or modification of a regulatory mechanism to meet permit requirements	Planning, WPC, Engineering, DPW	Complete 2 years after effective date of permit 2020

3.5.2 MCM 5 Implementation Plan

BMP 5A As-built plans for on-site stormwater control

The City shall continue to implement and enforce the existing *Stormwater Management Ordinance* (Chapter 231), passed in 2003, which requires that Stormwater Management Permit applicants submit as-built plans for stormwater controls and to submit an operation, maintenance, and inspection agreement. Section 231-3, Applicability, part B requires that specific uses, including any activity that disturbs 40,000 square feet or more of land, submit drainage reports, plans, construction drawings, specifications, and as-built information; further, Section 231-22, Performance Bonds, part B requires the submission of as-built plans prior to the release of performance bonds by the City Engineer. Section 231-6, Maintenance, outlines the requirement for execution of an inspection and maintenance program.

The City will modify the permit application for Stormwater Management Permits to specify that as-built plans must be submitted to the DPW no later than two years after completion of construction projects.

BMP 5B Target properties to reduce impervious areas

The City must identify at least five City-owned properties that could potentially be modified or retrofitted with BMPs designed to reduce the frequency, volume, and pollutant loads of stormwater discharges through a reduction of impervious area. This inventory must be updated annually starting in Permit Year 5. Section 2.3.6.d of the 2016 Small MS4 General Permit describes factors and considerations for selecting potential sites with the goal of reducing impervious area and improving water quality. The IMP included a city-wide GIS-based initial desktop evaluation of viability of installation of green infrastructure on municipal parcels, which can be used as starting point for more in-depth qualitative analysis of specific projects for implementation.

The City should continue to look for cost-efficient opportunities to improve drainage, replace existing catch basins with deep sump catch basins, and add water quality BMPs.

BMP 5C Allow green infrastructure

As detailed in Section 2.3.6.c of the 2016 Small MS4 General Permit, within four years after the effective date of the permit, Chicopee shall develop a report assessing local regulations to determine the feasibility of making green roofs, infiltration practices, and water harvesting devices allowable when appropriate site conditions exist.

The report will be appended to the SWMP once completed. The City will implement recommendations in accordance with the assessment.

BMP 5D Street design and parking lot guidelines

In accordance with 2016 Small MS4 General Permit Section 2.3.6.b, Chicopee shall develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover. This assessment will be used to allow the City to determine if changes to design standards for streets and parking lots can be made to support LID options.

Once completed, the final report will be appended to the SWMP. Report recommendations will be implemented by Permit Year 9 with progress reported annually.

BMP 5E Post-construction ordinance and regulations

Chicopee has met the requirement to implement and enforce a program to reduce pollutants in stormwater runoff discharged to the municipal drainage system from post-construction activities for all new development and redevelopment sites greater than 40,000 square feet in size by adopting an ordinance entitled *Stormwater Management Ordinance* (City Code Chapter 231) in 2003. The ordinance provides guidance for site planning and stormwater runoff control during construction and post-construction to protect water resources from discharges. The DPW serves as the enforcement agency for the ordinance.

The City will review the existing ordinance and associated regulations with respect to the 2016 Small MS4 General Permit and Massachusetts Stormwater Handbook and modify as needed.

3.5.3 MCM 5 Implementation Schedule

BMP	PY1	PY2	PY3	PY4	PY5
5A As-built plans for on-site stormwater control	✓				
5B Target properties to reduce impervious areas				●————→	
5C Allow green infrastructure				●	
5D Street design and parking lot guidelines				●	
5E Post-construction ordinance and regulations		●			

● = year due

3.5.4 MCM 5 Guidelines and Resources

The following links include free or low-cost resources Chicopee can use to supplement the Post-Construction program.

Massachusetts Stormwater Handbook

<https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards>

EPA SWMP Resources – Post Construction Stormwater Control

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

EPA National Menu of BMPs for Stormwater

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#post>

EPA Small MS4 Permit Technical Support Document – Stormwater Retrofit Techniques for Restoring Urban Drainages in Massachusetts and New Hampshire

<https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/BMPRetrofit.pdf>

EPA – Green Infrastructure Opportunities that Arise During Municipal Operations

<https://www.epa.gov/nep/green-infrastructure-opportunities-arise-during-municipal-operations>

EPA - Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program

<https://www3.epa.gov/npdes/pubs/stormwaterinthecommunity.pdf>

EPA - Managing Stormwater with LID Practices: Addressing Barriers to LID

<https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/AddressingBarrier2LID.pdf>

Metropolitan Area Planning Council LID Toolkit

<https://www.mapc.org/resource-library/low-impact-development-toolkit/>

3.5.5 MCM 5 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 5. See Section 5 of this Plan for additional record keeping information.

- Measures the City has taken to ensure adequate long-term operation and maintenance of stormwater BMPs and to require submission of as-built plans
- Modifications to Chicopee's ordinances, regulations, policies, and/or procedures as necessary
- Status of BMP 5C and 5D assessments, including any planned or completed changes to local regulations and guidelines (BMP 5C) and findings and progress towards making the practices allowable (BMP 5D)
- Retrofit inventory, including all sites that have been modified or retrofitted (BMP 5B). Sites should include City-owned sites identified in the inventory as well as non-municipal property modified or retrofitted to mitigate impervious area

3.6 MCM 6: Good Housekeeping and Pollution Prevention

Objective: *The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.*

This section of the SWMP describes how to comply with the Good Housekeeping and Pollution Prevention requirements in General Permit Section 2.3.7.

3.6.1 MCM 6 BMPs from NOI

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
6A	O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, building and facilities, and vehicles and equipment	All relevant City Depts.	Complete and implement 2 years after permit effective date	2020
6B	Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	All relevant City Depts.	Complete 2 years after effective date of permit and implement annually	2020
6C	Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	WPC, DPW, Engineering	Complete 2 years after permit effective date	2020
6D	Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste handling facilities	DPW	Complete and implement 2 years after effective date of permit	2020
6E	Catch basin cleaning program	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	WPC	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2019

BMP ID	BMP Category	BMP Description	Responsible Department/ Parties	Measurable Goal	Beginning Year of BMP Implementation
6F	Street Sweeping Program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions	DPW	Sweep all streets and permittee-owned parking lots once per year in the spring	2018
6G	Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW	Implement salt use optimization during deicing season	2019
6H	Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	WPC	Inspect and maintain treatment structures at least annually	2018

3.6.2 MCM 6 Implementation Plan

BMP 6A O&M Procedures

Chicopee must develop a written City-Wide Operation & Maintenance (O&M) Program for municipal facilities and equipment, parks and open space, buildings and facilities, including schools, where pollutants are exposed to stormwater runoff, and vehicles and equipment. The written program will be appended to this SWMP.

BMP 6B Municipal Facilities and Equipment Inventory

The City-Wide O&M Program for municipal facilities and equipment must include an inventory of the municipally-owned facilities and equipment. The inventory will be appended to this SWMP and updated as required.

BMP 6C Infrastructure O&M Procedures

The City shall develop a plan describing the activities and procedures used to maintain MS4 infrastructure in a timely manner to reduce the discharge of pollutants from the MS4. The written program developed under this BMP will be appended to the SWMP.

BMP 6D Stormwater Pollution Prevention Plan (SWPPP)

In accordance with General Permit Section 2.3.7.b, Chicopee must develop and implement SWPPPs for City-owned or operated waste handling facilities where pollutants are exposed to stormwater, including the landfill and the DPW maintenance garage. SWPPP requirements include "regular" employee training for all members of the Pollution Prevention Team (at a minimum). Additionally, quarterly site inspections are required at these sites according to 2016 Small MS4 General Permit Section 2.3.7.b.iii.

BMP 6E Catch basin cleaning

The City must establish a schedule for cleaning and inspecting catch basins to make sure that catch basins are no more than 50% full. If a catch basin is consistently less than 50% fill, the City can reduce the frequency of cleanings.

If a catch basin is more than 50% full during two consecutive cleanings/inspections, the City must investigate the contributing drainage area for sources of excessive sediment loading and abate contributing sources when possible. The City must also store and dispose of and/or reuse catch basin cleanings according to MassDEP policies.

BMP 6F Street sweeping program

The City currently utilizes three mechanical sweepers between March and December, and sweeps all City streets at least twice per year in accordance with the requirements of the Long Island Sound TMDL for Nitrogen as described in Appendix F, Part B.1. of the 2016 Small MS4 General Permit. The City targets business districts for monthly sweeping. Street sweepings are stored and disposed of or reused according to MassDEP policies.

BMP 6G Road salt use optimization program

The City shall establish and implement procedures for winter road maintenance, including the use and storage of salt and sand and the evaluation of at least one salt/chloride alternative for use in the municipality.

BMP 6H Inspections and maintenance of stormwater treatment structures

The City shall develop inspection and maintenance procedures and frequencies for all stormwater treatment structures. An important first step will be to improve the inventory, mapping, and record keeping procedures for City-owned or operated stormwater BMPs, such as detention ponds and swales. The inventory should be developed within two years of the permit effective date, per Section 2.3.4.5.a of the General Permit. All City-owned water quality BMPs must be inspected annually at a minimum. Note that drainage manholes and catch basins are not considered stormwater treatment structures for this BMP (structure maintenance procedures will be developed and implemented under BMPs 6C and 6E). Refer to the CMRSWC SOP for inspection of constructed stormwater BMPs included in **Appendix E**.

3.6.3 MCM 6 Implementation Schedule

BMP	PY1	PY2	PY3	PY4	PY5
6A O&M Program Procedures		●			
6B Municipal Facilities and Equipment Inventory		●			
6C Infrastructure O&M		●			
6D Stormwater Pollution Prevention Plans (SWPPPs)		●			
6E Catch basin cleaning	●	→	→	→	→
6F Street sweeping program	●	→	→	→	→
6G Road salt use optimization program	●	→	→	→	→
6H Inspections and maintenance of stormwater treatment structures	●	●	●	●	●


= annual requirement or year due
= ongoing requirement

3.6.4 MCM 6 Guidelines and Resources

The following links include free or low-cost resources Chicopee can use to supplement the Good Housekeeping and Pollution Prevention program.

EPA Stormwater Management Program Resources – Good Housekeeping

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

EPA National Menu of BMPs for Stormwater

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#poll>

Center for Watershed Protection - *Municipal Pollution Prevention/Good Housekeeping Practices*

<https://owl.cwp.org/mdocs-posts/urban-subwatershed-restoration-manual-series-manual-9/>

MassDEP Management of Catch Basin Cleanings

<https://www.mass.gov/files/documents/2018/03/09/catch-basins.pdf>

MassDEP Reuse & Disposal of Street Sweepings

<https://www.mass.gov/files/documents/2018/05/14/street-sweepings.pdf>

MassDEP Snow Disposal Guidance

3.6.5 MCM 6 Checklist of Key Documentation

Documentation of BMP progress should be kept in **Appendix F**. The following checklist includes the required documentation for MCM 6. See Section 5 of this Plan for additional record keeping information.

- O&M procedures for municipal facilities and equipment
- Inventory of municipal facilities and equipment
- Plan for optimizing catch basin cleaning and metrics about the number of catch basins, quantity cleaned and inspected, and total volume of material removed from all catch basins
- Miles of streets cleaned and the volume of material removed
- All records associated with SWPPP quarterly site inspections, maintenance activities, and training
- Inventory of City-owned or operated stormwater treatment structures
- Inspection and maintenance procedures for City-owned or operated stormwater treatment structures, including maintenance schedules and inspection results.

Tighe&Bond

SECTION 4

Section 4

BMPs to Address Specific Waterbody Requirements

4.1 Long Island Sound TMDL for Nitrogen

As described in Section 3.2.3, the City of Chicopee is located within the Connecticut River watershed, which in turn is located within the Long Island Sound watershed. The Long Island Sound has an EPA-approved TMDL for Nitrogen. Discharges from MS4s in Massachusetts to waters that are tributaries to the Long Island Sound are subject to the requirements of the 2016 MA Small MS4 General Permit Appendix F, part B.1.

4.1.1 Enhanced BMPs

4.1.1.1 MCM 1: Public Education and Outreach

BMPs 1A-1 and 1A-2: Education and outreach to Residential and Business / Commercial / Institutional stakeholders will be supplemented with annual timed messages on specific topics as follows:

- April/May: annual message in the spring that encourages the proper use and disposal of grass clippings and the proper use of slow-release fertilizers
- June/July: annual message in the summer that encourages the proper management of pet waste, including noting any existing ordinances where appropriate
- August/September/October: annual message in the fall that encourages the proper disposal of leaf litter

4.1.1.2 MCM 3: IDDE Program

BMPs 3C and 3D: Per Section 2.3.4.7.a.iii. of the 2016 Small MS4 General Permit, outfalls to receiving waters associated with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment should be identified as High Priority outfalls. As the entirety of the City is located within the Connecticut River / Long Island Sound watershed, ranking all outfalls within the City as High Priority does not allow for differentiation or priority use of resources in the IDDE Program. Therefore, upon the development of the final Nitrogen Source Identification Report in permit year four, potential catchments determined to have high nitrogen loading will be reassessed as High Priority catchments.

4.1.1.3 MCM 5: Stormwater Management in New Development and Redevelopment

BMP 5E: The City's existing *Stormwater Management Ordinance* or Rules and Regulations will be modified to contain new provisions related to optimization of stormwater management BMPs for nitrogen removal.

BMP 5B: The report containing a detailed inventory of MS4-owned properties and a running list of at least five sites that have potential for retrofits that will be developed will include options for nitrogen-reduction BMPs with a listing of planned structural BMPs and a plan and schedule for implementation.

4.1.1.4 MCM 6: Good Housekeeping and Pollution Prevention

BMP 6A: Written O&M procedures for permittee-owned properties will include procedures for proper management of fertilizers, grass cuttings, and leaf litter, and will establish requirements for use of slow-release fertilizers on permittee-owned property.

BMP 6F: The City already sweeps all municipal streets a minimum of two times per year. Annual total street sweeping amounts and revisions to the street sweeping prioritization schedule will be documented in Annual Reports.

4.1.2 Other Enhanced Requirements

Nitrogen Source Identification Report: Appendix F, part B.1 of the 2016 MA Small MS4 General Permit requires the development and submission of a Nitrogen Source Identification Report as part of the year 4 annual report, and the evaluation of all properties identified as presenting retrofit opportunities or areas for structural BMP installation as part of MCM 5 or identified in the Nitrogen Source Identification Report in the year 5 annual report.

Annual Report: The annual report will contain a table tracking existing structural BMPs installed in the City from the Table 3 list in Attachment 1 of Appendix H of the 2016 Small MS4 General Permit, the total area treated by the design storage volume, and the estimated nitrogen removed per year.

4.2 Water Quality Limited Waterbodies

As described in Section 2 of the SWMP, several surface waterbodies within the City of Chicopee were identified in the Massachusetts Year 2014 Integrated List of Waters as Category 5 Waters requiring a TMDL for identified impairment(s).

Per Appendix H of the 2016 Small MS4 General Permit, the City must comply with the additional requirements outlined in Appendix H and described below to address bacteria, pathogens, and TSS in stormwater discharges.

4.2.1 Enhanced BMPs for *E. Coli* and Fecal Coliform

Appendix H, Part III of the 2016 Small MS4 General Permit describes enhanced BMPs for discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment.

Per the Year 2014 Integrated List, within the City of Chicopee, these requirements apply to stormwater discharges to the Connecticut River (segment MA34-05), Stony Brook (MA34-19), Chicopee River (MA36-25), Poor Brook (MA36-39), and Fuller Brook (MA36-41) due to *E. Coli* and to the Chicopee River (MA36-24) due to Fecal Coliform.

4.2.1.1 MCM 1: Public Education and Outreach

BMP 1A: Chicopee shall supplement the residential public education program with an annual message about the proper management of pet waste, including noting any existing ordinances where appropriate, and disseminating educational materials to dog owners at the time of issuance or renewal of a dog license. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance.

The City shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a waterbody impaired for bacteria or pathogens (e.g., the MA36-25 segment of the Chicopee River).

4.2.1.2 MCM 3: IDDE Program

BMP 3D: Catchments draining to any waterbody impaired for bacteria or pathogens (e.g., the MA34-05 segment of the Connecticut River) shall be designated either Problem Catchments or High Priority in implementation of the IDDE program.

4.2.2 Enhanced BMPs for TSS

Appendix H, Part V of the 2016 Small MS4 General Permit describes enhanced BMPs for discharges to water quality limited waterbodies where solids, oil and grease (hydrocarbons), or metals is the cause of the impairment. Per the Year 2014 Integrated List, within the City of Chicopee, these requirements apply to stormwater discharges to the Connecticut River (segment MA34-05), Stony Brook (MA34-19), and Abbey Brook (MA36-40).

4.2.2.1 MCM 5: Stormwater Management in New Development and Redevelopment

BMP 5E: The City's existing *Stormwater Management Ordinance* or Rules and Regulations will be modified to contain the requirement that stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbodies (e.g., Stony Brook) shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event.

The City will evaluate including the recommended requirement that any stormwater management system designed to infiltrate stormwater on commercial or industrial sites provides a level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

4.2.2.2 MCM 6: Good Housekeeping and Pollution Prevention

BMPs 6E and 6F: The City's street sweeping program will be designed to target areas with potential for high pollutant loads including, but not limited to, commercial areas and high-density residential areas, or drainage areas with a large amount of impervious area. Each annual report shall include the street sweeping schedule. Inspection and maintenance of catch basins will be prioritized to ensure that no sump shall be more than 50 percent full, and catch basins will be cleaned more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.

4.3 Additional Requirements for Discharges to Surface Drinking Water Supplies and Their Tributaries

According to Section 3.0 of the 2016 Small MS4 General Permit, MS4s that discharge to public surface drinking water supply sources or their tributaries should consider these waters a priority in the implementation of the SWMP. There are no public surface drinking water supply sources, or their tributaries located within the City of Chicopee's regulated area.

Tighe&Bond

SECTION 5

Section 5

Program Evaluation, Record Keeping, and Reporting

5.1 Program Evaluation

The City of Chicopee will annually self-evaluate its compliance with the terms and conditions of the 2016 MA Small MS4 permit, the appropriateness of the selected BMPs in achieving the objectives of each MCM, and progress towards achieving the identified measurable goal. Each self-evaluation will be submitted in the Annual Report, and annual evaluation documentation will be maintained as part of the SWMP.

5.2 Record Keeping

The City will keep all records required by the 2016 Small MS4 General Permit for at least five years, including, but not limited to the following key information:

- Monitoring results
- Copies of reports
- Records of outfall/interconnection screening
- Follow-up and elimination of illicit discharges
- Maintenance records
- Inspection records

Checklists of record keeping items Chicopee should maintain are also included under each BMP in Section 3 of the SWMP. Records relating to the 2016 Small MS4 General Permit, including the SWMP, will be made available to the public, as required by Section 4.2.c of the Permit.

5.3 Annual Reports

The City will submit annual reports each year of the Small MS4 permit term, due ninety days from the close of each reporting period (i.e., September 28). The reporting period will be a one-year period commencing on the permit effective date, and subsequent anniversaries thereof, except that the first annual report under the 2016 Small MS4 General Permit shall also cover the period from May 1, 2018 to the permit effective date, July 1, 2018.

Under the 2016 General Permit, annual reports will consist of an update provided to EPA and more robust documentation included in **Appendix F** of this SWMP. Per Section 4.4.b of the 2016 Small MS4 General Permit, the annual reports shall contain the following information:

- i. A self-assessment review of compliance with the permit terms and conditions.*
- ii. An assessment of the appropriateness of the selected BMPs.*
- iii. The status of any plans or activities required by part 2.1 and/ or part 2.2, including:*

- *Identification of all discharges determined to be causing or contributing to an exceedance of water quality standards and description of response including all items required by part 2.1.1;*
 - *For discharges subject to TMDL related requirements, identification of specific BMPs used to address the pollutant identified as the cause of impairment and assessment of the BMPs' effectiveness at controlling the pollutant (part 2.2.1. and Appendix F) and any deliverables required by Appendix F;*
 - *For discharges to water quality limited waters a description of each BMP required by Appendix H and any deliverables required by Appendix H.*
- iv. *An assessment of the progress towards achieving the measurable goals and objectives of each control measure in part 2.3 including:*
- *Evaluation of the public education program including a description of the targeted messages for each audience; method of distribution and dates of distribution; methods used to evaluate the program; and any changes to the program.*
 - *Description of the activities used to promote public participation including documentation of compliance with state public notice regulations.*
 - *Description of the activities related to implementation of the IDDE program including: status of the map; status and results of the illicit discharge potential ranking and assessment; identification of problem catchments; status of all protocols described in part 2.3.4. (program responsibilities and systematic procedure); number and identifier of catchments evaluated; number and identifier of outfalls screened; number of illicit discharges located; number of illicit discharges removed; gallons of flow removed; identification of tracking indicators and measures of progress based on those indicators; and employee training.*
 - *Evaluation of the construction runoff management including number of project plans reviewed; number of inspections; and number of enforcement actions.*
 - *Evaluation of stormwater management for new development and redevelopment including status of ordinance development (2.3.6.a.ii.), review and status of the street design assessment (2.3.6.b.), assessments to barriers to green infrastructure (2.3.6.c) and retrofit inventory status (2.3.6.d.)*
 - *Status of the O&M Programs required by part 2.3.7.a.*
 - *Status of SWPPP required by part 2.3.7.b. including inspection results.*
 - *Any additional reporting requirements in part 3.0.*
- v. *All outfall screening and monitoring data collected by or on behalf of the permittee during the reporting period and cumulative for the permit term, including but not limited to all data collected pursuant to part 2.3.4. The permittee shall also provide a description of any additional monitoring data received by the permittee during the reporting period.*
- vi. *Description of activities for the next reporting cycle.*
- vii. *Description of any changes in identified BMPs or measurable goals.*
- viii. *Description of activities undertaken by any entity contracted for achieving any measurable goal or implementing any control measure.*

5.4 SWMP Modifications

Per Section 4.1 of the 2016 Small MS4 General Permit, the City shall complete the following tasks:

- a. *The permittee shall annually self-evaluate its compliance with the terms and conditions of this permit and submit each self-evaluation in the Annual Report. The permittee shall also maintain the annual evaluation documentation as part of the SWMP.*
- b. *The permittee shall evaluate the appropriateness of the selected BMPs in achieving the objectives of each control measure and the defined measurable goals. Where a BMP is found to be ineffective the permittee shall change BMPs in accordance with the provisions below. In addition, permittees may augment or change BMPs at any time following the provisions below:*
 - *Changes adding (but not subtracting or replacing) components or controls may be made at any time.*
 - *Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternative BMP may be made as long as the basis for the changes is documented in the SWMP by, at a minimum:*
 - *An analysis of why the BMP is ineffective or infeasible;*
 - *Expectations on the effectiveness of the replacement BMP; and*
 - *An analysis of why the replacement BMP is expected to achieve the defined goals of the BMP to be replaced.*

The permittee shall indicate BMP modifications along with a brief explanation of the modification in each Annual Report.

- c. *EPA or MassDEP may require the permittee to add, modify, repair, replace or change BMPs or other measures described in the annual reports as needed:*
 - *To address impacts to receiving water quality caused or contributed to by discharges from the MS4; or*
 - *To satisfy conditions of this permit.*

Any changes requested by EPA or MassDEP will be in writing and will set forth the schedule for the permittee to develop the changes and will offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification.

The City may update or revise the SWMP as needed as the City's activities are modified, changed, or updated to meet permit conditions during the permit term. If it is necessary to modify or update the SWMP, the City should follow this procedure to formalize the changes:

- Keep a log with a description of the modification, the date, and the name and signature of the person making it
- Re-sign and date the certification statement in Section 6 of this SWMP

An amendment log and additional certification statements are located in **Appendix H**.

Tighe&Bond

SECTION 6

Section 6

SWMP 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 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."

Name: _____ Title: _____

Signature: _____ Date: _____

A letter that authorizes the City of Chicopee Water Pollution Control Project Supervisor to sign and certify certain documents prepared under the 2016 Small MS4 General Permit is included in **Appendix I**.

J:\C\C5000 Chicopee\027 MS4 SWMP\Permitting\SWMP\Chicopee SWMP text.docx

Tighe&Bond

APPENDIX A

Part I: General Conditions

General Information

Name of Municipality or Organization: CITY OF CHICOPEE State: MA

EPA NPDES Permit Number (if applicable): MA0101508

Primary MS4 Program Manager Contact Information

Name: QUINN LONCZAK Title: PROJECT SUPERVISOR

Street Address Line 1: 80 MEDINA STREET

Street Address Line 2:

City: CHICOPEE State: MA Zip Code: 01013

Email: QLONCZAK@CHICOPEEMA.GOV Phone Number: (413) 594-3585

Fax Number: (413) 594-3588

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed): https://ecode360.com/6480440

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Yes

Eligibility Criteria (check all that apply): A B C

National Historic Preservation Act (NHPA) Determination Complete? Yes

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? 100%
Web address where MS4 map is published: AVAILABLE ELECTRONICALLY WITH CITY CREDENTIALLED LOGIN ONLY
Regulatory Authorities (if covered under the 2003 permit)
Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 10/21/03
Construction/Erosion and Sediment Control (ESC) Authority Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 10/21/03
Post- Construction Stormwater Management Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 10/21/03

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
Isolated Wetland Burnett Road	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"/>	
Isolated Wetland Granby Road	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"/>	
Isolated Wetland Montgomery Street	9	<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"/>	
Isolated Wetland Springfield Street	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"/>	
Outside Receiving Waterbody	587	<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"/>	
		<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"/>	
		<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"/>	
		<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"/>	
		<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"/>	
		<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"/>	
		<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"/>	
		<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"/>	
		<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 (enter your own text to override the drop down menu)	BMP Description	Targeted Audience	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal	Beginning Year of BMP Implementation
Web Page	City website has link for Pollution Prevention for residents with stormwater education	Residents	WATER POLLUTION CONTROL (WPC)	Distribution of website link via City's mass notification software	2019
Web Page	City website has link for Pollution Prevention for businesses with stormwater education	Businesses, Institutions and Commercial Facilities	WPC	Distribution of website link via City's mass notification software	2019
Web Page	City website has link for Pollution Prevention for developers with stormwater education	Developers (construction)	WPC	Distribution of website link via City's mass notification software	2019
Web Page	City website has link for Pollution Prevention for industrial facilities with stormwater education	Industrial Facilities	WPC	Distribution of website link via City's mass notification software	2019
Brochures/Pamphlets	Information on pesticides will be made available	Residents	WPC	Will be distributed to local lawn and garden centers	2019
Brochures/Pamphlets	Information on pesticides will be made available	Businesses, Institutions and Commercial Facilities	WPC	Will be distributed to commercial business owners	2019

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

Part III: Stormwater Management Program Summary (continued)

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description (enter your own text to override the drop down menu)	Responsible Department/Parties (enter your own text to override the drop down menu)	Additional Description/ Measurable Goal	Beginning Year of BMP Imple- mentation
Public Review	SWMP Review	WPC, CITY SOLICITOR, PLANNING	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
Public Participation	SWMP Review	WPC	Allow public to comment on stormwater management plan annually	2019
Public Participation	Cleanups - Shoreline/Waterbody	External Contractor	Connecticut River Conservancy coordinates annual shoreline cleanup of CT Riverbank. Chicopee DPW donates use of sanitation packers/land use for dumpsters	2018
Public Participation	Hotline/webline - reporting problems/violations	WPC	Web posting lists phone number and encourages reporting of illegal catch basin dumping. All reports are documented and followed up. Violators are warned or fined.	2018
Public Participation	Household haz. waste/used oil collection	DPW	Held annually (at least) by Chicopee DPW. City also participates in an agreement with other local towns for residents to bring haz. waste to.	2018
Public Participation	Partnership - Advocacy Groups	WPC	City is partnered with PVPC to have river water quality tested and published weekly during swimming and boating months.	2018

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)

BMP Categorization (enter your own text to override the drop down menu)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
SSO inventory	Develop SSO inventory in accordance of permit conditions	WPC, DPW, ENGINEERING, PLANNING	Complete within 1 year of effective date of permit	2019
Storm sewer system map	Create map and update during IDDE program completion	ENGINEERING, DPW, WPC	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2020
Written IDDE program	Create written IDDE program	WPC, DPW, PLANNING, CONSERVATION COMMISSION	Complete within 1 year of the effective date of permit and update as required	2019
Implement IDDE program	Implement catchment investigations according to program and permit conditions	DPW, ENGINEERING, WPC	Complete 10 years after effective date of permit	2019
Employee training	Train employees on IDDE implementation	DPW	Train annually	2019
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	WPC, DPW, ENGINEERING	Complete 3 years after effective date of permit	2020
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	WPC, DPW, ENGINEERING	Complete 10 years after effective date of permit	2020
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	WPC	Complete ongoing outfall screening upon completion of IDDE program	2020

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

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	PLANNING	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	PLANNING	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	PLANNING	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	PLANNING, DPW, ENGINEERING, WPC, CONSERVATION COMMITTEE	Complete within 1 year of the effective date of permit	2019
Pre-Construction/Coordination Meetings	Already exists as necessary for DPW and Engineering to coordinate with developers	DPW, ENGINEERING	MEETING NOTES ARE KEPT	2018

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

BMP Categorization <small>(enter your own text to override the drop down menu or entered text)</small>	BMP Description	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Measurable Goal <small>(all text can be overwritten)</small>	Beginning Year of BMP Implementation
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	ENGINEERING	Require submission of as-built plans for completed projects	2019
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	PLANNING	Complete 4 years after effective date of permit and report annually on retrofitted properties	2022
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	PLANNING	Complete 4 years after effective date of permit and implement recommendations of report	2022
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.	PLANNING	Complete 4 years after effective date of permit and implement recommendations of report	2022

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

BMP Categorization <small>(enter your own text to override the drop down menu or entered text)</small>	BMP Description	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Measurable Goal <small>(all text can be overwritten)</small>	Beginning Year of BMP Implementation
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	ALL RELEVANT CITY DEPTS.	Complete and implement 2 years after effective date of permit	2020
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	ALL RELEVANT CITY DEPTS.	Complete 2 years after effective date of permit and implement annually	2020
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	WPC, DPW, ENGINEERING	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	DPW	Complete and implement 2 years after effective date of permit	2020
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	WPC	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2019
Street sweeping program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions	DPW	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	DPW	Implement salt use optimization during deicing season	2019

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.

Click to add text

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: Digitally signed by Quinn T. Lonczak
Date: 2018.09.25 15:07:04 -04'00'

Date:

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

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

Year 2014 Integrated List Impairments

Other pollutant(s) causing impairments

Category 2 Water - attaining some uses, other uses not assessed
Category 2 Water - attaining some uses, other uses not assessed

Fecal Coliform
Fecal Coliform

PCB in Fish Tissue
PCB in Fish Tissue
Non-Native Aquatic Plants*no TMDL required
Category 3 Water - no uses assessed



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:
Consultation Code: 05E1NE00-2017-SLI-0672
Event Code: 05E1NE00-2018-E-07043
Project Name: MS4

September 06, 2018

Subject: Updated 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). 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

Project Summary

Consultation Code: 05E1NE00-2017-SLI-0672

Event Code: 05E1NE00-2018-E-07043

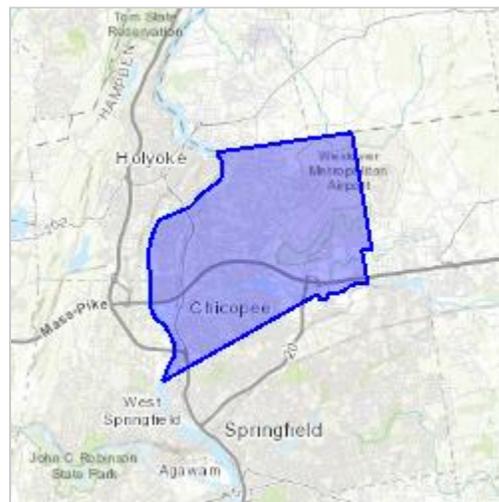
Project Name: MS4

Project Type: LAND - DRAINAGE

Project Description: Preparation for NOI of ms4 Permit

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.17124230034982N72.57324464237513W>



Counties: Hampden, MA | Hampshire, 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 Fisheries¹, 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.

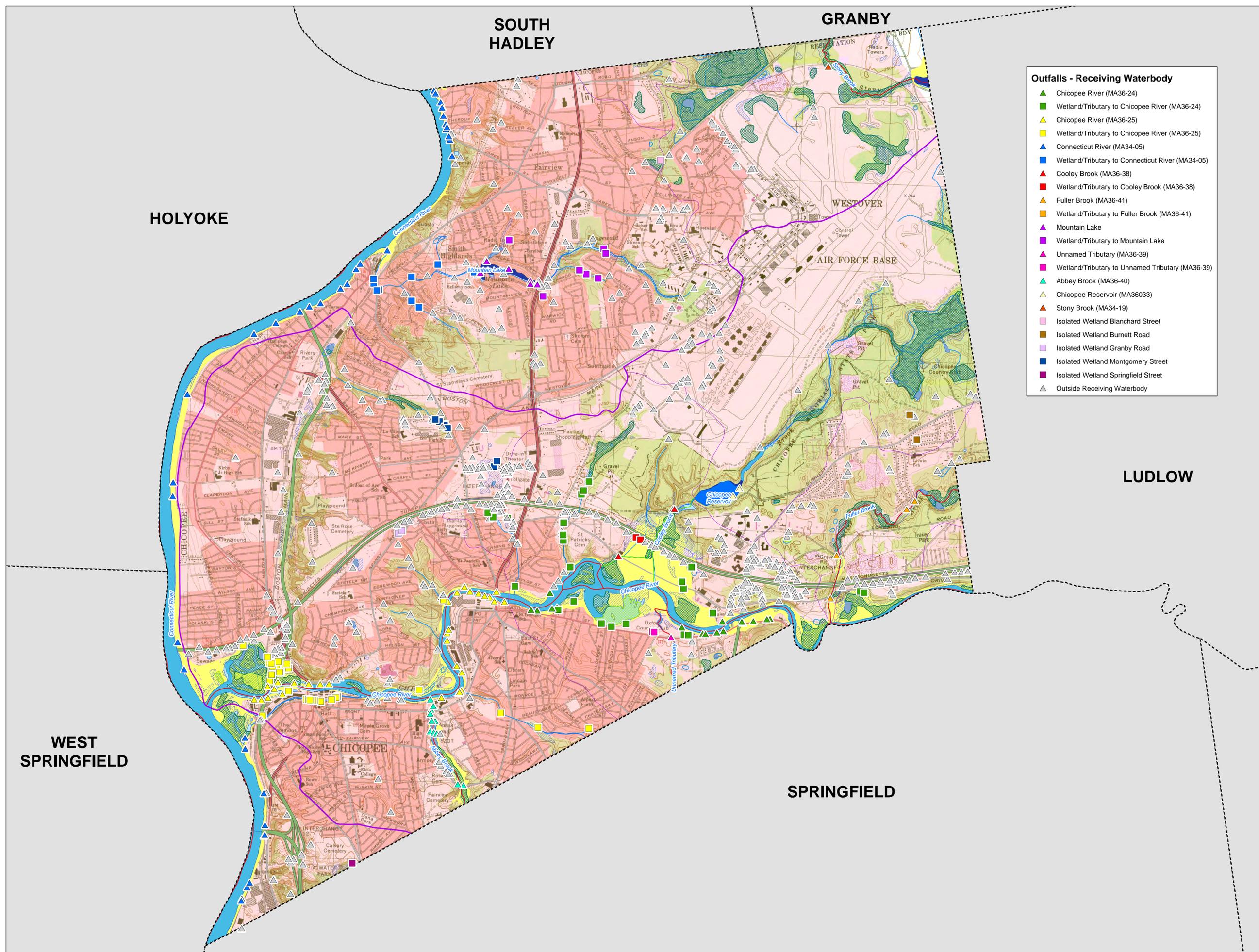
-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

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

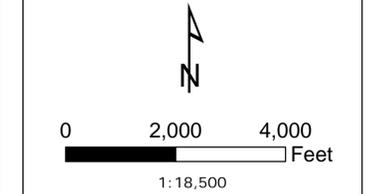
Critical habitats

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



- Outfalls - Receiving Waterbody**
- ▲ Chicopee River (MA36-24)
 - Wetland/Tributary to Chicopee River (MA36-24)
 - ▲ Chicopee River (MA36-25)
 - Wetland/Tributary to Chicopee River (MA36-25)
 - ▲ Connecticut River (MA34-05)
 - Wetland/Tributary to Connecticut River (MA34-05)
 - ▲ Cooley Brook (MA36-38)
 - Wetland/Tributary to Cooley Brook (MA36-38)
 - ▲ Fuller Brook (MA36-41)
 - Wetland/Tributary to Fuller Brook (MA36-41)
 - ▲ Mountain Lake
 - Wetland/Tributary to Mountain Lake
 - ▲ Unnamed Tributary (MA36-39)
 - Wetland/Tributary to Unnamed Tributary (MA36-39)
 - ▲ Abbey Brook (MA36-40)
 - ▲ Chicopee Reservoir (MA36033)
 - ▲ Stony Brook (MA34-19)
 - Isolated Wetland Blanchard Street
 - Isolated Wetland Burnett Road
 - Isolated Wetland Granby Road
 - Isolated Wetland Montgomery Street
 - Isolated Wetland Springfield Street
 - ▲ Outside Receiving Waterbody

- Legend**
- Town Boundary
 - Water Body Segments - Rivers**
 - 2 - Attaining some uses; other uses not assessed
 - 3 - No uses assessed
 - 4A - Impaired - TMDL is completed
 - 4C - Impairment not caused by a pollutant
 - 5 - Impaired - TMDL required
 - Water Body Segments - Lakes, Estuaries**
 - 2 - Attaining some uses; other uses not assessed
 - 3 - No uses assessed
 - 4A - Impaired - TMDL is completed
 - 4C - Impairment not caused by a pollutant
 - 5 - Impaired - TMDL required
 - Major Drainage Basins
 - Subbasins
 - National Wetlands Inventory**
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Estuarine and Marine Deepwater
 - Freshwater Pond
 - Lake
 - Riverine
 - Other
 - NWI Rivers and Streams
 - MassDEP Hydrology**
 - Public Surface Water Supply (PSWS)
 - Water Bodies
 - Hydrology
 - MassDEP Wetlands**
 - Inland Wetlands
 - MassDOT Major Roads**
 - Road Type**
 - Limited Access Highway
 - Multi-lane Hwy, not limited access
 - Other Numbered Highway
 - Major Road, Collector
 - 100-Year Floodplain (FEMA)
 - Urbanized Area 2000
 - Urbanized Area 2010



- NOTES**
1. Based on USGS Topo Map: Springfield North, 1979 (10 ft)
 2. MassGIS: 2014 Integrated List Data (2016), Major Drainage Basins (2003), Subbasins (2007), Community Boundary (2017), National Wetland Inventory (2007), FEMA National Flood Hazard (2017), MassDOT Major Roads (2014), Urban Area (2000 and 2010)
 3. City of Chicopee: Outfalls

OUTFALLS AND RECEIVING WATERBODIES

Notice of Intent
Chicopee, Massachusetts

September 2018





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

VIA EMAIL

February 14, 2019

Richard J. Kos
Mayor

And;

Quinn Lonczak
Project Supervisor
80 Medina Street
Chicopee, MA. 01013
qlonczak@chicopeema.gov

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041003, City of Chicopee

Dear Quinn Lonczak:

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 or (617) 918-1038.

Sincerely,

A handwritten signature in blue ink that reads "Thelma Murphy". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

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

and;

A handwritten signature in black ink that reads "Lealdon Langley". The signature is cursive and somewhat stylized, with a prominent loop at the end.

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

Tighe&Bond

APPENDIX B

Appendix B

Summary of 2003 and 2016 MS4 General Permit BMPs

BMPs identified in the 2003 General Permit NOI have evolved over the permit term due to staff changes and Stormwater Program modifications; 2003 BMPs listed below are current as of the 2018 Annual Report. The intent of the 2003 BMPs are being met under the following 2016 General Permit BMPs per the NOI:

MCM 1: Public Education and Outreach

- 1A – Educational Displays – now under BMPs 1A & 1B
- 1B – Classroom Education – now under BMP 1E
- 1C – Local Cable Access – now under BMPs 1A & 1B
- 1D – Informational Pamphlets – now under BMP 2B
- 1E – Hazardous Waste Collection Day – now under BMP 2E
- 1F – Newspaper Press Release – now under BMPs 1A & 1B

MCM 2: Public Involvement and Participation

- 2A – Community Hotline – now under BMP 2D
- 2B – Attitude Surveys – now under BMP 2B
- 2C – Storm Drain Marking – now under BMPs 2F
- 2D – Watershed Committee – now under BMP 2G
- 2E – Seasonal Cleanup – now under BMP 2C

MCM 3: Illicit Discharge Detection and Elimination

- 3A – Mapping Stormwater Outfalls – now under BMP 3B
- 3B – Develop Illicit Discharge Plan – now under BMPs 3C and 3D
- 3C – Stormwater Discharge Ordinance – now under BMP 3C
- 3D – Illegal Dumping – now under BMPs 1A & 2C
- 3E – Recreational Septage – now under BMP 1A-1
- 3F – Failing Septic Systems – now under BMPs 3C, 3D, and 3E
- 3G – Industrial / Business Connections – now under BMP 1A, 1B, and 1D
- 3H – Video Inspection – now under BMPs 3F, 3G, and 3H

MCM 4: Construction Site Stormwater Runoff Control

- 4A – Construction Runoff Ordinance – now under BMPs 4A, 4B, 4C, and 4D
- 4B – Construction Plan Review – now under BMP 4B
- 4C – Inspection / Reporting – now under BMP 4A

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

- 5A – Post Construction Runoff Ordinance – now under BMP 5E
- 5B – Site Plan Review – now under BMPs 4B and 5E
- 5C – Stormwater System Maintenance Plan – now under BMPs 5A and 6C

MCM 6: Pollution Prevention and Good Housekeeping in Municipal Operations

- 6A – Municipal Maintenance Activity Program – now under BMPs 6A, 6B, and 6C
- 6B – Training of Municipal Employees – now under BMP 3E
- 6C – Stormwater Pollution Prevention Plan / MSGP – now under BMP 6D
- 6D - Catch Basin Cleaning Program – now under BMP 6E
- 6E – Street Sweeping – now under BMP 6F
- 6F – Used Oil Recycling – now under BMP 2E
- 6G – Hazardous Waste Collection – now under BMP 2E

Appendix B
Summary of 2003 and 2016 MS4 General Permit BMPs

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

- 7A – TMDL for Connecticut River – now under enhanced BMPs for tributaries to the Long Island Sound subject to the out of state Nitrogen TMDL: BMPs 1A, 3C, 3D, 5B, 5E, 6A, and 6F
- 7B – TMDL for Chicopee River – now under enhanced BMPs for waterbodies impaired by bacteria or pathogens, BMPs 1A and 3D
- 7C – TMDL for Abbey Brook – now under enhanced BMPs for TSS, BMPs 5E, 6E, and 6F

Tighe&Bond

APPENDIX C

Endangered Species Act Eligibility Certification

To: City of Chicopee Stormwater Management Program Files
FROM: Tighe & Bond
COPY: Quinn Lonczak, Project Supervisor, City of Chicopee Water Pollution Control
DATE: May 20, 2019

Tighe & Bond has completed the National Endangered Species Eligibility Determination screening process in accordance with Part 1.9.1 and Appendix C of U.S. EPA's National Pollutant Discharge Elimination System (NPDES) General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts (see Attachment A of this memorandum), effective July 1, 2018, and determined that the **City of Chicopee** meets **Criterion C**, where informal consultation with U.S. Fish and Wildlife (USFWS) resulted in a finding that the stormwater discharges and discharge related activities will have "no affect" on listed species or critical habitat. Tighe & Bond followed EPA's screening process required by the 2016 Small MS4 General Permit as follows:

Tighe & Bond went to the USFWS Information for Planning and Consultation (IPaC) website¹ and requested an Official Species List from the USFWS New England Ecological Services Field Office, included in Attachment B to this memorandum. The Official Species List lists the following species that may occur or could potentially be affected by activities in the City:

- Northern Long-eared Bat.

The Official Species List documents that there are no critical habitats in Chicopee.

Tighe & Bond went to the USFWS New England Field Office website for Endangered Species Reviews/Consultations² and selected the Massachusetts state list³ to review which Cities/Towns have federally-listed species. A copy of the list of Federally Listed Endangered and Threatened Species in Massachusetts is included in Attachment C to this memorandum. Based on review of this list, the Northern Long-eared Bat is listed statewide and no additional Federally Listed Endangered or Threatened Species are identified as being present within the City of Chicopee.

Tighe & Bond then reviewed Step 1 Part B of the USFWS endangered species consultation, and visited the Massachusetts Natural Heritage and Endangered Species Program (NHESP) species information and conservation website about the Northern Long-eared Bat⁴. The NHESP website includes a map showing the known locations of hibernacula and maternity roost trees of the Northern Long-eared Bat within Massachusetts.

Attachment D includes the NHESP Northern Long-eared Bat Fact Sheet and the NHESP map (last updated April 16, 2019) showing that there are no known Northern Long-eared Bat winter hibernacula or maternity roost trees within or near the City of Chicopee.

¹ <http://ecos.fws.gov/ipac/>

² https://www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm

³ <https://www.fws.gov/newengland/pdfs/MA%20species%20by%20City.pdf>

⁴ <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/rare-mammals/northern-long-eared-bat.html>

Based on the results of the NHESP website review, Tighe & Bond determined there is no potential habitat for any listed species within the action area, and therefore no further coordination is required with the USFWS. Attachment E provides the results of Tighe & Bond's informal consultation on behalf of the City of Chicopee with the USFWS "no species present" letter that states "no species are known to occur in the project area".

Step 1 – Determine if you can meet USFWS Criterion A

"USFWS Criterion A: You can certify eligibility, according to USFWS Criterion A, for coverage by this permit if, upon completing the Information, Planning, and Conservation (IPaC) online system process, you printed and saved the preliminary determination which indicated that federally listed species or designated critical habitats are not present in the action area. See Attachment 1 to Appendix C for instructions on how to use IPaC."

No, the City of Chicopee's IPaC action area contains the Northern Long-eared Bat.

Step 2 – Determine if You Can Meet Eligibility USFWS Criteria B

"USFWS Criterion B: You can certify eligibility according to USFWS Criteria B for coverage by this permit if you answer "Yes" to **all** of the following questions:

- 1) Does your action area contain one or more of the following species: Sandplain gerardia, Small whorled Pogonia, American burying beetle, Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?

No, the City of Chicopee's action area does not contain any of the above listed species.

Step 3 – Determine if You Can Meet Eligibility USFWS Criteria C

"You can certify eligibility according to USFWS Criterion C for coverage by this permit if you answer "Yes" to both of the following questions:

- 1) Does your action area contain one or more of the following species: Northern Long-eared Bat, Sandplain gerardia, Small whorled Pogonia and/or American burying beetle and does not contain any following species: Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?

Yes, the City of Chicopee's action area contains the Northern Long-eared Bat, but none of the other subsequent species.

- 2) Did the assessment of your discharge and discharge related activities indicate that there would be "no affect" on listed species or critical habitat and EOA provided concurrence with your determination?

Yes, Tighe & Bond performed an informal consultation with USFWS and determined that the City's discharges and discharge related activities will have "no affect" on listed species or critical habitat (see discussion above).

- 3) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will conduct an endangered species screening for the proposed site and contact the USFWS if you determine that the new activity "may affect" or is "not likely to adversely affect" listed species or critical habitat under the jurisdiction of the USFWS."

Yes, during the course of the permit term the City of Chicopee agrees to conduct an endangered species screening for the proposed site and contact USFWS if they plan to install a structural BMP not identified in the NOI.

Tighe & Bond's review of all questions under Step 3 resulted in "Yes" and thereby has determined the City of Chicopee's action area meets the endangered species' eligibility requirements included in **Criterion C**.

F:\Projects\C\C5000 Chicopee\027 MS4 SWMP\Permitting\SWMP\Appendix C ESA Eligibility\Draft Chicopee ESA Eligibility Criterion C Memo Text.docx

Attachment A

Appendix C of U.S. EPA's National Pollutant Discharge Elimination System (NPDES) General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts

APPENDIX C ENDANGERED SPECIES GUIDANCE

A. Background

In order to meet its obligations under the Clean Water Act and the Endangered Species Act (ESA), and to promote the goals of those Acts, the Environmental Protection Agency (EPA) is seeking to ensure the activities regulated by this general permit do not adversely affect endangered and threatened species or critical habitat. Applicants applying for permit coverage must assess the impacts of their stormwater discharges and discharge-related activities on federally listed endangered and threatened species (“listed species”) and designated critical habitat (“critical habitat”) to ensure that those goals are met. Prior to obtaining general permit coverage, applicants must meet the ESA eligibility provisions of this permit by following the steps in this Appendix¹.

Applicants also have an independent ESA obligation to ensure that their activities do not result in any prohibited “take” of listed species². The term “Take” is used in the ESA to include harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. “Harass” is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Many of the measures required in this general permit and in these instructions to protect species may also assist in ensuring that the applicant’s activities do not result in a prohibited take of species in violation of section 9 of the ESA. If the applicant has plans or activities in an area where endangered and threatened species are located, they may wish to ensure that they are protected from potential take liability under ESA section 9 by obtaining an ESA section 10 permit or by requesting formal consultation under ESA section 7. Applicants that are unsure whether to pursue a section 10 permit or a section 7 consultation for takings protection should confer with the appropriate United States Fish and Wildlife Service (USFWS) office or the National Marine Fisheries Service (NMFS), (jointly the Services).

Currently, there are 20 species of concern for applicants applying for permit coverage, namely the Dwarf wedgemussel (*Alasmidonta heterodon*), Northeastern bulrush (*Scirpus ancistrochaetus*), Sandplain gerardia (*Agalinis acuta*), Piping Plover (*Charadrius melodus*), Roseate Tern (*Sterna dougallii*), Northern Red-bellied cooter (*Pseudemys rubriventis*), Bog Turtle (*Glyptemys muhlenbergii*), Small whorled Pogonia (*Isotria medeoloides*), Puritan tiger beetle (*Cicindela puritana*), American burying beetle (*Nicrophorus americanus*), Northeastern beach tiger beetle (*Cicindela dorsalis*), Northern Long-eared Bat (*Myotis septentrionalis*), Atlantic Sturgeon (*Acipenser oxyrinchus*), Shortnose Sturgeon (*Acipenser brevirostrum*), North Atlantic Right Whale (*Eubalaena glacialis*), Humpback Whale (*Megaptera novaengliae*), Fin Whale (*Balaenoptera physalus*), Kemp’s Ridley Sea Turtle (*Lepidochelys kempii*), Loggerhead Sea Turtle (*Caretta caretta*), Leatherback Sea Turtle (*Dermochelys coriacea*), and the Green Turtle (*Chelonia*

¹ EPA strongly encourages applicants to begin this process at the earliest possible stage to ensure the notification requirements for general permit coverage are complete upon Notice of Intent (NOI) submission.

² Section 9 of the ESA prohibits any person from “taking” a listed species (e.g. harassing or harming it) unless: (1) the taking is authorized through an “incidental take statement” as part of completion of formal consultation according to ESA section 7; (2) where an incidental take permit is obtained under ESA section 10 (which requires the development of a habitat conversion plan; or (3) where otherwise authorized or exempted under the ESA. This prohibition applies to all entities including private individuals, businesses, and governments.

mydas). The Atlantic Sturgeon, Shortnose Sturgeon, North Atlantic Right Whale, Humpback Whale, Fin Whale, Loggerhead Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle and Green Turtle are listed under the jurisdiction of NMFS. The Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle are listed under the jurisdiction of the U.S. Fish and Wildlife Service.

Any applicant seeking coverage under this general permit, must consult with the Services where appropriate. When listed species are present, permit coverage is only available if EPA determines, or the applicant determines and EPA concurs, that the discharge or discharge related activities will have "no affect" on the listed species or critical habitat, or the applicant or EPA determines that the discharge or discharge related activities are "not likely to adversely affect" listed species or critical habitat and formal or informal consultation with the Services has been concluded and results in written concurrence by the Services that the discharge is "not likely to adversely affect" an endangered or threatened species or critical habitat.

EPA may designate the applicants as non-Federal representatives for the general permit for the purpose of carrying out formal or informal consultation with the Services (See 50 CFR §402.08 and §402.13). By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the U.S. Fish and Wildlife Service. EPA has not designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the National Marine Fisheries Service. EPA has determined that discharges from MS4s are not likely to adversely affect listed species or critical habitat under the jurisdiction of the National Marine Fisheries Service. EPA has initiated informal consultation with the National Marine Fisheries Service on behalf of all permittees and no further action is required by permittees in order to fulfill ESA requirements of this permit related to species under the jurisdiction of NMFS

B. The U.S. Fish and Wildlife Service ESA Eligibility Process

Before submitting a notice of intent (NOI) for coverage by this permit, applicants must determine whether they meet the ESA eligibility criteria by following the steps in Section B of this Appendix. Applicants that cannot meet the eligibility criteria in Section B must apply for an individual permit.

The USFWS ESA eligibility requirements of this permit relating to the Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle may be satisfied by documenting that one of the following criteria has been met:

USFWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the stormwater discharges or discharge related activities.

USFWS Criterion B: In the course of formal or informal consultation with the Fish and Wildlife Service, under section 7 of the ESA, the consultation resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the stormwater discharges and

discharge related activities are “not likely to adversely affect” listed species or critical habitat (informal consultation).

USFWS Criterion C: Using the best scientific and commercial data available, the effect of the stormwater discharge and discharge related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the applicant and affirmed by EPA, 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 USFWS.

1. The Steps to Determine if the USFWS ESA Eligibility Criteria Can Be Met

To determine eligibility, you must assess the potential effects of your known stormwater discharges and discharge related activities on listed species or critical habitat, PRIOR to completing and submitting a Notice of Intent (NOI). You must follow the steps outlined below and document the results of your eligibility determination.

Step 1 – Determine if you can meet USFWS Criterion A

USFWS Criterion A: You can certify eligibility, according to USFWS Criterion A, for coverage by this permit if, upon completing the Information, Planning, and Conservation (IPaC) online system process, you printed and saved the preliminary determination which indicated that federally listed species or designated critical habitats are not present in the action area. See Attachment 1 to Appendix C for instructions on how to use IPaC.

If you have met USFWS Criterion A skip to Step # 4.

If you have not met USFWS Criterion A, go to Step # 2.

Step 2 – Determine if You Can Meet Eligibility USFWS Criteria B

USFWS Criterion B: You can certify eligibility according to USFWS Criteria B for coverage by this permit if you answer “Yes” to **all** of the following questions:

- 1) Does your action area contain one or more of the following species: Sandplain gerardia, Small whorled Pogonia, American burying beetle, Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?
AND
- 2) Did your assessment of the discharge and discharge related activities indicate that the discharge or discharge related activities “may affect” or are “not likely to adversely affect” listed species or critical habitat?
AND
- 3) Did you contact the USFWS and did the formal or informal consultation result in either a “no jeopardy” opinion by the USFWS (for formal consultation) or concurrence by the

USFWS that your activities would be “not likely to adversely affect” listed species or critical habitat (for informal consultation)?

AND

- 4) Do you agree to implement all measures upon which the consultation was conditioned?
- 5) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will re-initiate informal or formal consultation with USFWS as necessary?

Use the guidance below Step 3 to understand effects determination and to answer these questions.

If you answered “Yes” to all four questions above, you have met eligibility USFWS Criteria B. Skip to Step 4.

If you answered “No” to any of the four questions above, go to Step 3.

Step 3 – Determine if You Can Meet Eligibility USFWS Criterion C

USFWS Criterion C: You can certify eligibility according to USFWS Criterion C for coverage by this permit if you answer “Yes” to both of the following question:

- 1) Does your action area contain one or more of the following species: Northern Long-eared Bat, Sandplain gerardia, Small whorled Pogonia and/or American burying beetle and **does not** contain one any following species: Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?³
- OR
- 2) Did the assessment of your discharge and discharge related activities and indicate that there would be “no affect” on listed species or critical habitat and EPA provided concurrence with your determination?
 - 3) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will to conduct an endangered species screening for the proposed site and contact the USFWS if you determine that the new activity “may affect” or is “not likely to adversely affect” listed species or critical habitat under the jurisdiction of the USFWS.

Use the guidance below to understand effects determination and to answer these questions.

If you answered “Yes” to both the question above, you have met eligibility USFWS Criterion C. Go to Step 4.

If you answered “No” to either of the questions above, you are not eligible for coverage by this permit. You must submit an application for an individual permit for your stormwater discharges. (See 40 CFR 122.21).

USFWS Effects Determination Guidance:

If you are unable to certify eligibility under USFWS Criterion A, you must assess whether your stormwater discharges and discharge-related activities “may affect”, will have “no affect” or are “not likely to adversely affect” listed species or critical habitat. “Discharge-related activities” include: activities which cause, contribute to, or result in point source stormwater pollutant discharges; and measures to provide treatment for stormwater discharges including the siting, construction and operational procedures to control, reduce or prevent water pollution. Please be aware that no protection from incidental take liability is provided under this criterion.

The scope of effects to consider will vary with each system. If you are having difficulty in determining whether your system is likely to cause adverse effects to a listed species or critical habitat, you should contact the USFWS for assistance. In order to complete the determination of effects it may be necessary to follow the formal or informal consultation procedures in section 7 of the ESA.

Upon completion of your assessment, document the results of your effects determination. If your results indicate that stormwater discharges or discharge related activities will have “no affect” on threatened or endangered species or critical habitat and EPA concurs with your determination, you are eligible under USFWS Criterion C of this Appendix. Your determination may be based on measures that you implement to avoid, eliminate, or minimized adverse effects.

If the determination is “May affect” or “not likely to adversely affect” you must contact the USFWS to discuss your findings and measures you could implement to avoid, eliminate, or minimize adverse effects. If you and the USFWS reach agreement on measures to avoid adverse effects, you are eligible under USFWS Criterion B. Any terms and/or conditions to protect listed species and critical habitat that you relied on in order to complete an adverse effects determination, must be incorporated into your Storm Water Management Program (required by this permit) and implemented in order to maintain permit eligibility.

If endangered species issues cannot be resolved: If you cannot reach agreement with the USFWS on measures to avoid or eliminate adverse effects then you are not eligible for coverage under this permit. You must seek coverage under an individual permit.

Effects from stormwater discharges and discharge-related activities which could pose an adverse effect include:

- *Hydrological:* Stormwater discharges may cause siltation, sedimentation, or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.
- *Habitat:* Excavation, site development, grading and other surface disturbance activities, including the installation or placement of treatment equipment may adversely affect listed species or their habitat. Stormwater from the small MS4 may inundate a listed species habitat.

- *Toxicity*: In some cases, pollutants in the stormwater may have toxic effects on listed species.

Step 4 - Document Results of the Eligibility Determination

Once the USFWS ESA eligibility requirements have been met, you shall include documentation of USFWS ESA eligibility in the Storm Water Management Program required by the permit. Documentation for the various eligibility criteria are as follows:

- USFWS Criterion A: A copy of the IPaC generated preliminary determination letter indicating that no listed species or critical habitat is present within your action area. You shall also include a statement on how you determined that no listed species or critical habitat are in proximity to your stormwater system or discharges.
- USFWS Criterion B: A dated copy of the USFWS letter of concurrence on a finding of “no jeopardy” (for formal consultation) or “not likely to adversely affect” (for informal consultation) regarding the ESA section 7 consultation.
- USFWS Criterion C: A dated copy of the EPA concurrence with the operator’s determination that the stormwater discharges and discharge-related activities will have “no affect” on listed species or critical habitat.

C. Submittal of Notice of Intent

Once the ESA eligibility requirements of Part C of this Appendix have been met you may submit the Notice of Intent indicating which Criterion you have met to be eligible for permit coverage. Signature and submittal of the NOI constitutes your certification, under penalty of law, of eligibility for permit coverage under 40 CFR 122.21.

D. Duty to Implement Terms and Conditions upon which Eligibility was Determined

You must comply with any terms and conditions imposed under the ESA eligibility requirements to ensure that your stormwater discharges and discharge related activities do not pose adverse effects or jeopardy to listed species and/or critical habitat. You must incorporate such terms and conditions into your Storm Water Management Program as required by this permit. If the ESA eligibility requirements of this permit cannot be met, then you may not receive coverage under this permit and must apply for an individual permit.

E. Services Information

United States Fish and Wildlife Service Office

National websites for Endangered Species Information:
Endangered Species home page: <http://endangered.fws.gov>
ESA Section 7 Consultations: <http://endangered.fws.gov/consultation/index.html>
Information, Planning, and Conservation System (IPAC): <http://ecos.fws.gov/ipac/>

U.S. FWS – Region 5
Supervisor

New England Field Office
U.S. Fish and Wildlife Services
70 Commercial Street, Suite 300
Concord, NH 03301

Natural Heritage Network

The Natural Heritage Network comprises 75 independent heritage program organizations located in all 50 states, 10 Canadian provinces, and 12 countries and territories located throughout Latin America and the Caribbean. These programs gather, manage, and distribute detailed information about the biological diversity found within their jurisdictions. Developers, businesses, and public agencies use natural heritage information to comply with environmental laws and to improve the environmental sensitivity of economic development projects. Local governments use the information to aid in land use planning.

The Natural Heritage Network is overseen by NatureServe, the Network's parent organization, and is accessible on-line at: http://www.natureserve.org/nhp/us_programs.htm, which provides websites and other access to a large number of specific biodiversity centers.

U.S. Fish and Wildlife IPaC system instructions

Use the following protocol to determine if any federally listed species or designated critical habitats under USFWS jurisdiction exist in your action area:

Enter your project specific information into the “Initial Project Scoping” feature of the Information, Planning, and Conservation (IPaC) system mapping tool, which can be found at the following location:

<http://ecos.fws.gov/ipac/>

- a. Indicate the action area¹ for the MS4 by either:
 - a. Drawing the boundary on the map or by uploading a shapefile.
Select “Continue”

- c. Click on the “SEE RESOURCE LIST” button and on the next screen you can export a trust resources list. This will provide a list of natural resources of concern, which will include an Endangered Species Act Species list. You may also request an official species list under “REGULATORY DOCUMENTS” Save copies and retain for your records

¹ The action area is defined by regulation as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR §402.02). This analysis is not limited to the "footprint" of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

The documentation used by a Federal action agency to initiate consultation should contain a description of the action area as defined in the Services' regulations and explained in the Services' consultation handbook. If the Services determine that the action area as defined by the action agency is incorrect, the Services should discuss their rationale with the agency or applicant, as appropriate. Reaching agreement on the description of the action area is desirable but ultimately the Services can only consult when an action area is defined properly under the regulations.

For storm water discharges or discharge related activities, the action area should encompass the following:

- The immediate vicinity of, or nearby, the point of discharge into receiving waters.
- The path or immediate area through which or over which storm water flows from the municipality to the point of discharge into the receiving water. This includes areas in the receiving water downstream from the point of discharge.
- Areas that may be impacted by construction or repair activities. This extends as far as effects related to noise (from construction equipment, power tools, etc.) and light (if work is performed at night) may reach.

The action area will vary with the size and location of the outfall pipe, the nature and quantity of the storm water discharges, and the type of receiving waters, among other factors.

Attachment B

USFWS New England Field Office, Official Species List for the
City of Chicopee's Action Area from IPaC



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:

May 20, 2019

Consultation Code: 05E1NE00-2019-SLI-1743

Event Code: 05E1NE00-2019-E-04259

Project Name: Chicopee 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). 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

Project Summary

Consultation Code: 05E1NE00-2019-SLI-1743

Event Code: 05E1NE00-2019-E-04259

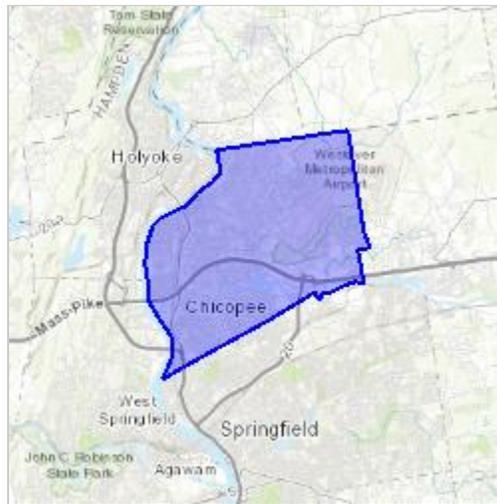
Project Name: Chicopee MS4

Project Type: Regulation Promulgation

Project Description: The project consists of the City of Chicopee's small municipal separate storm sewer systems (MS4) that falls within the urbanized area of the town. Based on EPA's 2016 MS4 General Permit, the City of Chicopee must apply for permit coverage for the City's MS4 stormwater discharges and assess the impacts of the stormwater discharges and discharge-related activities on endangered and threatened species, and designated critical habitats that fall within the areas that fall within the MS4.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.17161771365425N72.5728137808465W>



Counties: Hampden, MA | Hampshire, 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 Fisheries¹, 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: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

Attachment C
Federally Listed Endangered and Threatened Species
in Massachusetts

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN
MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

¹Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.

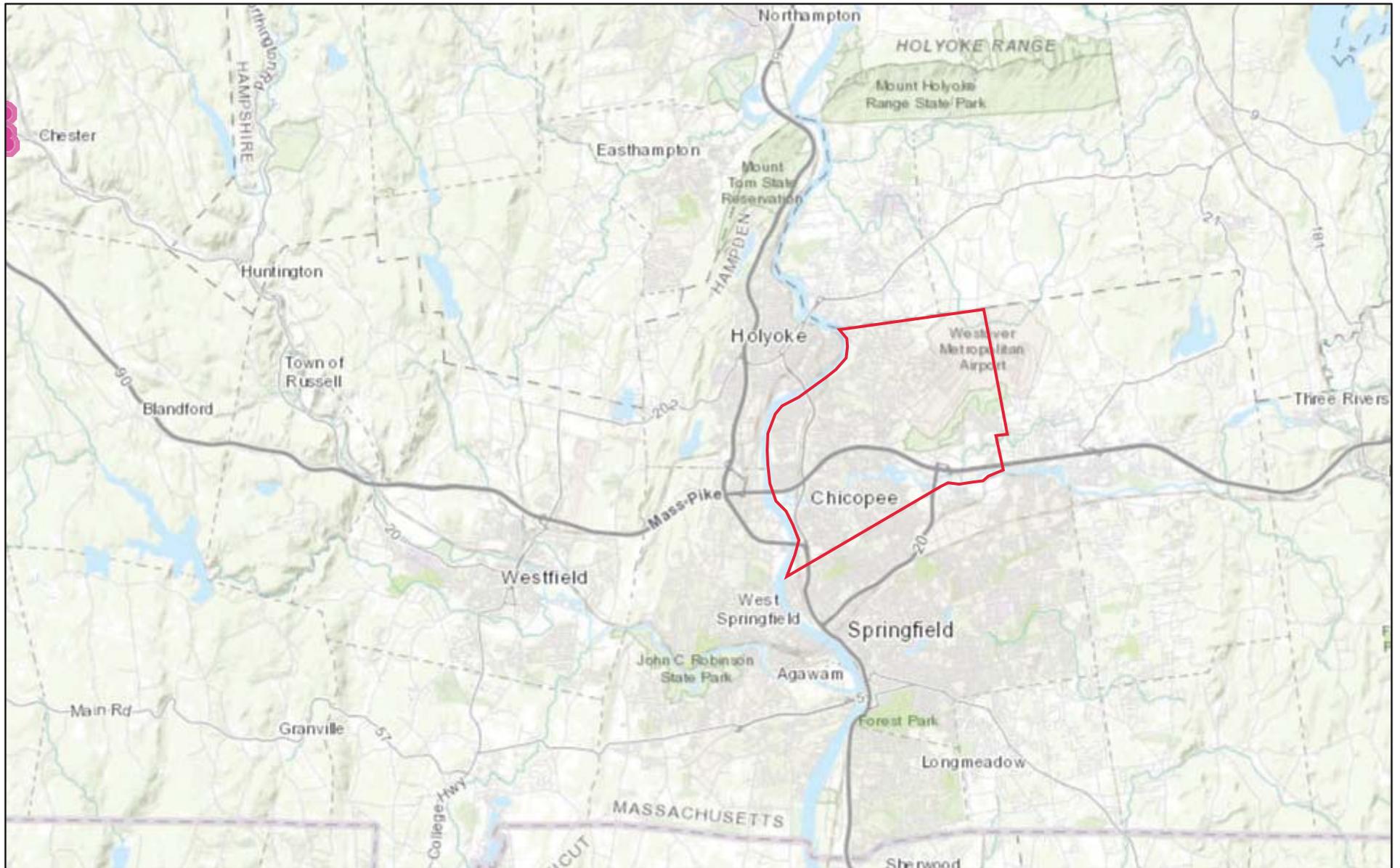
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.

-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Attachment D

NHESP Northern Long-eared Bat Location Map and Fact Sheet

NHESP NLEB Map

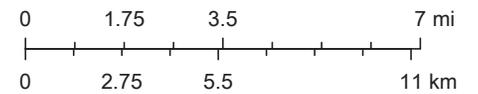


May 20, 2019

Statewide_NLEB_Symbology

- Hibernaculum
- MA Northern Long-eared Bat Winter Hibernacula (with 1/4 mile buffer)

1:288,895



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Northern Myotis *Myotis septentrionalis*

State Status: Endangered
Federal Status: Threatened

DESCRIPTION: The Northern Myotis is a small bat with large ears, which when pushed forward extend at least 4 mm past its nose. Its fur and wing membranes are light brown, giving it an overall somewhat uniform brown appearance. The hairs on its back are bicolored, with a dark base and lighter tip. The Northern Myotis averages 50-95 mm in total length, with a tail of 35-42 mm. In weight, it averages 5-8 g. This bat is typically found roosting in trees and feeding in forested habitats, but may occasionally be found in human habitations.

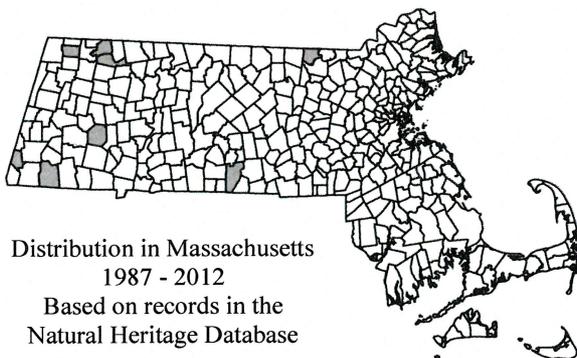
SIMILAR SPECIES: The best diagnostic character to distinguish the Northern Myotis from other species in Massachusetts is its long ears. The rare Little Brown Myotis (*Myotis lucifugus*, Endangered) and Indiana Myotis (*Myotis sodalis*, Endangered, federally Endangered) are similar in appearance, but have shorter ears which typically do not extend beyond their nose when pushed forward. The tragus, which is a fleshy projection which sticks up in front of the ear opening, is long and narrowly pointed in the Northern Myotis, while it is shorter and blunt in the Little Brown Myotis. The Little Brown Myotis also has glossier fur and a shorter tail relative to its body length. The Indiana Myotis has a



Photo: Tammy Ciesla, MassWildlife

keeled calcar (a ridge of cartilage between the foot and the tail), which the Northern Myotis lacks. Other features of interest in identification include the bat's hairless interfemoral membrane (the skin stretching between the legs and tail) and lack of a black face mask (which is characteristic of Small-footed Myotis, *Myotis leibii*, Endangered).

HABITAT IN MASSACHUSETTS: In the warmer months, colonies of Northern Myotis may be found roosting and foraging in forested areas. Preferred roosts are in clustered stands of large trees, especially in live or dead hardwoods with large, tall cavities. These bats are found in other tree roosts as well, and occasionally in human-made structures. Northern Myotis forage under the forest canopy in structurally complex habitats, often above small ponds, vernal pools or streams, along gravel paths or roads, and at the forest edge. The bats are widespread in Massachusetts, and have been found in 11



Distribution in Massachusetts
1987 - 2012
Based on records in the
Natural Heritage Database

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

of 14 counties. In winter, Northern Myotis hibernate in natural caves and abandoned mines, preferring habitats where the humidity is so high that water droplets sometimes cover their fur. Winter hibernacula (hibernation sites) have been reported in Berkshire, Franklin, Hampden, Middlesex, and Worcester counties.

RANGE: The Northern Myotis is found across forested parts of the eastern United States and Canada, west to British Columbia, Wyoming, and Montana, and south into Florida. It was historically common in New England, the Canadian Maritimes, Quebec and Ontario, and uncommon in the western extremes of its range.

LIFE CYCLE/BEHAVIOR: In the summer months, Northern Myotis emerge at dusk from daytime roosts for the first in a series of feeding flights. Their long tails and large wing membranes allow the bats to fly slowly and navigate through cluttered environments. These special adaptations also enable them to glean prey from foliage, in addition to catching insects on the fly. These bats locate resting insects through a combination of passive listening and the emission of high frequency echolocation calls.

Between August and October, the body weight of Northern Myotis increases by up to 45%, as they store fat for winter. In late summer, the bats begin to “swarm” around the entrances of caves, and are thought to be testing the air of possible hibernacula. This is the time when mating occurs, with females storing the sperm within their bodies until spring. By early November, the bats enter hibernation sites. Their metabolisms slow and they enter torpor, but will rouse occasionally throughout the winter to drink water. Northern Myotis share caves with a number of other species, but tend to hibernate singly or in small groups in deep cracks or crevices. They return to the same hibernacula in multiple years, but may not hibernate in the same location every year. Little data are available on migration, but the bats are known to travel up to 56 km from foraging sites to winter hibernacula.

Females bear and rear single young from mid-May through July. The longevity record for the Northern Myotis is 18 years.

POPULATION STATUS IN MASSACHUSETTS, INCLUDING THREATS: The Northern Myotis is listed as Endangered under the Massachusetts

Endangered Species Act. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. In addition, listed animals are specifically protected from activities that disrupt nesting, breeding, feeding, or migration.

Once a common species in the northern United States, populations of the Northern Myotis have been devastated by the spread of White-nose Syndrome. Populations in infected hibernacula in the Northeast have suffered catastrophic losses of 90-100%. White-nose Syndrome is caused by a newly described fungus, *Pseudogymnoascus destructans*, which is believed to be a non-native species accidentally introduced from caves in western Europe. European species of bats have co-evolved with this fungus, so they have a high degree of immunity. The fungus grows over bats while they hibernate, causing them to rouse from dormancy frequently, lose valuable stored fat, and fail to survive the winter. The fungus is believed to be passed from cave to cave primarily by the movements of breeding male bats, but human transport is also thought to be responsible for the infection of some hibernacula.

MANAGEMENT RECOMMENDATIONS: The U.S. Fish & Wildlife Service is working in concert with government and non-profit groups to understand the spread of the fungus and potential for stopping its spread, as well as exploring opportunities for captive breeding of the most vulnerable species. Access to suitable undisturbed hibernacula is essential to the survival of the Northern Myotis, and protection of known sites is paramount. Human disturbance of hibernacula can be discouraged or prevented with the use of gated entrances, in order to avoid arousal of hibernating bats and the spread of fungal spores.

REFERENCES:

- Caceres, M.C., and R.M. Barclay. 2000. Myotis septentrionalis. *Mammalian Species* 634: 1-4.
- French, T.W., J.E. Cardoza, and G.S. Jones. *Homeowner's Guide to Bats*. Massachusetts Department of Fisheries & Wildlife: Westborough, MA.
- Hamilton, Jr., W.J., and J.O. Whitaker, Jr. 1979. *Mammals of the Eastern United States*, Second Edition. Cornell University Press: Ithaca, NY.
- U.S. Fish & Wildlife Service. 2012. “White-nose Syndrome.” <http://whitenosesyndrome.org/>

Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

Attachment E

USFWS New England Field Office "No Species Present" Letter
January 2019



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 31, 2019

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 2019)

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

Tighe&Bond

APPENDIX D

National Historic Preservation Act Eligibility Certification

To: City of Chicopee Stormwater Management Program Files
FROM: Tighe & Bond
COPY: Quinn Lonczak, Project Supervisor, City of Chicopee Water Pollution Control
DATE: May 20, 2019

Tighe & Bond has completed the National Historic Preservation Act Eligibility Determination screening process in accordance with Part 1.9.2 and Appendix D of U.S. EPA's National Pollutant Discharge Elimination System (NPDES) General Permits from Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts (see Attachment A of this memorandum), effective July 1, 2018, and determined that the **City of Chicopee** meets **Criterion A**, where the discharges were found to not have the potential to cause effects on historic properties.

Tighe & Bond followed EPA's screening process included in Appendix D of the 2016 Small MS4 General Permit by answering the screening questions as follows:

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 City of Chicopee is a an existing facility authorized under the 2003 Massachusetts Small MS4 General Permit and is not, as part of developing and submitting the Notice of Intent for permit coverage, undertaking any activity involving subsurface land disturbance less than an acre.

Based on this screening process, the Town of East Longmeadow's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities will not have an effect on a property that is listed or eligible for listing on the National Register of Historic Places (NRHP), meeting **Criterion A**, and no further action is necessary at this time.

Based on this screening process, the City of Chicopee's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities will not have an effect on a property that is listed or eligible for listing on the National Register of Historic Properties (NRHP) and no further action is necessary at this time. Attachment B to this memorandum includes a list of the federal- and state-listed historic areas, buildings, burial grounds, objects, and structures in the City of Chicopee downloaded from the Massachusetts Cultural Resource Information System (MACRIS) that is current as of May 20, 2019, and a list of the NRHP listings in the City of Chicopee that is current as of April 4, 2019.

If the City undertakes construction on or around a property that is listed or eligible for listing, the City will coordinate with the State Historic Preservation Officer (SHPO) (i.e. the Massachusetts Historical Commission) by submitting a Project Notification Form and associated documentation for the project. As applicable for each project, the City will implement measures to avoid or minimize adverse impacts on places listed, or eligible for listing, on the NRHP, including any conditions imposed by the SHPO or THPO. If the City fails to document and implement such measures, those discharges are ineligible for coverage under EPA's Small MS4 General Permit.

Attachment A

Appendix D of U.S. EPA's National Pollutant Discharge
Elimination System (NPDES) General Permits for Stormwater
Discharges from Small Municipal Separate Storm Sewer Systems
(MS4s) in Massachusetts

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 (TPHO), 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.**

Attachment B

MACRIS Database Inventoried and State-Listed and Federally-
Listed Properties and Districts
and
National Register of Historic Places Listings
City of Chicopee

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chicopee; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CHI.A	Ames Manufacturing Company		Chicopee	
CHI.B	Dwight Manufacturing Company Housing		Chicopee	
CHI.C	Church of the Holy Name of Jesus Complex		Chicopee	
CHI.D	Springfield Street Historic District		Chicopee	
CHI.E	Dwight Manufacturing Company		Chicopee	
CHI.F	Bonneville Avenue Streetscape		Chicopee	
CHI.G	Charpentier Boulevard Streetscape		Chicopee	
CHI.H	Perkins, B. F. and Sons Company		Chicopee	
CHI.I	Ellerton Street Area		Chicopee	
CHI.J	Grant - Gaylord Streets Area		Chicopee	
CHI.K	Fisk Rubber Company Complex		Chicopee	
CHI.L	Lucretia Avenue Streetscape		Chicopee	
CHI.M	Roy, J. G. - Hallahan Lumber Company		Chicopee	
CHI.N	Elms College		Chicopee	
CHI.O	Washington - Arlington Streets Area		Chicopee	
CHI.P	West - Kimball Streets Area		Chicopee	
CHI.Q	Chicopee Manufacturing Company		Chicopee	
CHI.R	Arlington Streetscape		Chicopee	
CHI.S	Chapman Streetscape		Chicopee	
CHI.T	Emmet Streetscape		Chicopee	
CHI.U	Gilmore Streetscape		Chicopee	
CHI.V	Orchard Street Three-Deckers		Chicopee	
CHI.W	School Streetscape		Chicopee	
CHI.X	Sheridan Streetscape		Chicopee	
CHI.Y	Church Street Historic District		Chicopee	
CHI.Z	Dwight Manufacturing Company Housing District		Chicopee	
CHI.AA	Westover Air Reserve Base		Chicopee	

Inv. No.	Property Name	Street	Town	Year
CHI.AB	Cabotville Common Historic District		Chicopee	
CHI.AC	North Willimansett		Chicopee	
CHI.AD	Diners of Massachusetts		Chicopee	
CHI.AE	Lincoln Grove		Chicopee	
CHI.AF	Exchange Street - Market Square Area		Chicopee	
CHI.AG	Chicopee Memorial State Park		Chicopee	
CHI.919	Indian Crossing Site		Chicopee	
CHI.1	Wait, Alonzo House	42 Abbey St	Chicopee	c 1870
CHI.2	Abbey, A. B. House	61 Abbey St	Chicopee	c 1870
CHI.743	Westover Armed Forces Reserve Center	Airman Way	Chicopee	1959
CHI.744	Westover Armed Forces Reserve Center Garage	Airman Way	Chicopee	1978
CHI.3	Hinckley, John House	15 Arlington St	Chicopee	1891
CHI.566	Lyon, Lucien N. House	21 Arlington St	Chicopee	1891
CHI.567	Bird, Charles E. House	29 Arlington St	Chicopee	1891
CHI.568	Martin, Adolphus R. House	35 Arlington St	Chicopee	1891
CHI.1000	Massachusetts Army National Guard Armory	29 Armory Dr	Chicopee	1957
CHI.900	Ashley Avenue Bridge	Ashley Ave	Chicopee	c 1905
CHI.546	Olmsted and Tuttle Company Building	38 Asinof Ave	Chicopee	r 1890
CHI.547	Olmsted and Tuttle Company Building	38 Asinof Ave	Chicopee	r 1890
CHI.4	Olmsted and Tuttle Company Building	40 Asinof Ave	Chicopee	1899
CHI.702	Stebbins, Seth House	20 Auburn St	Chicopee	c 1870
CHI.703	Corron, Fred F. House	28 Auburn St	Chicopee	c 1878
CHI.704	Borys, Francis House	34 Auburn St	Chicopee	1962
CHI.705	Snow, Franklin J. House	44 Auburn St	Chicopee	1883
CHI.800	Maple Grove Cemetery	45 Auburn St	Chicopee	1836
CHI.706	Harris, Calvin House	50 Auburn St	Chicopee	1885
CHI.707	Cordner, Thomas House	56 Auburn St	Chicopee	1885
CHI.589	Walker, William A. House	60 Auburn St	Chicopee	1885
CHI.590	Howard, Ralph E. House	64 Auburn St	Chicopee	1918
CHI.6	Page, I. H. House	44 Beauchamp Terr	Chicopee	c 1914
CHI.171	Saint George's French Catholic Church	7 Belcher St	Chicopee	1923
CHI.174	Rumrill, George House	33 Belcher St	Chicopee	1856
CHI.13	Holy Mother of the Rosary Polish Church	26 Bell St	Chicopee	1897
CHI.560	Polish National Catholic Church Parish School	26 Bell St	Chicopee	1937
CHI.18	Alvord School	Broadway	Chicopee	1894
CHI.522	MacArthur - Belcher House	37 Broadway	Chicopee	1815
CHI.15	First Central Baptist Church	50 Broadway	Chicopee	1878
CHI.170	United Methodist Episcopal Church	55 Broadway	Chicopee	1841

Inv. No.	Property Name	Street	Town	Year
CHI.16	O'Donnell, James A. Boston Grocery Company	144 Broadway	Chicopee	1896
CHI.17	Seaver, Charles H. House	173 Broadway	Chicopee	c 1860
CHI.19	Canterbury, Nathan House	181 Broadway	Chicopee	c 1860
CHI.20	Lydon, The	199 Broadway	Chicopee	c 1900
CHI.21	Crowther, Ed House	223 Broadway	Chicopee	1888
CHI.22	Bramley, Walter House	227 Broadway	Chicopee	1888
CHI.23	Nichols, Frederick House	237 Broadway	Chicopee	1888
CHI.24	Leonard, Zebrina House	245 Broadway	Chicopee	1888
CHI.25	Pepper, Charles House	257 Broadway	Chicopee	1898
CHI.26	Hinkley, Frederick House	269 Broadway	Chicopee	1888
CHI.27	Grout, Austin House	277 Broadway	Chicopee	1888
CHI.28	Woods, John W. House	285 Broadway	Chicopee	1892
CHI.29	Lyon, Lucien House	297 Broadway	Chicopee	1890
CHI.30	Bosworth, Julius House	305 Broadway	Chicopee	1895
CHI.31	Burby, Walter House	317 Broadway	Chicopee	1891
CHI.32	Page, Irving H. House	319 Broadway	Chicopee	1908
CHI.33	Cochran House	334 Broadway	Chicopee	r 1900
CHI.34	Cochran, Angeline House	340 Broadway	Chicopee	1894
CHI.35	Hampden Brewing Company Building	30 Buckley Blvd	Chicopee	c 1870
CHI.745	Bullens, Amaziah House	12 Bullens St	Chicopee	c 1855
CHI.746	Cotter, William House	20 Bullens St	Chicopee	c 1883
CHI.37	Morgan, Theodore S. House	54 Cabot St	Chicopee	1839
CHI.38	Taylor, Milo A. House	65 Cabot St	Chicopee	c 1840
CHI.39	Bullens, Ira M. House	79 Cabot St	Chicopee	1840
CHI.40	Graves, Albert House	95 Cabot St	Chicopee	1866
CHI.41	Smith, William G. House	103 Cabot St	Chicopee	1847
CHI.44	Polish National Home	144 Cabot St	Chicopee	1912
CHI.46	Ames Manufacturing Company Worker Housing	12 Canal St	Chicopee	c 1833
CHI.47	Ames Manufacturing Company Worker Housing	22 Canal St	Chicopee	1835
CHI.48	Ames Manufacturing Company Worker Housing	30 Canal St	Chicopee	1835
CHI.801	Fairview Cemetery	Cemetery Dr	Chicopee	1870
CHI.910	Fairview Cemetery Gate	Cemetery Dr	Chicopee	1895
CHI.911	Spaulding, Sarah Memorial	Cemetery Dr	Chicopee	
CHI.62	Bosch Magneto Company	Center St	Chicopee	c 1910
CHI.524	U. S. Post Office - Chicopee Center Station	Center St	Chicopee	1935
CHI.49	Starzyk Building	10 Center St	Chicopee	1921
CHI.213	Universalist Church	13 Center St	Chicopee	1836
CHI.50	Temple Block	21 Center St	Chicopee	1876

Inv. No.	Property Name	Street	Town	Year
CHI.52	Monument de Union Canadienne	35 Center St	Chicopee	1909
CHI.53	Smith, Robert B. House	86 Center St	Chicopee	1840
CHI.54	Perkins Street Methodist Episcopal Church	89 Center St	Chicopee	1884
CHI.55	Haynes, James M. House	90 Center St	Chicopee	1841
CHI.56	Sherman, Asel House	113 Center St	Chicopee	c 1842
CHI.57	Waterman, Charles and Hoarce House	121 Center St	Chicopee	1844
CHI.58	Chandler, Aaron House	127 Center St	Chicopee	1842
CHI.59	Bergeron, George Apartment Building	189 Center St	Chicopee	1909
CHI.61	Bent, William E. Finished Lumber Company	628 Center St	Chicopee	c 1912
CHI.591	Roy, Leo N. House	20 Chapin St	Chicopee	1941
CHI.63	Mattoon, George House	23 Chapin St	Chicopee	1868
CHI.64	Danks, Richmond House	33 Chapin St	Chicopee	1869
CHI.65	Howard, Charles F. House	43 Chapin St	Chicopee	1869
CHI.66	Hall, Ebenezer R. House	53 Chapin St	Chicopee	1869
CHI.67	White, Andrew House	63 Chapin St	Chicopee	1869
CHI.68	Sullivan, Michael J. House	73 Chapin St	Chicopee	c 1890
CHI.69	McClallan, Charles W. House	23 Chapman St	Chicopee	c 1840
CHI.569	McClallan, Charles W. House	29 Chapman St	Chicopee	c 1870
CHI.570	McClallan, Charles W. House	33 Chapman St	Chicopee	c 1850
CHI.70	Charbonneau, Joseph L. House	40 Charbonneau Terr	Chicopee	1923
CHI.72	Pease, Jane Marie House	11 Chestnut St	Chicopee	c 1842
CHI.747	Leppens, Ann A. House	14 Chestnut St	Chicopee	c 1885
CHI.73	Eastman, Abigail House	15 Chestnut St	Chicopee	1842
CHI.748	Leppens, Ann A. House	18 Chestnut St	Chicopee	c 1885
CHI.749	Saint Stanislaus Society Club	21 Chestnut St	Chicopee	1913
CHI.750	Haynes, J. A. House	33 Chestnut St	Chicopee	1849
CHI.751	Sheldon, G. House	41 Chestnut St	Chicopee	c 1855
CHI.752	Simms, Josiah House	47 Chestnut St	Chicopee	1847
CHI.74	Wright, Tryphena Boarding House	53 Chestnut St	Chicopee	1846
CHI.75	Bullens, Amaziah House	59 Chestnut St	Chicopee	c 1855
CHI.755	Ouimette, David House	61 Chestnut St	Chicopee	c 1885
CHI.76	Lane, Lorenzo House	67 Chestnut St	Chicopee	1846
CHI.792	Underwood, Ruth House	73 Chestnut St	Chicopee	c 1853
CHI.77	Albro, Clark Row House	74 Chestnut St	Chicopee	r 1853
CHI.758	Knott, Robert C. - Littlewood, William J. House	80 Chestnut St	Chicopee	c 1885
CHI.759	Underwood, Alpheus House	81 Chestnut St	Chicopee	c 1859
CHI.760	Albro, Emelius S. House	88 Chestnut St	Chicopee	c 1855
CHI.940	Dwight Manufacturing Company Upper Dam	Chicopee River	Chicopee	1832

Inv. No.	Property Name	Street	Town	Year
CHI.941	Dwight Manufacturing Company - Lower Dam Ruins	Chicopee River	Chicopee	1834
CHI.904	Willimansett - Holyoke Bridge	Chicopee St	Chicopee	1891
CHI.79	Pease House	31-33 Chicopee St	Chicopee	c 1825
CHI.80	Pease, Christopher H. House	35 Chicopee St	Chicopee	r 1830
CHI.81	Dillaber, Jesse House	39 Chicopee St	Chicopee	c 1835
CHI.82	Whiting, Seth Homestead	50 Chicopee St	Chicopee	c 1835
CHI.83	Chapin, Quartus House	62 Chicopee St	Chicopee	c 1840
CHI.548	Chapin, Zerah House	89 Chicopee St	Chicopee	1793
CHI.84	Ferry, Lewis House	98 Chicopee St	Chicopee	c 1810
CHI.86	Furtek, Max J. Market	185 Chicopee St	Chicopee	1948
CHI.87	Woods, Henry - Bemis, S. C. House	188 Chicopee St	Chicopee	c 1830
CHI.88	Jaszek, Ignatues House	196 Chicopee St	Chicopee	c 1925
CHI.89	Chapin, Frederick - Parker, Josiah A. House	200 Chicopee St	Chicopee	r 1830
CHI.90	Pasko, F. Bait Shop	205 Chicopee St	Chicopee	1945
CHI.108	Chicopee Primary School	223 Chicopee St	Chicopee	1846
CHI.802	Chicopee Street Cemetery	228 Chicopee St	Chicopee	c 1743
CHI.909	Chapin Mausoleum	228 Chicopee St	Chicopee	1914
CHI.94	Stedman, Phineas House	243 Chicopee St	Chicopee	c 1863
CHI.95	Clark, Rev. Eli B. House	298 Chicopee St	Chicopee	c 1873
CHI.96	First Congregational Church	302 Chicopee St	Chicopee	c 1824
CHI.97	First Congregational Church Parsonage	302 Chicopee St	Chicopee	1830
CHI.98	Gates, Elias House	333 Chicopee St	Chicopee	c 1845
CHI.99	Chapin, Abel Homestead	337 Chicopee St	Chicopee	c 1750
CHI.101	Pendleton, Sylvanus House	353 Chicopee St	Chicopee	c 1830
CHI.100	Chapin, Frederick Homestead	354 Chicopee St	Chicopee	c 1787
CHI.102	Boisvert, Varida T. House	418 Chicopee St	Chicopee	1910
CHI.103	Genest, Edmond House	424 Chicopee St	Chicopee	1916
CHI.104	Palmer, Walter Homestead	472 Chicopee St	Chicopee	c 1850
CHI.105	Shepherd, Jonathan House	518 Chicopee St	Chicopee	c 1880
CHI.106	Flanagan, Patrick House	528 Chicopee St	Chicopee	c 1900
CHI.107	Carreau Block	640-642 Chicopee St	Chicopee	1911
CHI.109	Skeel, Otis Homestead	694 Chicopee St	Chicopee	c 1826
CHI.110	Pearl Block	714 Chicopee St	Chicopee	1924
CHI.561	Roland Commercial Block	720 Chicopee St	Chicopee	1926
CHI.111	Maryland, The	771 Chicopee St	Chicopee	1912
CHI.112	Church of the Nativity Rectory	780 Chicopee St	Chicopee	1910
CHI.113	Allaire, Louis Apartment Building	801 Chicopee St	Chicopee	1911

Inv. No.	Property Name	Street	Town	Year
CHI.114	Esther Apartment Building	805 Chicopee St	Chicopee	1909
CHI.115	Gauthier, Doryle Apartment Building	828 Chicopee St	Chicopee	1910
CHI.116	Hebert, Theophile W. Building	830 Chicopee St	Chicopee	1907
CHI.117	Day, Brigham House	851 Chicopee St	Chicopee	r 1850
CHI.118	Rousseau, Alphonse House	861 Chicopee St	Chicopee	c 1900
CHI.120	Griswold, The	863 Chicopee St	Chicopee	1908
CHI.122		863 Chicopee St	Chicopee	r 1880
CHI.119	Gauthier Block	882 Chicopee St	Chicopee	1909
CHI.121	Chapin, Orange Homestead	900 Chicopee St	Chicopee	c 1850
CHI.123	Holyoke Building Association Block	924 Chicopee St	Chicopee	1924
CHI.125	Perkins, B. F. and Sons Manufacturing Building	939 Chicopee St	Chicopee	c 1923
CHI.126	Bemis, Stephen C. - Day, Newton House	945-947 Chicopee St	Chicopee	c 1835
CHI.127	Doane and Williams Cabinetmaking Company Building	955 Chicopee St	Chicopee	1912
CHI.128	Beulah Baptist Chapel	993 Chicopee St	Chicopee	1888
CHI.129	Wright, Eber - Pendleton, Clossen House	994 Chicopee St	Chicopee	c 1820
CHI.130	Willimansett School #1	1024 Chicopee St	Chicopee	1879
CHI.131	Belanger, John Apartment House	1060 Chicopee St	Chicopee	c 1908
CHI.132	Buckland, George W. House	71 Church St	Chicopee	1835
CHI.133	Rumrill, George House	81 Church St	Chicopee	1846
CHI.134	Bellamy, Edward House	91 Church St	Chicopee	r 1830
CHI.135	Jones, Amos B. - Davenport, Guy House	99 Church St	Chicopee	c 1840
CHI.136	Hubbard, Andrew House	109 Church St	Chicopee	1837
CHI.137	Carpenter, Jonathan - Alvord, Dr. Samuel House	117 Church St	Chicopee	1838
CHI.138	Tye, Martha House	7 Clinton St	Chicopee	1886
CHI.139	Buttrick, Harriet House	9 Clinton St	Chicopee	1889
CHI.140	Ballard, Chester House	19 Clinton St	Chicopee	1886
CHI.141	Walker, William House	25 Clinton St	Chicopee	1892
CHI.142	Coburn Trolley Track Manufacturing Company	Coburn St	Chicopee	1902
CHI.143	Bousquet, Joseph House	22 Cochran St	Chicopee	c 1890
CHI.144	Whittemore, John R. Workers Housing	23 Cochran St	Chicopee	c 1875
CHI.549	Rist, Joel W. House	46 Cochran St	Chicopee	1888
CHI.145	Abbey, Charlie C. House	138 Cochran St	Chicopee	c 1890
CHI.482	Chapman, George H. House	4 Cooney Pl	Chicopee	c 1855
CHI.481	Chapman, George H. House	10 Cooney Pl	Chicopee	c 1855
CHI.763	Fogerty House	16 Cooney Pl	Chicopee	c 1855
CHI.146	Granfield, Thomas J. House	69 Cyman Dr	Chicopee	1892
CHI.147	Chapin, Henry House	340 Dale St	Chicopee	c 1820

Inv. No.	Property Name	Street	Town	Year
CHI.150	Chapin Boarding House	11 Denette St	Chicopee	r 1850
CHI.151	Lavoie, Henry J. House	12 Denette St	Chicopee	1925
CHI.920	Depot Street Bridge over Dwight Canal	Depot St	Chicopee	1902
CHI.148	Springfield Canal Company Worker Housing	20 Depot St	Chicopee	c 1846
CHI.152	Shay, Jeremiah House	36 Dublin St	Chicopee	c 1850
CHI.153	Curtis, Patric House	43 Dublin St	Chicopee	1848
CHI.154	Ducharme, Stanislas - Cousineau, Victoria House	21 Ducharme Ave	Chicopee	1915
CHI.155		5 Dwight Ct	Chicopee	r 1865
CHI.157	Springfield Canal Company Worker Housing	2 Dwight St	Chicopee	r 1835
CHI.158	Springfield Canal Company Worker Housing	11 Dwight St	Chicopee	r 1835
CHI.159	Springfield Canal Company Worker Housing	16 Dwight St	Chicopee	r 1835
CHI.164	Bullens, Ichabod House	49 Dwight St	Chicopee	r 1850
CHI.165	Bullens, Ichabod House	51 Dwight St	Chicopee	r 1850
CHI.166	Barnes, William House	52 Dwight St	Chicopee	c 1855
CHI.167	Dwight Manufacturing Company Agent House	74 Dwight St	Chicopee	c 1840
CHI.168	Woodward, J. W. House	86 Dwight St	Chicopee	c 1840
CHI.169	Carter, Converse House	96 Dwight St	Chicopee	c 1845
CHI.173	Fay, Hamilton and Arthur House	228 East Main St	Chicopee	c 1845
CHI.803	East Street Cemetery	East St	Chicopee	1825
CHI.175	Ames, Sarah House	15 East St	Chicopee	c 1842
CHI.176	Hamilton, Homer House	23 East St	Chicopee	1861
CHI.177	Gowin, Moses House	24 East St	Chicopee	1876
CHI.178	Page, Thomas C. House	105 East St	Chicopee	r 1875
CHI.180	Richard - Whiting House	144 East St	Chicopee	r 1865
CHI.183	Ferry, Arthur C. House	22 Ellerton St	Chicopee	1897
CHI.184	Ferry, Arthur C. House	24 Ellerton St	Chicopee	1897
CHI.185	Clapp, Otis B. House	82 Ellerton St	Chicopee	1908
CHI.725	Westover Air Base - Building #1900	Ellipse Dr	Chicopee	1955
CHI.925	Westover Air Base - Flagpole	Ellipse Dr	Chicopee	1939
CHI.719	Westover Air Base - Building #1502 - Photo Lab	450 Ellipse Dr	Chicopee	1940
CHI.186	Cronan, Cornelius House	13 Emerald St	Chicopee	c 1850
CHI.187	O'Rourke, Patrick - Punch, James House	25 Emerald St	Chicopee	1864
CHI.188	O'Connor, Roger House	38 Emerald St	Chicopee	1872
CHI.189	Haggerty, Patrick - Donahue, Michael House	45 Emerald St	Chicopee	c 1850
CHI.190	Emerson, James House	30 Emerson St	Chicopee	1895
CHI.191	Caven House	15 Emmet St	Chicopee	c 1866
CHI.562	Moriarity House	16 Emmet St	Chicopee	c 1866

Inv. No.	Property Name	Street	Town	Year
CHI.563	Cavanaugh House	20 Emmet St	Chicopee	c 1866
CHI.192	Ayers House	25 Emmet St	Chicopee	c 1870
CHI.572	McDonald House	25 Emmet St	Chicopee	c 1870
CHI.573	McDonald House	35 Emmet St	Chicopee	c 1870
CHI.574	McDonald House	39 Emmet St	Chicopee	c 1870
CHI.575	McDonald House	43 Emmet St	Chicopee	c 1870
CHI.193	Shea, John F. House	50 Emmet St	Chicopee	c 1890
CHI.194	O'Connor, John A. House	52 Emmet St	Chicopee	c 1885
CHI.196	Chicopee-West Springfield Bridge Toll House	1 Exchange St	Chicopee	c 1855
CHI.197	Abbey, Abner B. House	4 Exchange St	Chicopee	c 1855
CHI.199	McCune, Joseph B. House	109 Exchange St	Chicopee	c 1850
CHI.571	Chicopee Blue Print Company	109 Exchange St	Chicopee	
CHI.198	White, Olive House	116 Exchange St	Chicopee	1844
CHI.200	Twichell, Franklin House	117 Exchange St	Chicopee	r 1850
CHI.201	Springfield Canal Company Boarding House	129-131 Exchange St	Chicopee	r 1835
CHI.202	Springfield Canal Company Boarding House	135-137 Exchange St	Chicopee	r 1835
CHI.203	Ballard, Benjamin E. House and Store	146 Exchange St	Chicopee	c 1848
CHI.204	Springfield Canal Company Boarding House	147 Exchange St	Chicopee	r 1835
CHI.160	Springfield Canal Company Worker Housing	157 Exchange St	Chicopee	r 1835
CHI.205	Bullens, Ichabod House and Store	160-166 Exchange St	Chicopee	r 1850
CHI.206	Stevens, Abigail I. House	170-172A Exchange St	Chicopee	c 1843
CHI.208	Murphy, Denis Building	202 Exchange St	Chicopee	c 1893
CHI.1001	Union Block	204-212 Exchange St	Chicopee	1846
CHI.209	Cabot Hotel	220 Exchange St	Chicopee	1907
CHI.210	Exchange Block	232 Exchange St	Chicopee	1846
CHI.212	Wentworth, William Building	258 Exchange St	Chicopee	1848
CHI.550	Leavitt Building	258 Exchange St	Chicopee	r 1850
CHI.592	Chapman, Charles A. House	17 Fairview Ave	Chicopee	1909
CHI.593	Gregory, Dr. William House	25 Fairview Ave	Chicopee	1950
CHI.594	Gaylord, Arthur F. House	39 Fairview Ave	Chicopee	1883
CHI.214	Stebbins, Soloman House	45 Fairview Ave	Chicopee	c 1845
CHI.595	Gaylord House	50 Fairview Ave	Chicopee	c 1902
CHI.215	Hobbs, William - Bliss, Joel K. House	51 Fairview Ave	Chicopee	1855
CHI.596	Mitchell, Susan E. House	53 Fairview Ave	Chicopee	1984
CHI.597	Warriner, Stephen G. House	55 Fairview Ave	Chicopee	1885
CHI.598	Kendall, H. B. House	56 Fairview Ave	Chicopee	c 1865
CHI.599	Topor, Walter House	62 Fairview Ave	Chicopee	1951
CHI.600	Howard, Charles H. House	63 Fairview Ave	Chicopee	c 1905

Inv. No.	Property Name	Street	Town	Year
CHI.601	Wood, Warren S. House	68 Fairview Ave	Chicopee	c 1870
CHI.602	Brachman, George House	71 Fairview Ave	Chicopee	1961
CHI.603	Hosley, Dexter P. House	75 Fairview Ave	Chicopee	c 1876
CHI.216	Ferry, Edward D. House	80 Fairview Ave	Chicopee	1874
CHI.604	Kennedy, Maurice House	81 Fairview Ave	Chicopee	1905
CHI.605	Orr, J. and M. Block	82 Fairview Ave	Chicopee	c 1912
CHI.217	Rumrill, John S. House	94 Fairview Ave	Chicopee	c 1845
CHI.218	Kennedy, Maurice House	133 Fairview Ave	Chicopee	1905
CHI.219	Van Horn Farmhouse	172 Fairview Ave	Chicopee	r 1815
CHI.220	Miller, Ezekiel House	48 Farmington St	Chicopee	c 1858
CHI.710	Westover Air Base - Bldg #5302 - Bldg #S-241	First Ave	Chicopee	1942
CHI.221	Lefebvre, Charles H. House	85 Forest St	Chicopee	1927
CHI.713	Westover Air Base - Field Officer's Quarters	53 Fredette St	Chicopee	1941
CHI.242	Saint Stanislaus Church	Front St	Chicopee	1908
CHI.901	Dwight Manufacturing Company Canal	Front St	Chicopee	1832
CHI.908	Chicopee Soldier's Memorial	Front St	Chicopee	1920
CHI.222	Springfield Canal Company Boarding House	38 Front St	Chicopee	r 1880
CHI.223	Springfield Canal Company Boarding House	64 Front St	Chicopee	r 1835
CHI.224	Springfield Canal Company Boarding House	78 Front St	Chicopee	r 1835
CHI.225	Springfield Canal Company Boarding House	94-96 Front St	Chicopee	r 1835
CHI.226	Springfield Canal Company Boarding House	106 Front St	Chicopee	r 1835
CHI.149	Dwight Manufacturing Company Mill #7	165 Front St	Chicopee	c 1845
CHI.528	Dwight Manufacturing Company Hydrostation	165 Front St	Chicopee	1920
CHI.529	Perkins Mills Counting House - Office	165 Front St	Chicopee	1836
CHI.530	Dwight Manufacturing Company Cloth House	165 Front St	Chicopee	c 1880
CHI.531	Perkins Mills Cloth Room Building	165 Front St	Chicopee	c 1850
CHI.532	Perkins Mills Cloth Storehouse	165 Front St	Chicopee	c 1850
CHI.533	Dwight Manufacturing Company Mill #3	165 Front St	Chicopee	1920
CHI.534	Dwight Manufacturing Company Mill #8	165 Front St	Chicopee	c 1907
CHI.535	Dwight Manufacturing Company Boiler House #7	165 Front St	Chicopee	c 1870
CHI.537	Dwight Manufacturing Company - Engine House A and B and Boiler Room Complex	165 Front St	Chicopee	c 1910
CHI.538	Dwight Manufacturing Company Mill #2	165 Front St	Chicopee	1913
CHI.539	Dwight Manufacturing Company - Mill #1	165 Front St	Chicopee	1912
CHI.540	Dwight Manufacturing Company Repair and Supply Shop	165 Front St	Chicopee	1886
CHI.541	Dwight Manufacturing Company - Paint Shop and Lumber Storage Building	165 Front St	Chicopee	c 1912
CHI.542	Dwight Manufacturing Company Boiler House	165 Front St	Chicopee	c 1910

Inv. No.	Property Name	Street	Town	Year
CHI.543	Dwight Manufacturing Company Warehouse A	165 Front St	Chicopee	c 1907
CHI.942	Dwight Manufacturing Company - Bridge #1	165 Front St	Chicopee	c 1870
CHI.943	Dwight Manufacturing Company - Bridge #2	165 Front St	Chicopee	c 1870
CHI.944	Dwight Manufacturing Company Entry Gate	165 Front St	Chicopee	1894
CHI.945	Dwight Manufacturing Company Smokestack	165 Front St	Chicopee	1910
CHI.946	Dwight Manufacturing Company Penstock Controls	165 Front St	Chicopee	c 1910
CHI.947	Industrial Building Company - Bridge #3	165 Front St	Chicopee	c 1960
CHI.1011	Depot Street Flood Control Building	165 Front St	Chicopee	1941
CHI.229	Ames Manufacturing Company Worker Housing	279 Front St	Chicopee	1834
CHI.231	Ames Manufacturing Company Worker Housing	291 Front St	Chicopee	1834
CHI.232	Ames Manufacturing Company Worker Housing	301 Front St	Chicopee	1835
CHI.551	Parshley, Samuel House	333 Front St	Chicopee	c 1870
CHI.233	Cowles, Warren P. House	339 Front St	Chicopee	c 1872
CHI.234	Fuller, Josiah B. House	356 Front St	Chicopee	c 1863
CHI.235	Wintorth, William E. House	384 Front St	Chicopee	c 1840
CHI.236	Naughton, Thomas J. House	397 Front St	Chicopee	c 1890
CHI.237	Ricker, Burtis M. House	425 Front St	Chicopee	1877
CHI.238	Billings, Charles D. House	432 Front St	Chicopee	c 1842
CHI.239	Searle, Rufus C. House	433 Front St	Chicopee	1871
CHI.240	Ryan, John C. House	487 Front St	Chicopee	r 1865
CHI.241	Moreau, Thomas E. House	500 Front St	Chicopee	c 1875
CHI.243	Chicopee High School	650 Front St	Chicopee	1918
CHI.245	Blaisdell, Elizabeth House	655 Front St	Chicopee	c 1888
CHI.246	Chicopee Municipal Lighting Plant	725 Front St	Chicopee	1895
CHI.247	Chicopee Municipal Lighting Plant	725 Front St	Chicopee	1928
CHI.249	Pomeroy, Henry F. - Caswell, George House	782 Front St	Chicopee	c 1845
CHI.250	Walsh, James A. House	878 Front St	Chicopee	c 1900
CHI.251	Walsh, James A. House	890 Front St	Chicopee	c 1897
CHI.917	Shawinigan Drive Bridge over Fuller Brook	Fuller Rd	Chicopee	1956
CHI.252	Fuller, Orrin House	809 Fuller Rd	Chicopee	r 1830
CHI.606	Gaylord, Emerson House	16 Gaylord Ct	Chicopee	c 1894
CHI.607	Galas, Frank J. House	22 Gaylord Ct	Chicopee	1950
CHI.608	Balicki, Francis S. House	15 Gaylord St	Chicopee	1955
CHI.253	McCavery, Robert House	25 Gaylord St	Chicopee	c 1875
CHI.254	Gaylord, Emerson G. House	35-37 Gaylord St	Chicopee	c 1878
CHI.255	Hosley, James E. House	45 Gaylord St	Chicopee	c 1875
CHI.256	Hitchcock, Loranus E. House	55 Gaylord St	Chicopee	c 1872

Inv. No.	Property Name	Street	Town	Year
CHI.257	McClallan, Charles W. - Bemis, Robert E. House	4 Gilmore St	Chicopee	c 1845
CHI.609	Bosworth, L. House	7 Gilmore St	Chicopee	c 1855
CHI.576	McClallan, Charles W. - Bemis, Robert E. House	8 Gilmore St	Chicopee	c 1845
CHI.577	Gilmore, William H. House	12 Gilmore St	Chicopee	c 1845
CHI.610	Kos, M. House	15 Gilmore St	Chicopee	c 1894
CHI.611	Smith, J. House	17 Gilmore St	Chicopee	c 1855
CHI.612	Lyon, George C. House	23 Gilmore St	Chicopee	1846
CHI.259	Gilmore, William H. Carriage Shop	33 Gilmore St	Chicopee	c 1859
CHI.258	Gilmore, William H. Carriage Factory	36 Gilmore St	Chicopee	c 1852
CHI.260	Smith, Josiah House	40 Gilmore St	Chicopee	1848
CHI.613	Bowker, Jonathan C. House	44 Gilmore St	Chicopee	c 1855
CHI.614	Robins, J. S. House	47 Gilmore St	Chicopee	c 1855
CHI.261	Robertson, R. E. House	48 Gilmore St	Chicopee	c 1850
CHI.262	Sherman, Laton House	51 Gilmore St	Chicopee	c 1855
CHI.615	Jamroz, Frank House	59 Gilmore St	Chicopee	c 1916
CHI.263	Ritter, William Crystal Spring Brewery	4 Granby Rd	Chicopee	1896
CHI.264	Chapin, Neri House	181 Granby Rd	Chicopee	c 1840
CHI.265	Chapin, Bela House	320 Granby Rd	Chicopee	r 1830
CHI.799		345 Granby Rd	Chicopee	r 1955
CHI.267	Leonard, Charles F. House	18 Grant St	Chicopee	1885
CHI.616	Smith, Wilfred A. House	21 Grant St	Chicopee	1906
CHI.617	Strong, Leander House	23 Grant St	Chicopee	1886
CHI.268	Smith, Charles N. House	24 Grant St	Chicopee	c 1840
CHI.618	Strong House	25 Grant St	Chicopee	1896
CHI.269	Porter, Jesse House	27 Grant St	Chicopee	1871
CHI.619	Pomeroy, Henry F. House	30 Grant St	Chicopee	c 1874
CHI.620	Lorimer, William A. House	37 Grant St	Chicopee	1911
CHI.270	Hill, Leonard C. House	40 Grant St	Chicopee	1878
CHI.621	Searle, Rufus C. House	45 Grant St	Chicopee	c 1878
CHI.544	First Unitarian Church	Grape St	Chicopee	1893
CHI.279	Springfield Canal Company - Chase, John House	1 1/2 Grape St	Chicopee	r 1865
CHI.271	Chase, John House	3 Grape St	Chicopee	r 1865
CHI.272	Patrick, Mary H. House	28 Grape St	Chicopee	r 1890
CHI.623	Blythe, Benn House	94 Grape St	Chicopee	c 1918
CHI.275	Howard, E. S. - Stearns, George M. House	96 Grape St	Chicopee	1834
CHI.622	Valentine School	97 Grape St	Chicopee	1898
CHI.624	Snow, Elvira House	104 Grape St	Chicopee	1896
CHI.625	Moody, Henry S. House	108 Grape St	Chicopee	c 1882

Inv. No.	Property Name	Street	Town	Year
CHI.276	Churchill, Sylvester House	112 Grape St	Chicopee	c 1840
CHI.626	Page, James J. Block	116 Grape St	Chicopee	c 1916
CHI.277	Mosman, Silas House	119 Grape St	Chicopee	1834
CHI.627	Mosman, Silas Jr. House	122 Grape St	Chicopee	1847
CHI.628	Mosman, Dexter House	123 Grape St	Chicopee	1834
CHI.278	Childley, James G. House	129 Grape St	Chicopee	c 1846
CHI.273	Grape Street Primary School	141 Grape St	Chicopee	1861
CHI.629	Munroe, J. House	147 Grape St	Chicopee	c 1855
CHI.280	Rhodes, William House	30 Grattan St	Chicopee	c 1850
CHI.281	Arbour, Marshall Apartment Building	480 Grattan St	Chicopee	1924
CHI.282	Ecole Sainte Jeanne D'Arc	587 Grattan St	Chicopee	1926
CHI.283	Aldenville Fire Station #7	739 Grattan St	Chicopee	1928
CHI.284	Wilbur, John R. House	19 Grove Ave	Chicopee	c 1890
CHI.285	Blaisdell, Samuel - Carter, Nathaniel House	22 Grove Ave	Chicopee	1890
CHI.290	Griggs, David B. House	35 Grove Ave	Chicopee	1891
CHI.286	Polish Home Association Building	25-33 Grove St	Chicopee	1926
CHI.287	Chicopee Manufacturing Company Boarding House	25 Grove St	Chicopee	c 1830
CHI.288	Fisk Rubber Company Office	154 Grove St	Chicopee	1916
CHI.553	Fisk Rubber Company Building	154 Grove St	Chicopee	1896
CHI.554	Fisk Rubber Company Machine Shop	154 Grove St	Chicopee	c 1910
CHI.555	Fisk Rubber Company Storage Building	154 Grove St	Chicopee	c 1912
CHI.556	Fisk Rubber Company Office Building and Garage	154 Grove St	Chicopee	c 1913
CHI.557	Wilbur, John R. House	209 Grove St	Chicopee	1890
CHI.291	Paige, Hannah J. House	225 Grove St	Chicopee	1853
CHI.292	Chicopee Manufacturing Company Worker Housing	234 Grove St	Chicopee	r 1885
CHI.293	Chicopee Manufacturing Company Worker Housing	242 Grove St	Chicopee	r 1885
CHI.294	Sherman, Nathaniel House	243 Grove St	Chicopee	1864
CHI.295	Sherman, Nathaniel House	247 Grove St	Chicopee	1884
CHI.296	Cory, Reuben House	257 Grove St	Chicopee	1863
CHI.297	Bidwell, William House	263 Grove St	Chicopee	1863
CHI.298	Hines, Mary A. House	265 Grove St	Chicopee	1909
CHI.299	Kentfield, William House	292 Grove St	Chicopee	1891
CHI.300	Cox, Ethan House	302 Grove St	Chicopee	1891
CHI.301	Ballard, Elizabeth House	306 Grove St	Chicopee	1895
CHI.302	Flint, Frank C. House	310 Grove St	Chicopee	1908

Inv. No.	Property Name	Street	Town	Year
CHI.303	Houlihan, Catherine House	324 Grove St	Chicopee	1891
CHI.304	Cobb, Frank House	332 Grove St	Chicopee	1894
CHI.305	Babbitt, George House	340 Grove St	Chicopee	1891
CHI.306	Meyers, Elizabeth House	356 Grove St	Chicopee	1891
CHI.307	Carver, Augustus E. House	360 Grove St	Chicopee	1893
CHI.308	Carver, Augustus E. House	366 Grove St	Chicopee	1897
CHI.309	Barton, Homer House	370 Grove St	Chicopee	1899
CHI.310	Reeder, Ralph House	380 Grove St	Chicopee	1895
CHI.311	Chapin, Henry House	386 Grove St	Chicopee	1894
CHI.804	Calvary Cemetery	Hampden St	Chicopee	1836
CHI.312	Dulanty, Thomas and John House	120 Hampden St	Chicopee	1852
CHI.313	Canty, Dennis G. House	132 Hampden St	Chicopee	1894
CHI.314	Malone, Thomas House	168 Hampden St	Chicopee	1894
CHI.711	Westover Air Base - Bldg #2503 - Pumping Station	Hangar Ave	Chicopee	1942
CHI.715	Westover Air Base - Bldg #1529 - Switching Station	Hangar Ave	Chicopee	1940
CHI.716	Westover Air Base - Building #1528 - Warehouse	Hangar Ave	Chicopee	1940
CHI.722	Westover Air Base - Building #1312 - Valve Shelter	Hangar Ave	Chicopee	1942
CHI.728	Westover Air Base - Building #2502 - Building P-29	Hangar Ave	Chicopee	1941
CHI.729	Westover Air Base - Building #2500 - Building P-77	Hangar Ave	Chicopee	1941
CHI.734	Westover Air Base - Building #7010 - Arms Storage	Hangar Ave	Chicopee	1941
CHI.736	Westover Air Base - Building #7012 - Arms Storage	Hangar Ave	Chicopee	1941
CHI.924	Westover Air Base - Bldg #1311 - Water Tower	Hangar Ave	Chicopee	1941
CHI.737	Westover Air Base - Building #7071 - Base Hangar 9	250 Hangar Ave	Chicopee	1941
CHI.738	Westover Air Base - Building #7072 - Base Hangar 7	350 Hangar Ave	Chicopee	1941
CHI.723	Westover Air Base - Building #1310 - Warehouse	395 Hangar Ave	Chicopee	1941
CHI.739	Westover Air Base - Building #7073 - Base Hangar 5	450 Hangar Ave	Chicopee	1941
CHI.720	Westover Air Base - Building #1411 - Heating Plant	495 Hangar Ave	Chicopee	1941
CHI.740	Westover Air Base - Building #7075 - Base Hangar 3	550 Hangar Ave	Chicopee	1941
CHI.741	Westover Air Base - Building #7087 - Base Hangar 1	650 Hangar Ave	Chicopee	1941

Inv. No.	Property Name	Street	Town	Year
CHI.717	Westover Air Base - Bldg #1520 - Fire - Guard Hse	651 Hangar Ave	Chicopee	1941
CHI.248	Bemis, Robert W. House	70 Harrison Ave	Chicopee	1851
CHI.7	Morton, Morris House	4 Hastings St	Chicopee	1866
CHI.8	Rumrill, George Tenement House	11 Hastings St	Chicopee	1875
CHI.9	Williams, Charles J. House	19 Hastings St	Chicopee	1870
CHI.10	Hadley, Ethan House	29 Hastings St	Chicopee	1873
CHI.11	Herrick, John House	37 Hastings St	Chicopee	1873
CHI.12	Weeks, Sophia D. - Chapman, George H. House	45 Hastings St	Chicopee	1874
CHI.316	Swetland, Mary and Eliza E. House	17 High St	Chicopee	1874
CHI.317	Sullivan, Jerry House	21 High St	Chicopee	1884
CHI.318	Morton, Frank H. House	24 High St	Chicopee	1878
CHI.319	Cook, Dwight M. House	27 High St	Chicopee	1879
CHI.320	Holcomb, Enoch V. B. House	38 High St	Chicopee	1876
CHI.630	Gates, Henry House	22 Howard St	Chicopee	c 1855
CHI.631	Assumption Church Custodian's House	22 Howard St	Chicopee	1917
CHI.321	Mosman, D. F. House	27 Howard St	Chicopee	c 1840
CHI.632	Bridgeman House	28 Howard St	Chicopee	1855
CHI.633	Dow, Joseph T. House	34 Howard St	Chicopee	c 1845
CHI.634	Smith, Warren House	37 Howard St	Chicopee	c 1847
CHI.918	Interstate 391 Bridge over Chicopee River	I-391	Chicopee	1981
CHI.712	Westover Air Base - Building P-603	Industrial Hwy	Chicopee	1940
CHI.733	Westover Air Base - Building #6300 - Sentry House	Industrial Rd	Chicopee	1940
CHI.322	Doherty, Matthew House	124 Ingham St	Chicopee	1912
CHI.323	Frank, Edward House	127 Ingham St	Chicopee	1911
CHI.324	Kinneran, Thomas J. - Ingham, Charles T. House	137 Ingham St	Chicopee	c 1919
CHI.325	Berneche, Ernie House	53 Irene St	Chicopee	1910
CHI.718	Westover Air Base - Building #1510 - Building P-41	250 Jenkins St	Chicopee	1942
CHI.326	Papineau, Noehert House	36 John St	Chicopee	1922
CHI.327	Langlois, Joseph House	47 John St	Chicopee	1916
CHI.328	Bibeau, Louis House	49 John St	Chicopee	1921
CHI.329	Lapointe, Catherine House	60 John St	Chicopee	1915
CHI.330	Proulx, Elzgar J. House	62 John St	Chicopee	1914
CHI.331	Ferry Jones Pumping Station	Jones Ferry Rd	Chicopee	1940
CHI.333	Haley, Timothy House	7 Kimball St	Chicopee	r 1830
CHI.335	Manning, John House	15 Kimball St	Chicopee	1848
CHI.336	Chapin, Howard B. House	33 Lincoln St	Chicopee	c 1891

Inv. No.	Property Name	Street	Town	Year
CHI.735	Westover Air Base - Building #7011 - Arms Storage	Logistics Dr	Chicopee	1941
CHI.417	White, Leslie B. - Long, William House	7 Lucretia Ave	Chicopee	1872
CHI.523	U. S. Post Office - Chicopee Main Branch	28 Main St	Chicopee	1936
CHI.172	Cadwell, Pliny House	21 Maple St	Chicopee	c 1850
CHI.339	Rondeau, J. B. Alphonse Shoe Shop	21 Margaret St	Chicopee	1931
CHI.340	Chicopee City Hall	Market Sq	Chicopee	1871
CHI.342	Chicopee Public Library	Market Sq	Chicopee	1911
CHI.764	Ryan, Matt House	22 McKeag Ave	Chicopee	c 1878
CHI.903	B & M Railroad Connecticut River Main Line Bridge	McKindry Ave	Chicopee	1931
CHI.344	McKinstry, Rev. John House	30 McKinstry Ave	Chicopee	c 1760
CHI.345	McKinstry, William - Crehore, George House	114 McKinstry Ave	Chicopee	c 1835
CHI.346	Lyman, Alfred House	135 McKinstry Ave	Chicopee	1849
CHI.348	Beauchamp, Pierre House	732 McKinstry Ave	Chicopee	1918
CHI.349	Berger, Edmond House	750 McKinstry Ave	Chicopee	1927
CHI.350	Beaulieu, Louis House	760 McKinstry Ave	Chicopee	1916
CHI.354	Stevens-Duryea Automobile Factory	Meadow St	Chicopee	1919
CHI.907	World War I Monument	Meadow St	Chicopee	1919
CHI.351	Chapin School	40 Meadow St	Chicopee	1898
CHI.352	Foresters Hall	76 Meadow St	Chicopee	c 1900
CHI.355	Rausch and Lang Factory	521 Meadow St	Chicopee	1925
CHI.359	Justin, George House	20 Miller St	Chicopee	1842
CHI.360	Beaudry, Hormisdas J. Store - Beaudry's Hall	334 Montcalm St	Chicopee	c 1896
CHI.902	Deady Memorial Bridge	Montgomery St	Chicopee	1938
CHI.361	Maly, J. House	55 Montgomery St	Chicopee	c 1832
CHI.362	Carmody, C. Building	62 Montgomery St	Chicopee	1894
CHI.363	Farley, C. House	78 Montgomery St	Chicopee	c 1845
CHI.364	Athens Building, The	83 Montgomery St	Chicopee	1914
CHI.365	Connors, Maurice House	88 Montgomery St	Chicopee	c 1850
CHI.366		89 Montgomery St	Chicopee	1885
CHI.367	Pendleton, Clossen Barn	753 Montgomery St	Chicopee	r 1835
CHI.368	Saint Stanislaus B. M. Cemetery Morgue	800 Montgomery St	Chicopee	1924
CHI.369	Chapin, George H. Barn	900 Montgomery St	Chicopee	1908
CHI.370	Doville, Louis House	20 Mount Carmel Ave	Chicopee	1923
CHI.371	Mount Carmel School	35 Mount Carmel Ave	Chicopee	1921
CHI.372	Young, Frank D. - Mazurowski, Chester House	42 Mount Carmel Ave	Chicopee	1924
CHI.373	Young, Frank D. House	50 Mount Carmel Ave	Chicopee	1924

Inv. No.	Property Name	Street	Town	Year
CHI.374	DiVirgilio, Maria House	4 Mount Vernon Rd	Chicopee	c 1920
CHI.376	Deroin, Joseph W. and Son Gas Station	158 New Ludlow Rd	Chicopee	1929
CHI.375	United Presbyterian Church	Newbury St	Chicopee	1925
CHI.635	Burnham, H. B. House	19 Nonotuck Ave	Chicopee	1846
CHI.636	Bowe, Patrick E. House	34 Nonotuck Ave	Chicopee	c 1908
CHI.637	Perkins, George W. House	47 Nonotuck Ave	Chicopee	c 1855
CHI.377	Saint Lawrence, Bridget House	58 Nonotuck St	Chicopee	c 1870
CHI.378	McClallan, Charles W. Worker Housing	62 Nonotuck St	Chicopee	c 1855
CHI.379	McClallan, Charles W. Worker Housing	64 Nonotuck St	Chicopee	c 1855
CHI.558	McClallan Company Worker Housing - Rourke, John Hs	68 Nonotuck St	Chicopee	c 1870
CHI.380	Wozniak, Andrew S. House	44 Ohio Ave	Chicopee	1939
CHI.381	Pendleton, John House	288 Old Pendleton Ave	Chicopee	c 1800
CHI.382	Beaudry, Henry E. House	45 Orange St	Chicopee	1924
CHI.383	McClench, Joseph Provisions Storage House	27 Orchard St	Chicopee	c 1860
CHI.384		40 Orchard St	Chicopee	c 1915
CHI.578		46 Orchard St	Chicopee	c 1915
CHI.588		50-52 Orchard St	Chicopee	c 1915
CHI.385	Monson, Mary C. House	55 Padereski Ave	Chicopee	1924
CHI.727	Westover Air Base - Building #7450 - The Mole Hole	255 Padgette St	Chicopee	1959
CHI.386	Woods, T. H. House	7 Park St	Chicopee	c 1884
CHI.387	Conklin, John I. - Nihill, Michael House	13 Park St	Chicopee	c 1855
CHI.793	Hagerty, Patrick House	14 Park St	Chicopee	c 1875
CHI.794	Chapman, G. H. House	17 Park St	Chicopee	c 1855
CHI.767	Collins, Cornelius - Connor Block	20 Park St	Chicopee	c 1885
CHI.768	Ames Company Worker Housing - District #4 School	26 Park St	Chicopee	c 1855
CHI.769	Boisvert, Fred - Jeffers, James House	30-34 Park St	Chicopee	c 1885
CHI.770	Day, Capt. - Murphy House	36 Park St	Chicopee	c 1859
CHI.771	Day, Capt. House	40 Park St	Chicopee	c 1859
CHI.772	Karas, Jacob House and Confectionery Store	44 Park St	Chicopee	1909
CHI.773	Byrnes, Patrick House	67 Park St	Chicopee	c 1855
CHI.774	Clapp, Luther C. House	70 Park St	Chicopee	1846
CHI.795	Denison, Thomas A. House	73 Park St	Chicopee	1846
CHI.775	Goff, Salina Boarding House	76 Park St	Chicopee	1846
CHI.776	Denison, John A. House	79 Park St	Chicopee	1846
CHI.388	Parshley, Samuel House	10 Parshley Ave	Chicopee	1894
CHI.389	Boudreau, Joseph Apartment Building	18 Patrick St	Chicopee	1895

Inv. No.	Property Name	Street	Town	Year
CHI.721	Westover Air Base - Building #1408 - Commissary	570 Patriot Ave	Chicopee	1941
CHI.730	Westover Air Base - Bldg #1601 - PX Gas Station	880 Patriots Ave	Chicopee	1942
CHI.638	Cutler, Nathaniel House	11 Pearl St	Chicopee	c 1848
CHI.639	Cotter, Margaret J. House	17 Pearl St	Chicopee	1905
CHI.390	McClallan, Charles W. House	23 Pearl St	Chicopee	c 1833
CHI.391	Harrington, M. J. - Johnson, W. W. House	30 Pearl St	Chicopee	c 1855
CHI.640	Babcock, W. Sumner House	31 Pearl St	Chicopee	c 1894
CHI.641	Searle, Rufus C. House	32 Pearl St	Chicopee	c 1846
CHI.642	French, C. H. House	37 Pearl St	Chicopee	c 1846
CHI.643	West, William Henry House	43 Pearl St	Chicopee	c 1846
CHI.274	Southworth, Simon G. House	44 Pearl St	Chicopee	1847
CHI.392	Buchanan, James House	21 Pendleton Ave	Chicopee	c 1892
CHI.393	Pendleton, John House	340 Pendleton Ave	Chicopee	c 1830
CHI.394	Nitka, Tomosz House	102 Pennsylvania Ave	Chicopee	1917
CHI.395	Chapman, George H. House	13 Pine St	Chicopee	1879
CHI.396	Anderson, Henry House	43 Pine St	Chicopee	1882
CHI.397	Jones, Amos B. House	70 Pine St	Chicopee	1877
CHI.398	Page, Irving H. House	86 Pine St	Chicopee	1893
CHI.399	Page, Woodman S. House	94 Pine St	Chicopee	1896
CHI.400	Alvord, Samuel - Cook, Dwight M. House	104 Pine St	Chicopee	1884
CHI.402	Springfield Rendering Company	Plainfield St	Chicopee	1912
CHI.403	Wait, Alonzo House	15 Pleasant St	Chicopee	1840
CHI.404	Barton, William H. House	16 Pleasant St	Chicopee	c 1885
CHI.644	Grace Episcopal Church Rectory	19 Pleasant St	Chicopee	1987
CHI.645	McDonald, T. House	23 Pleasant St	Chicopee	c 1878
CHI.405	Van Horn, Lester House	26 Pleasant St	Chicopee	c 1845
CHI.646	Childs, Alexander House	28 Pleasant St	Chicopee	c 1846
CHI.647	Abbey, Abner B. House	31 Pleasant St	Chicopee	c 1855
CHI.798	Al's Diner	31 Prospect St	Chicopee	1958
CHI.406	Laurel Apartment Building	49 Prospect St	Chicopee	c 1914
CHI.407	Emerson, James House	71 Prospect St	Chicopee	c 1875
CHI.408	Newell, Pascal J. House	77 Prospect St	Chicopee	c 1872
CHI.409	Allen, Sylvester House	89 Prospect St	Chicopee	r 1850
CHI.410	Duteau, John B. Block	94 Prospect St	Chicopee	c 1910
CHI.411	Pare, Joseph Building	169 Prospect St	Chicopee	1926
CHI.412	Smith, Quartus J. House	209 Prospect St	Chicopee	r 1750

Inv. No.	Property Name	Street	Town	Year
CHI.413	Byrtand Bullens Tannery	Railroad Pl	Chicopee	1863
CHI.414	Rhea, The	34 Rivers Ave	Chicopee	1913
CHI.415	Helen, The	38 Rivers Ave	Chicopee	1909
CHI.416	Marcotte, Wilfred R. J. House	76 Rivers Ave	Chicopee	1920
CHI.418	Leclair Building	20 Riverview Pl	Chicopee	1918
CHI.426	School Street Elementary School	School St	Chicopee	1876
CHI.906	Chicopee - Cabotville Common	School St	Chicopee	1845
CHI.419	Cronin, John - McNulty House	2 School St	Chicopee	1847
CHI.788	Przybyla, Magdalena House	2 School St	Chicopee	c 1855
CHI.420	Fogerty, Patrick House	8 School St	Chicopee	c 1853
CHI.779	Shaw, Edward House	11 School St	Chicopee	c 1870
CHI.780	Shaw, Edward House	15 School St	Chicopee	c 1859
CHI.797	Bullens, Amaziah House	19 School St	Chicopee	c 1855
CHI.421	Bullens, Amaziah House	25 School St	Chicopee	c 1855
CHI.423	McCarthy, Thomas W. Block	27 School St	Chicopee	1891
CHI.422	Chase, John House	33 School St	Chicopee	c 1855
CHI.784	Roberts - Burns Three-decker	60 School St	Chicopee	c 1889
CHI.785	Pearson, Robert House	68 School St	Chicopee	c 1859
CHI.424	Dwight Manufacturing Company Worker Housing	80 School St	Chicopee	c 1885
CHI.425	Graves, Phineas House	149 School St	Chicopee	r 1840
CHI.648	Fuller, W. J. House	192 School St	Chicopee	c 1855
CHI.649	Wait, Aloristan House	196 School St	Chicopee	c 1845
CHI.650	Jamroz, Frank Block	202 School St	Chicopee	c 1918
CHI.427	Chapman and Atkins Brush Factory Worker Housing	210 School St	Chicopee	c 1845
CHI.651	Bingham, Horace House	213 School St	Chicopee	c 1863
CHI.579	Chapman and Atkins Brush Factory Worker Housing	218 School St	Chicopee	c 1845
CHI.652	Gates, Henry House	219 School St	Chicopee	c 1845
CHI.580	Chapman and Atkins Brush Factory Worker Housing	224 School St	Chicopee	c 1845
CHI.653	Follis, Michael House	230 School St	Chicopee	c 1846
CHI.654	Taylor, T. H. House	238 School St	Chicopee	c 1846
CHI.655	White, Leroy S. House	242 School St	Chicopee	c 1849
CHI.428	Joseph, John B. House	245 School St	Chicopee	c 1845
CHI.656	Steward, E. J. House	250 School St	Chicopee	c 1855
CHI.657	Mosman, George House	257 School St	Chicopee	c 1848
CHI.658	Duffy, Thomas J. Block	257 School St	Chicopee	c 1916
CHI.429	Abbey, Abner B. House	263 School St	Chicopee	c 1846

Inv. No.	Property Name	Street	Town	Year
CHI.714	Westover Air Base - Bldg #3150 - Little Kings Row	Seawolf Ave	Chicopee	1941
CHI.709	Westover Air Base - Bldg 5305 - Bldg S-244 - S-106	Second Ave	Chicopee	1942
CHI.731	Westover Air Base - Building #5309 - Metal Shop	Second Ave	Chicopee	1942
CHI.732	Westover Air Base - Building #5312 - Plumbing Shop	Second Ave	Chicopee	1942
CHI.742	Westover Air Base - Buildings #5306 and #669	Second Ave	Chicopee	1942
CHI.922	Westover Air Base - Imhoff Tanks	Second Ave	Chicopee	1941
CHI.430	Chicopee Manufacturing Company Worker Housing	10 Sheridan St	Chicopee	c 1865
CHI.586	Chicopee Manufacturing Company Worker Housing	14 Sheridan St	Chicopee	c 1865
CHI.587	Chicopee Manufacturing Company Worker Housing	18 Sheridan St	Chicopee	c 1865
CHI.583	Chicopee Manufacturing Company Worker Housing	22 Sheridan St	Chicopee	c 1865
CHI.584	Chicopee Manufacturing Company Worker Housing	28 Sheridan St	Chicopee	c 1865
CHI.585	Chicopee Manufacturing Company Worker Housing	32 Sheridan St	Chicopee	c 1865
CHI.431	Ash, James F. House	96 Sheridan St	Chicopee	c 1890
CHI.432	Butterfield Farm	850 Sheridan St	Chicopee	c 1856
CHI.564	Butterfield Farm Barn	850 Sheridan St	Chicopee	c 1856
CHI.433	Boudreau, Napoleon House	142 Skeelee St	Chicopee	1920
CHI.434	Hull, Charles T. House	144 Skeelee St	Chicopee	1923
CHI.435	LaRoche House #1	204 Skeelee St	Chicopee	1925
CHI.436	LaRoche House #2	210 Skeelee St	Chicopee	1925
CHI.437	LaRoche House #3	216 Skeelee St	Chicopee	1925
CHI.659	Frawley, John A. House	17 South St	Chicopee	1909
CHI.660	Simpson, Charles K. House	18 South St	Chicopee	c 1894
CHI.661	Kendall, C. M. House	24 South St	Chicopee	c 1878
CHI.662	Hoague, John H. House	30 South St	Chicopee	c 1884
CHI.672	Chagnon, Charles House	34 South St	Chicopee	1921
CHI.673	Perkins, George W. House	62 South St	Chicopee	c 1855
CHI.674	Nowak, Teofil House	62 South St	Chicopee	1926
CHI.663	Church of the Holy Name of Jesus	63 South St	Chicopee	c 1857
CHI.664	Church of the Holy Name of Jesus Rectory	63 South St	Chicopee	c 1857
CHI.665	Church of the Holy Name of Jesus Convent	63 South St	Chicopee	c 1866
CHI.666	Church of the Holy Name of Jesus Girls School	63 South St	Chicopee	c 1866
CHI.667	Church of the Holy Name of Jesus Boys School	63 South St	Chicopee	1881

Inv. No.	Property Name	Street	Town	Year
CHI.668	Church of the Holy Name of Jesus Monastery	63 South St	Chicopee	1881
CHI.669	Church of the Holy Name of Jesus Science Building	63 South St	Chicopee	1925
CHI.670	Church of the Holy Name of Jesus Steam Plant	63 South St	Chicopee	r 1890
CHI.671	Church of the Holy Name of Jesus Barn	63 South St	Chicopee	r 1890
CHI.912	Church of the Holy Name of Jesus Celtic Cross	63 South St	Chicopee	c 1885
CHI.913	Church of the Holy Name of Jesus Tomb	63 South St	Chicopee	1894
CHI.914	Church of the Holy Name Jesus Statuary	63 South St	Chicopee	r 1930
CHI.915	Church of the Holy Name of Jesus Wooden Sign	63 South St	Chicopee	r 1950
CHI.916	Church of the Holy Name of Jesus Stone Gateposts	63 South St	Chicopee	r 1860
CHI.439	Boland, James House	65 South St	Chicopee	1893
CHI.440	Judd, Allin House	69 South St	Chicopee	1845
CHI.675	Perkins, George W. House	72 South St	Chicopee	c 1870
CHI.441	Abbey Property	77 South St	Chicopee	c 1912
CHI.442	Powers, Patrick House	85 South St	Chicopee	1871
CHI.676	Hall, P. House	88 South St	Chicopee	c 1855
CHI.677	Bowe, Patrick E. House	90 South St	Chicopee	1878
CHI.678	Bowe, Sarah E. House	96 South St	Chicopee	c 1878
CHI.443	Hyde, Charles H. House	116 South St	Chicopee	1845
CHI.679	Churchill, H. House	120 South St	Chicopee	c 1855
CHI.680	Ferry, Lewis M. House	134 South St	Chicopee	c 1855
CHI.681	Wright, Charles House	140 South St	Chicopee	c 1848
CHI.682	Abbey, John House	146 South St	Chicopee	c 1849
CHI.181	Belcher, Benjamin School	10 Southwick St	Chicopee	1901
CHI.444	Chase, John House	15 Spring St	Chicopee	c 1835
CHI.445	Stebbins, Erastus House	37 Spring St	Chicopee	c 1830
CHI.466	Elms College - O'Leary Hall	Springfield St	Chicopee	1926
CHI.468	Elms College - Berchams Hall	Springfield St	Chicopee	1929
CHI.472	Elms College Chapel of Our Lady	Springfield St	Chicopee	1913
CHI.905	Elms College - Kavanagh Memorial Gates	Springfield St	Chicopee	1947
CHI.937	Elms College - Keating Quadrangle	Springfield St	Chicopee	2001
CHI.938	Elms College - Condon Softball Field	Springfield St	Chicopee	2008
CHI.939	Elms College - Leary Soccer Field	Springfield St	Chicopee	1988
CHI.1002	Elms College - Dooley College Center	Springfield St	Chicopee	1964
CHI.1003	Elms College - Rose William Hall	Springfield St	Chicopee	1964
CHI.1004	Elms College - Devine Hall	Springfield St	Chicopee	1957
CHI.1005	Elms College - Physical Plant	Springfield St	Chicopee	1932

Inv. No.	Property Name	Street	Town	Year
CHI.1006	Elms College - Facilities Garage	Springfield St	Chicopee	1963
CHI.1007	Elms College - Marian Hall	Springfield St	Chicopee	1928
CHI.1008	Elms College - Alumnae Memorial Library	Springfield St	Chicopee	1973
CHI.1009	Elms College - Center for Natural and Health	Springfield St	Chicopee	2014
CHI.1010	Elms College - Maguire Athletic Center	Springfield St	Chicopee	1995
CHI.552	Ames Manufacturing Company Office	1-1A Springfield St	Chicopee	r 1865
CHI.581	Ames Manufacturing Company - Office Building	1-1A Springfield St	Chicopee	c 1847
CHI.582	Ames Manufacturing Company - Building #1	1-1A Springfield St	Chicopee	c 1847
CHI.447	Kendall Hotel	2 Springfield St	Chicopee	1834
CHI.448	Market Square Hotel - Kendall Block	6 Springfield St	Chicopee	c 1875
CHI.525	Ames Manufacturing Company Machine Shop	9 Springfield St	Chicopee	c 1859
CHI.526	Ames Manufacturing Company Machine Shop	9 Springfield St	Chicopee	r 1860
CHI.527	Ames Manufacturing Company Building	9 Springfield St	Chicopee	1860
CHI.683	Jankowski, Nicodimus F. House	87 Springfield St	Chicopee	c 1894
CHI.450	Assumption Roman Catholic Church	96 Springfield St	Chicopee	c 1922
CHI.451	Federated Church	101 Springfield St	Chicopee	1868
CHI.449	Hale - Robinson, George D. House	104 Springfield St	Chicopee	c 1869
CHI.684	Lancton, Solomon B. House	105 Springfield St	Chicopee	c 1853
CHI.452	Kingsley, Solomon F. - Stearns, George M. House	111 Springfield St	Chicopee	c 1834
CHI.453	Dole - Prindle, Dr. Charles H. House	120 Springfield St	Chicopee	1842
CHI.454	Searle, Rufus C. House	123 Springfield St	Chicopee	1848
CHI.455	Stevens, Chloe House	133 Springfield St	Chicopee	1837
CHI.456	Moody, Loman A. House	137 Springfield St	Chicopee	1862
CHI.457	Van Horn, Lester House	145 Springfield St	Chicopee	1845
CHI.459	Grace Church Episcopal	150 Springfield St	Chicopee	1896
CHI.458	Bliss, Jerema House	155 Springfield St	Chicopee	1849
CHI.460	Abbey, Charles C. House	170 Springfield St	Chicopee	1893
CHI.685	Griffin, Minnie T. House	188 Springfield St	Chicopee	1909
CHI.686	Chapin, Josephus House	196 Springfield St	Chicopee	c 1835
CHI.461	Gaylord, Emerson G. House	199 Springfield St	Chicopee	r 1875
CHI.559	Gaylord, Emerson G. Carriage House	199 Springfield St	Chicopee	c 1855
CHI.687		202 Springfield St	Chicopee	1972
CHI.688	Fortin, Samuel G. House	210 Springfield St	Chicopee	1958
CHI.689	Stefanik, Elizabeth M. House	216 Springfield St	Chicopee	1937
CHI.462	Whittier, Nelson House	223 Springfield St	Chicopee	1884
CHI.463	Temple, Lafayette House	228 Springfield St	Chicopee	1869
CHI.464	Smith, Oliver E. House	231 Springfield St	Chicopee	1868

Inv. No.	Property Name	Street	Town	Year
CHI.465	Chapin, Levi House	238-240 Springfield St	Chicopee	r 1780
CHI.469	Jenks, Addie House	248 Springfield St	Chicopee	1887
CHI.690	Jenks, Addie House	250 Springfield St	Chicopee	1922
CHI.470	Tuttle, Frank E. House	258 Springfield St	Chicopee	c 1894
CHI.691	Rouillard, Alphonse S. House	272 Springfield St	Chicopee	1926
CHI.471	Tuttle, Frank E. House	280 Springfield St	Chicopee	1888
CHI.473	McClench, William W. House	302 Springfield St	Chicopee	1885
CHI.692	Tuttle and Humphrey House	314 Springfield St	Chicopee	1891
CHI.474	Tuttle, Frank E. - Humphrey, James L. House	318 Springfield St	Chicopee	1891
CHI.475	Spaulding, Justin House	331 Springfield St	Chicopee	1886
CHI.477	Dennison, John A. House	333 Springfield St	Chicopee	1903
CHI.478	Chapin, Austin House	357 Springfield St	Chicopee	1845
CHI.479	Dalton, Ernest House	363 Springfield St	Chicopee	1900
CHI.565	Dalton, Ernest Barn	363 Springfield St	Chicopee	r 1880
CHI.480	Pelkey, Ernest E. House	377 Springfield St	Chicopee	1894
CHI.786	Mulcahey, J. House	4 Spruce St	Chicopee	c 1855
CHI.796	Spruce Street Bath House and Wading Pool	14 Spruce St	Chicopee	1965
CHI.726	Westover Air Base - Building #1875	100 Starlifter Ave	Chicopee	1957
CHI.693	Tuttle and Humphrey House	16 Stearns Terr	Chicopee	1894
CHI.694	Falvey, Jeremish J. House	17 Stearns Terr	Chicopee	1928
CHI.695	Conner, Mary E. House	20 Stearns Terr	Chicopee	c 1915
CHI.696	Milette, Louis G. House	24 Stearns Terr	Chicopee	c 1916
CHI.697	Lavigne, Ernest R. House	25 Stearns Terr	Chicopee	1929
CHI.698	Lynch, Michael J. House	28 Stearns Terr	Chicopee	c 1916
CHI.699	Weeks, Ralph A. Houe	29 Stearns Terr	Chicopee	1926
CHI.332	Maheu, Romeo House	65 Sullivan St	Chicopee	1923
CHI.484	Thomas, George H. House	16 Summer St	Chicopee	1889
CHI.485	Methodist Episcopal Church Rectory, Old	24 Summer St	Chicopee	1888
CHI.926	Szot Memorial Park Fountain	Szot Dr	Chicopee	1938
CHI.927	Szot Memorial Park	Szot Dr	Chicopee	1937
CHI.928	Szot Memorial Park Entrance Pillars	Szot Dr	Chicopee	c 1937
CHI.929	Szot Memorial Park - Bimesowka Memorial	Szot Dr	Chicopee	2000
CHI.930	Szot Memorial Park - World War I Tank	Szot Dr	Chicopee	r 1918
CHI.931	Szot Memorial Park - Baseball Diamond Grandstands	Szot Dr	Chicopee	c 1937
CHI.932	Szot Memorial Park - Baseball Diamond	Szot Dr	Chicopee	c 1937
CHI.933	Szot Memorial Park - Basketball Courts	Szot Dr	Chicopee	
CHI.934	Szot Memorial Park - Playground	Szot Dr	Chicopee	

Inv. No.	Property Name	Street	Town	Year
CHI.935	Szot Memorial Park - Picnic Grove	Szot Dr	Chicopee	
CHI.936	Szot Memorial Park - Bemis Pond	Szot Dr	Chicopee	r 1850
CHI.486	Allen, David House	4 Taylor St	Chicopee	c 1875
CHI.487	Lyons, James G. House	24 Taylor St	Chicopee	1878
CHI.488	O'Neil, Eugene J. House	59 Taylor St	Chicopee	c 1890
CHI.489	Sullivan, Michael House	70 Taylor St	Chicopee	c 1880
CHI.490	Belcher & Taylor Agricultural Tool Worker Housing	106 Taylor St	Chicopee	c 1825
CHI.491	Littlefield, C. C. - Skeelee, Henry E. House	20 Thomas St	Chicopee	c 1870
CHI.492	Wait, Alonzo - Cavanaugh, John House	34 Tremont St	Chicopee	c 1850
CHI.494	Granfield, William and Robert House	42 Tremont St	Chicopee	1850
CHI.495	Granfield, Robert House	50 Tremont St	Chicopee	c 1867
CHI.496	Lacroix, Joseph W. House	33 Trilby Ave	Chicopee	c 1914
CHI.497	Gagnon, Gedeon House	152 Trilby Ave	Chicopee	1921
CHI.498	Smith, Dr. William D. House	9 Union St	Chicopee	c 1859
CHI.499	Whittier, Rufus House	10 Union St	Chicopee	c 1850
CHI.700	Hendrick, J. M. House	15 Union St	Chicopee	c 1855
CHI.500	Parsons, Benjamen F. House	16 Union St	Chicopee	c 1847
CHI.701	Grise, Joseph M. House	22 Union St	Chicopee	c 1894
CHI.724	Westover Air Base - Building #1100 - Headquarters	100 Walker Ave	Chicopee	1942
CHI.502	Dayton, Freeman W. House	84 Walnut St	Chicopee	1877
CHI.503	Goff - Osborn, Louis L. House	90 Walnut St	Chicopee	c 1870
CHI.504	Sears, Andrew House	27 Washington St	Chicopee	c 1895
CHI.505	Taylor, Albert E. House	57 Washington St	Chicopee	1897
CHI.506	Elder, Edward H. House	67 Washington St	Chicopee	1894
CHI.507	Sampson, Charles House	81 Washington St	Chicopee	1900
CHI.518	Professional Building	95 West Main St	Chicopee	1933
CHI.510	Rourke, Patrick House	18-22 West St	Chicopee	1871
CHI.511	Burke, Patrick Tenement Block	23 West St	Chicopee	c 1870
CHI.789	McCarty, J. House	41 West St	Chicopee	c 1870
CHI.790	Leppens, L. House	43 West St	Chicopee	c 1855
CHI.791	Brennan, E. House	49 West St	Chicopee	c 1855
CHI.512	Healy, Michael C. Tenement House	53 West St	Chicopee	1892
CHI.513	Hays, M. House	55 West St	Chicopee	c 1855
CHI.514	Collins, Michael C. House	59 West St	Chicopee	1884
CHI.708	Page, A. Block	63 West St	Chicopee	1909
CHI.515	Gilligan, P. House	68 West St	Chicopee	c 1840

Inv. No.	Property Name	Street	Town	Year
CHI.516	Shea, James M. House	75 West St	Chicopee	c 1870
CHI.60	Chicopee Building Association Tenement Building	95 West St	Chicopee	1891
CHI.921	Westover Air Base - Ellipse	Westover Air Base	Chicopee	1939
CHI.923	Westover Air Base - Crosswind Airplane Runway	Westover Air Base	Chicopee	1940
CHI.520	Przybylowicz House	35 Wilson Ave	Chicopee	1920
CHI.521	Gareau Apartment Building	5 Zoar Ave	Chicopee	1915

National Register of Historic Places Listed Properties as of 4/4/2019 (<https://www.nps.gov/subjects/nationalregister/database-research.htm>)

Ref#	Property Name	Status	State	County	City	Street & Number	Listed Date	Other Names
00001482	Al's Diner	Listed	MASSACHUSETTS	Hampden	Chicopee	14 Yelle St.	12/14/2000	Al's Diner
83000734	Ames Manufacturing Company	Listed	MASSACHUSETTS	Hampden	Chicopee	5-7 Springfield St.	6/23/1983	Ames Mills
99000558	Cabotville Common Historic District	Listed	MASSACHUSETTS	Hampden	Chicopee	School, Chestnut, Park and West Sts.	5/28/1999	
98000993	Carreau Block	Listed	MASSACHUSETTS	Hampden	Chicopee	640-642 Chicopee St.	8/6/1998	
16000424	Chapin School	Listed	MASSACHUSETTS	Hampden	Chicopee	40 Meadow St.	7/5/2016	
74002052	City Hall	Listed	MASSACHUSETTS	Hampden	Chicopee	Market Sq.	7/30/1974	
77000173	Dwight Manufacturing Company Housing District	Listed	MASSACHUSETTS	Hampden	Chicopee	Front, Depot, Dwight, Exchange, Chestnut Sts.	6/3/1977	Belcher Lodge;Masonic
87001782	Page, Thomas D., House	Listed	MASSACHUSETTS	Hampden	Chicopee	105 East St.	10/25/1988	Temple
80000475	Polish National Home	Listed	MASSACHUSETTS	Hampden	Chicopee	136-144 Cabot St. Roughly bounded by Springfield St., Gaylord St. and	11/14/1980	
90002217	Springfield Street Historic District	Listed	MASSACHUSETTS	Hampden	Chicopee	Fairview Ave.	1/25/1991	See Also:Valentine School
83000774	Valentine School	Listed	MASSACHUSETTS	Hampden	Chicopee	Grape and Elm Sts.	9/16/1983	Grape Street School
71000091	Bellamy, Edward, House	Listed	MASSACHUSETTS	Hampden	Chicopee Falls	91-93 Church St.	11/11/1971	

Tighe&Bond

APPENDIX E

*Massachusetts MS4 First-Year Stormwater
Management Program (SWMP) Checklist (For
Permittees Authorized Under the Previous
Permit), EPA Region 1*



Massachusetts MS4 First-Year Stormwater Management Program (SWMP) Checklist

(For Permittees Authorized Under the Previous Permit)

The Massachusetts MS4 First-Year SWMP Checklist sets out Minimum Control Measure (MCM) elements that must be included in SWMPs by July 1, 2019 for all permittees that were covered under the previous MS4 permit. MCM incorporation deadlines for newly designated MS4s differ from MCM deadlines for MS4s authorized under the previous permit. Deadlines for newly designated permittees are set out in Section 1.10.3. Deadlines for previously authorized permittees are set out in Section 1.10.2. Use this checklist as a guide as you review and update your SWMP to address these requirements.

SMALL MS4 AUTHORIZATION

- Date that the NOI was submitted and the location of the NOI
- Date that authorization was granted and the location of the authorization letter

RECEIVING WATERS

- Identify all receiving waters and impairments to waterbodies
- Identify the number of outfalls that discharge to each waterbody segment

ELIGIBILITY DETERMINATION UNDER THE ENDANGERED SPECIES ACT (Attach and reference your NOI)

- Appendix C determination under the U.S. Fish and Wildlife Endangered Species Act (ESA)
- The Criterion used to certify ESA eligibility
- Additional measures required by the U.S. Fish and Wildlife Service (if any)

ELIGIBILITY DETERMINATION UNDER THE NATIONAL HISTORIC PRESERVATION ACT (NHPA)

- (Attach and reference your NOI)
- Appendix D property screening determination
 - The Criterion used to certify NHPA eligibility
 - Additional documents from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO)
 - Additional measures required by the SHPO/THPO to avoid/minimize adverse impacts (if any)

MCM 1: PUBLIC EDUCATION AND OUTREACH

- Identify all planned BMPs
- Identify the locations of applicable materials for each BMP
- Identify the target audience(s)
- Identify the measurable goals
- Identify the dates that message(s) are sent to each target audience
- Identify the responsible parties involved in ensuring the completion of the BMP

MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

- The location of the SWMP for public access
- Provisions for public participation in SWMP development
- Identify any additional planned BMPs, responsible party or parties, location of the documents required to complete the BMP, and measurable goals

MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

- Reference legal authority
- Identify the department responsible for illicit connection enforcement
- Annual Sanitary Sewer Overflow (SSO) Inventory
- MS4 system map
- IDDE Program Document
- Outfall/interconnection inventory and ranking
- Employee training content and dates

MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

- Reference legal authority
- Site plan review procedures
- Procedures for site inspection and enforcement of sediment and erosion control measures

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

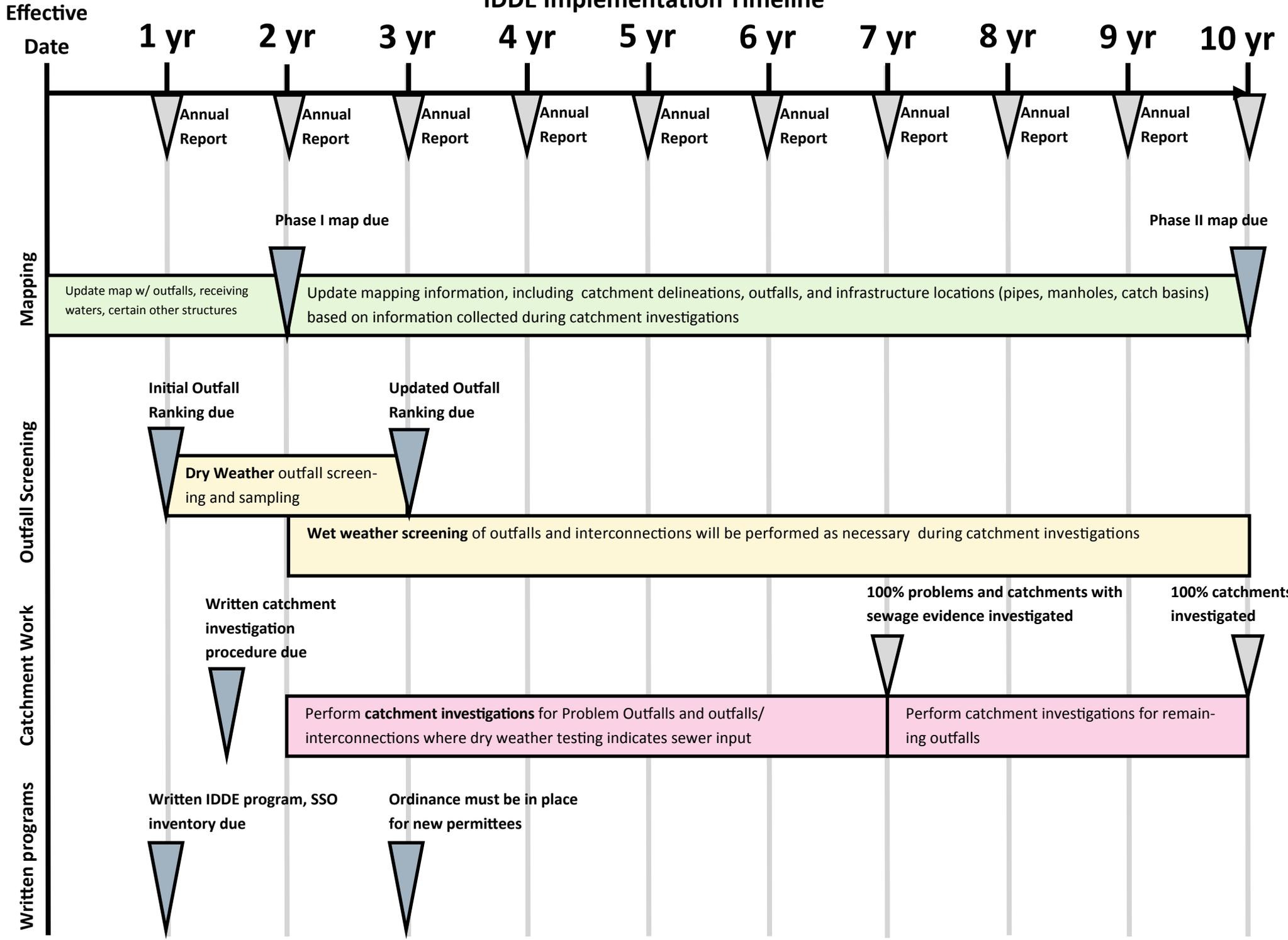
- Reference legal authority
- Green infrastructure report
- List of municipal retrofit opportunities
- Guidelines for street design and parking lots

MCM 6: GOOD HOUSEKEEPING AND POLLUTION PREVENTION FOR PERMITTEE-OWNED OPERATION

- Catch basin cleaning program
- Street sweeping program
- Stormwater treatment structure inspection and maintenance procedures
- Winter road maintenance program

*Illicit Discharge Detection and Elimination Plan
Implementation Timeline, EPA Region 1*

IDDE Implementation Timeline



*Potential Pollutants Associated with Municipal
Activities, California Stormwater BMP
Handbook*

Pollutant Impacts on Water Quality

Sediment	Sediment is a common component of stormwater, and can be a pollutant. Sediment can be detrimental to aquatic life (primary producers, benthic invertebrates, and fish) by interfering with photosynthesis, respiration, growth, reproduction, and oxygen exchange in water bodies. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.
Nutrients	Nutrients including nitrogen and phosphorous are the major plant nutrients used for fertilizing landscapes, and are often found in stormwater. These nutrients can result in excessive or accelerated growth of vegetation, such as algae, resulting in impaired use of water in lakes and other sources of water supply. For example, nutrients have led to a loss of water clarity in Lake Tahoe. In addition, un-ionized ammonia (one of the nitrogen forms) can be toxic to fish.
Bacteria and Viruses	Bacteria and viruses are common contaminants of stormwater. For separate storm drain systems, sources of these contaminants include animal excrement and sanitary sewer overflow. High levels of indicator bacteria in stormwater have led to the closure of beaches, lakes, and rivers to contact recreation such as swimming.
Oil and Grease	Oil and grease includes a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Sources of oil and grease include leakage, spills, cleaning and sloughing associated with vehicle and equipment engines and suspensions, leaking and breaks in hydraulic systems, restaurants, and waste oil disposal.
Metals	Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater. Many of the artificial surfaces of the urban environment (e.g., galvanized metal, paint, automobiles, or preserved wood) contain metals, which enter stormwater as the surfaces corrode, flake, dissolve, decay, or leach. Over half the trace metal load carried in stormwater is associated with sediments. Metals are of concern because they are toxic to aquatic organisms, can bioaccumulate (accumulate to toxic levels in aquatic animals such as fish), and have the potential to contaminate drinking water supplies.
Organics	Organics may be found in stormwater at low concentrations. Often synthetic organic compounds (adhesives, cleaners, sealants, solvents, etc.) are widely applied and may be improperly stored and disposed. In addition, deliberate dumping of these chemicals into storm drains and inlets causes environmental harm to waterways.
Pesticides	Pesticides (including herbicides, fungicides, rodenticides, and insecticides) have been repeatedly detected in stormwater at toxic levels, even when pesticides have been applied in accordance with label instructions. As pesticide use has increased, so too have concerns about the adverse effects of pesticides on the environment and human health. Accumulation of these compounds in simple aquatic organisms, such as plankton, provides an avenue for biomagnification through the food web, potentially resulting in elevated levels of toxins in organisms that feed on them, such as fish and birds.
Gross Pollutants	Gross Pollutants (trash, debris and floatables) may include heavy metals, pesticides, and bacteria in stormwater. Typically resulting from an urban environment, industrial sites and construction sites, trash and floatables may create an aesthetic "eye sore" in waterways. Gross pollutants also include plant debris (such as leaves and lawn-clippings from landscape maintenance), animal excrement, street litter, and other organic matter. Such substances may harbor bacteria, viruses, vectors, and depress the dissolved oxygen levels in streams, lakes and estuaries sometimes causing fish kills.
Vector Production	Vector production (e.g., mosquitoes, flies, and rodents) is frequently associated with sheltered habitats and standing water. Unless designed and maintained properly, standing water may occur in treatment control BMP's for 72 hours or more, thus providing a source for vector habitat and reproduction (Metzger, 2002).

Source: California Stormwater Quality Association, Stormwater BMP Handbook, 2003.

Potential pollutants likely associated with specific *municipal facilities*

Municipality Facility Activity	Potential Pollutants								
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X		X
Waste Handling and Disposal	X	X	X	X	X	X	X	X	X
Vehicle and Equipment Fueling			X	X		X	X		
Vehicle and Equipment Maintenance and Repair				X		X	X		
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X	X
Outdoor Process Equipment	X		X	X		X	X		
Overwater Activities			X	X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X	X

Source: California Stormwater BMP Handbook (<http://www.cabmphandbooks.com/>)(slightly modified)

Potential pollutants likely associated with *municipal activities*

Municipal Program	Activities	Potential Pollutants								
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Roads, Streets, and Highways Operation and Maintenance	Sweeping and Cleaning	X		X	X		X			X
	Street Repair, Maintenance, and Striping/Painting	X		X	X		X	X		
	Bridge and Structure Maintenance	X		X	X		X	X		
Plaza, Sidewalk, and Parking Lot Maintenance and Cleaning	Surface Cleaning	X	X			X	X			X
	Graffiti Cleaning	X	X		X			X		
	Sidewalk Repair	X		X						
	Controlling Litter	X		X		X	X			X
Fountains, Pools, Lakes, and Lagoons Maintenance	Fountain and Pool Draining		X					X		
	Lake and Lagoon Maintenance	X	X	X		X			X	X
Landscape Maintenance	Mowing/Trimming/Planting	X	X	X		X			X	X
	Fertilizer & Pesticide Management	X	X						X	
	Managing Landscape Wastes			X					X	X
	Erosion Control	X	X							
Drainage System Operation and Maintenance	Inspection and Cleaning of Stormwater Conveyance Structures	X	X	X		X		X		X
	Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X	X
	Controlling Illegal Dumping	X	X	X	X	X	X	X	X	X
	Maintenance of Inlet and Outlet Structures	X		X	X		X			X
Waste Handling and Disposal	Solid Waste Collection		X	X	X	X	X	X		X
	Waste Reduction and Recycling			X	X					X
	Household Hazardous Waste Collection			X	X		X	X	X	
	Controlling Litter			X	X	X		X		X
	Controlling Illegal Dumping	X		X		X	X		X	X
Water and Sewer Utility Operation and Maintenance	Water Line Maintenance	X				X	X			
	Sanitary Sewer Maintenance	X				X	X			X
	Spill/Leak/Overflow Control, Response, and Containment	X	X			X		X		X

Source: California Stormwater BMP Handbook (<http://www.cabmphandbooks.com/>)

*Tips for Organizing and Conducting Volunteer
Clean-up Events, Manchester Urban Ponds
Restoration Program*

Tips for Organizing and Conducting Volunteer Clean-up Events

By: Jen Drociak –Acting Coordinator / Volunteer, Manchester Urban Ponds Restoration Program (UPRP)

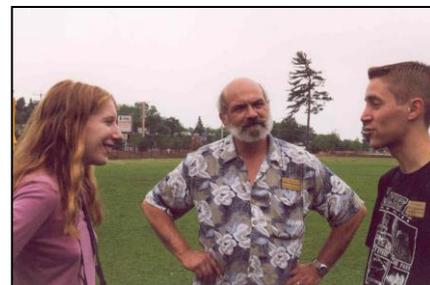
Step 1: Plan Your Clean-Up Event

- A. Land and / or Shore? Determine the Location(s):** Determine where, in proximity to the waterbody, your group wishes to concentrate its efforts on during a clean-up event. To find heavily-littered areas, and / or areas that are prone to illegal dumping, walk along the shore, in advance, to identify location(s) for the clean-up event. Identify accessible paths along the shoreline and / or on public trails that are easy for people to walk. The location(s) may be largely determined by public (or lake / homeowner association) access points such as a public beach, boat-launch, or park. If the location is large, consider identifying smaller locations within the larger location which can be managed by individual group leaders and groups. Determining the location(s) will provide you with an idea of the footwear that may be needed for the task based upon the terrain. If the clean-up event will be located at a beach or a dry area, sandals or sneakers may be adequate. If it will be located in a wetland or mucky area, knee-boots may be appropriate. If it will be located in water, hip-boots may be most appropriate. Determining the location(s) will also provide you with a sense of how many volunteers your group is seeking for the clean-up event.



The UPRP typically focuses clean-up efforts in the parks adjacent to the ponds by skirting around the ponds themselves. This involves differing terrain, and thus footwear. There have been occasions, however, where one or more volunteers have also used a small fishing boat to retrieve trash from the water that is too deep to obtain via hip-waders.

- B. Obtain Landowner Permission:** Whether the location(s) of your clean-up event is / are municipally-owned or privately-owned, determine who owns the property in advance in order to obtain permission. If you do not know who the property owner is, visit your municipality's on-line assessor's website to review the tax map(s) and property card(s) associated with the area. It is typically easy to obtain permission to organize a clean-up on municipally-owned / public land. If the location(s) are on privately-owned land, talk to the land owner(s) and explain why you are organizing a clean-up in that area, along with the benefits of doing so. Obtain permission from them in writing, if you can, by considering they sign a form. Verbal permission may be adequate, however.



The UPRP organizes clean-up events on land owned by Public Works and Parks, Recreation, and Cemetery Departments. We have not had to seek private landowner permission. We simply notify the Manchester Public Works Department and Parks, Recreation, and Cemetery Department of the dates of the clean-up events.

- C. Determine the Task(s) at Hand:** Determine what you will request of your volunteers. Will it be the removal of trash only? If so, will it be the removal of large items only or all items including the minutia? Will it be the removal of yard waste only? Graffiti removal or other vandalism? All of the above? Determining the task(s) at hand will provide you with an idea of the supplies (and hours) you will need to perform the task(s).

The UPRP typically removes trash only. We typically do not pick up the minutia (cigarette butts, bottle caps, etc.) due to the large volume of trash we collect and the limited amount of time and volunteers we have at each clean-up event.



D. Determine the Check-In Location: Based upon the chosen location(s) of the clean-up event, consider and determine the most appropriate location for volunteers to initially gather to check in and obtain supplies, as well as to reconvene at the end of the clean-up event. This may be a kiosk, boat-launch, or specific location on a beach or in a park. Try to stay away from busy roads or areas that are difficult to access.

The UPRP typically requests that volunteers meet in one central / well-known location such as a kiosk in a parking lot or boat-launch. We have kept the initial meeting location at each clean-up event consistent over the years.



E. Determine the Most Appropriate Age(s) of Your Volunteers: Based upon the task(s) at hand, determine the most appropriate age(s) of your volunteers. Are you seeking adults only? Children? Both? Do you have tasks that all can partake in, or are the tasks age-specific?

The UPRP generally seeks volunteers of all ages for clean-up events and encourage everyone, despite their age or ability, to participate in a manner of how they most feel comfortable.

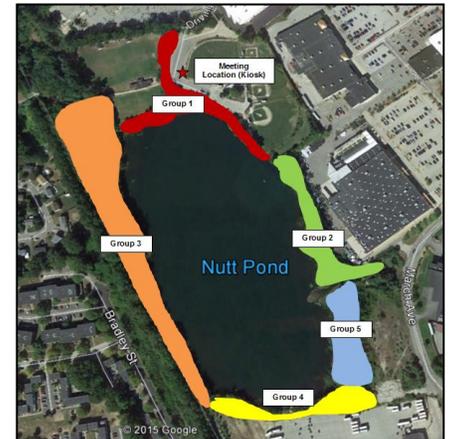


F. Determine the Desired Number of Volunteers: Based upon the number and location(s) that are chosen for the clean-up event, determine the desired number of volunteers to partake in the event.

The UPRP typically splits the area adjacent to the ponds into several areas, or groups of volunteers.

G. Create Map(s) of the Location(s) OR Plan on Designating a “Group Leader” for Each Location: If the location(s) is / are large enough to break into more than one group during the clean-up event, consider making aerial photographic “maps” (or using topographic maps) of each group’s area, indicating on the map the original meeting location, and the group’s start and end point.

The UPRP has created aerial maps to use in the past. However, what we consider to be more helpful is having a “group leader” (returning volunteer or someone familiar with the area) lead a small group of other volunteers in each designated area.



Step 2: Schedule Your Clean-Up Event

A. Choose a Date: Choose a date for the clean-up event at a time of year that makes the most sense to your group. Keep in mind that while lakes and ponds have year-round residents, the majority of residents are likely seasonal and may not arrive for the season, or on or around Memorial Day weekend. Thus, a late-spring or late-fall cleanup may not be the most appropriate time as it may not garner the most volunteers. An early or mid-summer cleanup may be the most appropriate. Consider, perhaps, scheduling the event in conjunction with an annual lake association meeting or holiday barbeque. Also consider scheduling the date of the clean-up event at least a month in advance to allow time to prepare (gather supplies and recruit volunteers). Lastly, consider a rain date.



The UPRP typically schedules annual pond and park cleanups on Saturday mornings during the last two weeks in April and the first one or two weeks in May. This is because a) this time of year is typically after the snow has melted and b) this time of year is typically before “leaf-in” (and in the case of some of these areas, this is important, as the areas are overtaken with thick stands of invasive species). We do not offer rain dates.

- B. Choose a Time:** Determine the amount of time it may take to clean up the area(s) of your choosing. Will it take one hour? Two hours? More? This is also a factor of the number of volunteers that attend (typically the more volunteers that attend the least amount of time the clean-up will take). If you believe the area(s) may take more than two hours, it may be best to schedule a two-part clean-up event. Also consider the time of day most appropriate to your group, especially if it is scheduled in conjunction with (or before or after) another event such as an annual meeting or holiday barbecue.



The UPRP has realized that 1 ½ - 2 hours is a sufficient amount of time to allot to clean-up events. We also realize that volunteers typically do not have the time or patience to commit to any more time in one day than that. We have also typically scheduled the clean-up events from 9:00AM to 11:00AM, with a meeting time of no later than 8:50AM. Early-morning clean-up events afford volunteers to have the remainder of the day for other things.

Step 3: Determine and Obtain Necessary Supplies

- A. Determine the Necessary Supplies:** Determining the task(s) at hand will determine your necessary supplies. If your clean-up event is strictly a trash removal cleanup, you may only need to obtain latex gloves and trash bags. If your clean-up event also includes yard-waste removal, you may need to obtain paper yard-waste bags, rakes and / or other tools.

Since the UPRP clean-up events are strictly focused on trash-removal, the only supplies we must procure are latex gloves (medium sized) and trash bags. We also have a few hand-held trash-grabbers since some volunteers find them helpful in reaching difficult areas and / or to prevent excessive bending.



- B. Obtain the Necessary Supplies:** Determine how you will obtain the necessary supplies. Does your group have a budget? Will your group be purchasing your supplies? Will your group fundraise to purchase supplies? Will your group borrow supplies, from perhaps the town or city?

The UPRP typically obtains supplies from the Manchester Parks, Recreation, and Cemetery Department. These supplies typically only include latex gloves and trash bags, but have included, in the past, rakes, other tools and yard waste bags. We also typically have a large container of hand-sanitizer available.

- C. Obtain a First-Aid Kit:** Consider obtaining one or more First Aid kits (for one or more groups of volunteers) in case it is needed. It is better to be proactively safe!

The UPRP has one First-Aid kit for use.

- D. Consider Providing Water and Snacks:** If your group has the financial means, consider providing water and snacks to your volunteers for afterwards. If your group does not have the financial means, consider soliciting donations from local establishments or having your group bake some treats, and bring a large cooler of ice water (or iced-tea) and some paper (or reusable plastic) cups.

The UPRP does not regularly provide water and snacks to volunteers since we do not have a budget to do so. On occasion, we have been able to obtain donations for yogurt snacks from Stonyfield Farm. On occasion we have also brought or made a baked good.



Step 4: Determine Your Waste Disposal Options

- A. Determine Your Waste Disposal Options:** At the end of your clean-up event, determine how and where you will dispose of the trash that was collected. Is there a dumpster on site that your group has permission to use? Are there already trash and / or recycling carts on site that your group has permission to use? If not, consider contacting your municipality's Highway Department, Parks & Recreation Department, or Road Agent, at least a month in advance, who may be able to coordinate trash and / or recycling pickup from your municipality's vendor (i.e. Waste Management, Pinard, etc.). Determine when the trash and / or recycling will be picked up and what the requirements for pickup are (especially with items such as vehicular tires and batteries, etc.). In addition, consider recruiting volunteers with pick-up trucks, especially if your group is cleaning multiple areas, and trash must be stockpiled in one area at the end of the event. Similarly, if you cannot obtain trash pick-up services, volunteers with pick-up trucks, and a municipal sticker (or permission) may be able to haul the trash and / or recycling to your local landfill or transfer station for free.



The UPRP typically sends notification of the clean-up schedule to the Manchester Public Works Director as soon as the dates are calendared. The Public Works Director, or staff, has coordinated with Manchester's solid waste collection staff to collect the trash on the Monday following the cleanup event (which have been held on Saturdays). While there have been a few times the Public Works Department has made one or more 95-gallon recycling carts available for the clean-up events, they are generally not available, and therefore, recycling is not typically sorted from other debris. All (tied / secure) bags of trash have been neatly placed in the same locations over the years; typically underneath or adjacent to the informational kiosks. Trash collected that does not fit into bags is also neatly placed adjacent to the bagged trash. We also recruit volunteers with pick-up trucks so that trash from different areas of the cleanup can be taken to one designated location at the end of the event. In addition, one of our volunteers separates steel and other scrap metal and takes it to a scrap metal recycling facility.

Step 5: Advertise Your Clean-Up Event / Recruit Volunteers

- A. Determine Any Project Partners:** In addition to volunteers who live around the waterbody, and any other residents of the town, determining any existing local groups or clubs that may be able to assist with the clean-up event is always helpful. Is there a local middle school, high school, or even college (if nearby) environmental club? A local chapter of the Student Conservation Association (SCA)? Any other organization, volunteer group, or club? A lot of these groups and / or clubs seek new community service projects and can help you garner additional / new volunteers.



The UPRP has partnered with the Student Conservation Association, local high school ecology clubs, local boy-scout troops, trout-fishing clubs, geo-caching groups, and others in the past. This has helped garner additional / new volunteers.

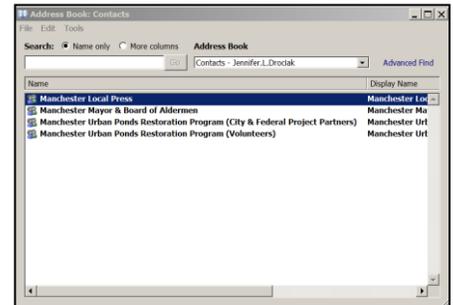
- B. Determine the Best Way(s) to Advertise Your Clean-Up Event:** Determine the target audience of volunteers and consider the best way(s) to advertise your clean-up event. Is it by e-mail? Website? Post-card? Posting of a flyer on a community bulletin board and / or kiosk? An annual lake association newsletter? An advertisement in a local newspaper? TV? Radio? facebook / social media? All of the above? Remember, printed materials and postage cost money, as typically do newspaper and radio advertisements. If your group has available funds for this, that is one thing. If not, instead of



simply placing a paid advertisement in a newspaper, try reaching out to a local news reporter to see if s/he will write a story about your cleanup (or write and submit an op-ed piece). This is usually good, free, advertisement. Also determine the most appropriate time to advertise for the clean-up event. Will you be advertising only once, or multiple times before the event?

The UPRP has typically advertised clean-up events in the following manners: 1) The UPRP webpage, 2) The City of Manchester website "Calendar of Events", 3) the UPRP facebook page, and 4) E-newsletter / e-mail. Local newspapers are also always gracious to cover the event(s) in a story beforehand. The UPRP typically sends posts the clean-up events on the website, and sends out an e-mail approximately three weeks in advance of the cleanup. The UPRP will then send weekly e-mails.

C. Create an E-Mail Distribution List: If you don't already have an e-mail distribution list, consider creating one. This may include names and e-mail addresses of lake association members, conservation commissioners, selectmen, municipal employees / department heads and others you know who may be interested. You can add to this with each clean-up event your group coordinates. If you have access to Constant Contact, Mailer, Mail Chimp, or other similar e-mail platform, this may be easier and more appropriate to use. If not, e-mail is a good starting place.



The UPRP has an e-mail distribution list which consists of approximately 200 individuals consisting of city aldermen, city department heads, conservation commissioners, media contacts, active school groups and other environmental organizations, and former volunteers. With every e-mail sent, an option is sent to opt-out of receiving e-mails by having a name and e-mail address removed from the list. This list is updated at least twice a year.

D. Before You Mail, Post, (or Hit the Send Button): Before you mail or post your flyer, or hit the send button to your e-mail distribution list, be sure to include the Who, What, Where, When, Why, and How to ensure all information is readily available. Why are you seeking volunteers? Who are you seeking as volunteers? What tasks are you seeking of volunteers? Where (general location and specific meeting location) are you seeking volunteers? When (date / time) are you seeking volunteers? Is there a rain date? How will the tasks be conducted? What should the volunteers wear or bring? What will be provided? Are you requesting an RSVP? For more information, who should they contact? Prepare your volunteers by letting them know what time to arrive, what to wear (clothes that can get dirty or wet, long pants, work gloves, boots or sturdy shoes, etc.), what to bring (sunscreen, insect repellent, water) and what to do in case of bad weather (rain date or cancellation information / phone number).



For Example: Seeking volunteers of all ages to assist in an annual trash clean-up at Black Brook and Blodget Park in Manchester on Saturday, April 23, 2016 from 9:00AM – 11:00AM. Volunteers will partner to clean the park and skirt the edges of the brook and wetland complex to remove accumulated trash. Please dress appropriately for weather as no rain date is scheduled. Latex gloves and trash bags will be provided, but please wear knee-boots, or hip-waders if you have them. No RSVP necessary. For more information, please visit www.manchesternh.gov/urbanponds or contact Jen Drociak at email@gmail.com or (603) ### - ####. We look forward to seeing you there!

Step 6: Conduct Your Clean-Up Event

A. Arrive Early: Consider arriving 15 minutes to one hour earlier than your volunteers so that you can set up at your check in location. Consider setting up the following: "Clean-Up Attendance Sheet", water and / or refreshments, first aid and safety, trash bags and clean-up supplies, organizational information (flyers, fact sheets, reports, etc.). Consider also walking around the location(s) to identify any new trash and / or safety concerns that may have accrued / arisen since your last visit.

The UPRP coordinator(s) typically meet on-site approximately 15-30 minutes in advance of volunteers to set up trash bags, latex gloves, and the "Clean-Up Attendance Sheet". We also survey the site to identify any new trash or safety hazards to relay to volunteers.

B. Welcome Your Volunteers and Ask Them to Sign-In:

Welcome each volunteer upon arrival and ask that they sign a "Clean-Up Attendance Sheet" so that your group may account for number of volunteers and volunteer hours contributed to the clean-up event. Consider leaving the "Clean-Up Attendance Sheet" at the check-in location for those volunteers who may have to leave (and sign out) earlier than the full allotted time.

The UPRP "Clean-Up Attendance Sheet" typically notes the location and date of the event, and has room to tally the number of volunteers, number of volunteer hours, number of bags of trash and other debris. It also has fields for volunteers to print their name, address, and e-mail, and note the time they checked in, and the time they checked out.

Manchester Urban Ponds Restoration Program 2016 Clean-Up Attendance Sheet					
Location: _____		Date: _____	Hours at Event: _____	# Volunteers: _____	# Volunteer Hours: _____
Name (Please Print)	Address	E-Mail	Time In	Time Out	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Number of Bags of Trash: _____		Other Notes: _____			

C. Ask Volunteers to Sign a Liability Waiver and Photo-Release Form: Trash found in a waterbody will likely be dirty, rusty, slimy, and sharp. In addition, your group may find broken glass, hypodermic needles and hazardous wastes. Heavy items should not be lifted alone. Caution is needed when handling all trash in order to avoid cuts and other injuries. Consider asking volunteers to sign a liability waiver and photo-release form. These can be two documents, or combined into one. The form should explain any dangers associated with the clean-up event and reminds volunteers to act responsibly for their own safety. The form helps protect you and your organization from potential liability if a volunteer is injured. In addition, with their permission, it allows you to use photographs taken that day. Examples of these forms can be found on-line.

D. Introduce Yourself and Provide Opening Remarks: Introduce yourself, thank special guests, sponsors / project partners (who have helped by providing goods or services), and volunteers. If the media is there, they may want to interview you or for you to provide a brief quote. Consider preparing remarks ahead-of-time, and allowing any special guests to also provide opening remarks to the group.

The UPRP coordinators typically introduce themselves, and thank any special guests (city aldermen, city employees, etc.), sponsors (municipal and local), and volunteers themselves.

E. Provide Volunteers with a Brief Background / History of the Area(s):

To acquaint new volunteers to your group / program and to the area, consider providing a brief background / history about the waterbody / area, distinguishing features, and its importance to the community. Consider showing volunteers a map of the waterbody and / or watershed. Also consider providing information such as points of interest, recent (or upcoming) restoration projects in the area, and / or information relative to water quality / monitoring, exotic species, other volunteer opportunities, etc.



Many of the UPRP volunteers are returning volunteers. However, with any new volunteers, we typically offer basic information on the program itself, as well as the watershed, inlet / outlet, history fun-facts, and any recent / upcoming restoration projects. We have fact sheets on each of our ponds on our website, which we can also direct them to for more information.

Nutts Pond Facts

- Namesake:** Named after a local citrus preference, "Commander" George Washington Nutts.
- Location:** Drinking Park Road, off of South Willow Street in south Manchester.
- Type of Waterbody:** Natural Pond fed by Tannery Brook.
- Inlet/Outlet:** Tannery Brook, flowing into Nutts Pond to the south of Bates Depot, and emptying into the Merrimack River near the Riverway in downtown Manchester.
- Watershed Area:** 6.7 acres.
- Waterbody Size:** 16.5 acres.
- Volume of Water:** 205,700 gal.
- Average Water Depth:** 13.12 feet.
- Maximum Water Depth:** 30.58 feet.
- Shoreline Length:** 1.113 feet.
- Elevation:** 237 feet.
- Uses:** Fishing, Boating.
- Public Boat Launch:** (Closed, trailer or car top).
- Access:** Drinking Park adjacent to Bates.
- Local Legend:** "Commander" Nutts, the citrus grower who teamed with the U.S. Maritime Service with Tom Thayer.

The History of Nutts Pond

Historical notes state that Nutts Pond has been known by several names. In the mid 1800s, it was known as "Pond Pond" for "the water (which) was known as 'Pond Pond' (Pond, 1850). It came to be known as Nutts Pond shortly thereafter, possibly a popular local mispronunciation. "Commander" Nutts, at the time, he had built his home on the pond.

"Commander" Nutts
"Commander" George Washington Nutts, that served in Manchester in 1800 and was the son of a New England farmer. He died in 1850 and was buried in the Nutts family grave in the cemetery in the town of Manchester. It is believed that in his honor, the waterbody between the two, many people considered that Nutts was the "Pond Pond" going along a different name. To explain the change, Nutts might be called the "Pond Pond" being known as "The Pond Pond" and "Pond Pond" being known as "Pond Pond".

Nutts Pond played a role in the history of New York and made their mark on the world. The "Pond Pond" had a history of being the site where the first reported battle about all of the natural world in the world, after the completion of the bridge over the Merrimack River.

The area required a long, grueling, and often violent and brutal war, but the area was not only a site of a major war, but also a site of a major war. They performed major, major, major, major, and other major (historical) events of the American Civil War.

Storm Pond Restoration Best Management Practices (BMP) Summary

Storm Pond Restoration Agreement

As part of the Storm Pond Restoration Agreement, the City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond. The City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond. The City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond.

Storm Pond Restoration Agreement

As part of the Storm Pond Restoration Agreement, the City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond. The City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond. The City of Manchester is providing technical assistance to the City of Manchester to help with the restoration of Storm Pond.

F. Provide Necessary Supplies to Your Volunteers: Ensure your volunteers have ample supplies for the duration of the clean-up event. If they did not bring their own work gloves, request that they take two pairs of Latex gloves (in case one pair rips), and more than one trash bag, depending on the designated location(s). If your group is also removing yard waste, provide your volunteers with rakes and lawn-waste bags. Request that they return any unused pair of gloves, trash bags, and any supplies to you at the end of the clean-up event. Consider also leaving supplies out in a designated location along with the “Clean-Up Attendance Sheet” for volunteers who may show up late.



Many of the UPRP bring their own work gloves. We then issue two pairs of Latex gloves to each volunteer as well as multiple trash bags, depending on the specific area they will be cleaning up. We request that all unused supplies be returned at the end of the clean-up.

G. Provide Your Volunteers with Instructions for the Clean-Up Event: Provide your volunteers with instructions for the clean-up event such as what they will be retrieving (large trash only, all trash, etc.) what not to pick up (hypodermic needles, cigarette butts, etc.), if they are to separate trash from recycling or not (in which case they may carry two bags at once – different colors may be helpful - one for trash and one for recycling), what is considered recyclable if they are separating recycling from trash (this differs in each community and some vendors may not accept unclean / dirty recyclables from clean-up events), etc. Also provide your volunteers with safety tips and a general schedule of the clean-up event including the location to reconvene at the end and where to place trash. Ensure everyone knows there to focus their efforts and then to stop.

The UPRP typically only picks up large items, and does not typically separate trash from recycling, due to limited means. However, we have done so in the past and have provided volunteers with two trash bags – one for recycling, and one for trash.

H. Make It Fun! Play One or More Games While You’re at It! Why not make things fun while you’re out there picking up trash? Consider playing one or more games (especially if some of the volunteers are children) such as a scavenger hunt, who can find the most interesting or unusual piece of trash, who can find the largest piece of trash, who collects the most trash, etc. Consider offering a prize and / or certificate to the winner(s) of one or more of the games you play.

The UPRP has, for many years, asked volunteers to find the “Most Interesting or Unusual Piece of Trash” at each clean-up event. At the end of the clean-up, volunteers will place their found items in one location for “judging” by the coordinator(s) of the clean-up event. Certificates and / or prizes have been awarded to the winner(s), and photos have been taken. We have found some really interesting and unusual pieces of trash over the years, and have kept a list!



I. Relinquish Groups of Volunteers / Group Leader(s) to Designated Area(s): If you are separating volunteers into more than one group for your clean-up event, relinquish the groups to their designated location(s). If you don’t have a group leader for each group, relinquish them with their maps in hand. If you have a group leader be sure to introduce the volunteers in each group to their group leader before relinquishing them to their designated location(s). Remember to consider that not all locations may need the same number of volunteers.

The UPRP typically asks one or more returning volunteers if they would agree to be group leaders. Not all locations require the same amount of volunteers, however. This is decided based upon the area of the designated location(s), as well as the amount of trash to be removed in the designated location(s). For example, one small area along the shoreline may only require two volunteers, but a larger area in another location with a lot of trash may require 4-6 or more volunteers.



J. Reconvene at Initial Check-In Area at Designated Time: After the allotted period of time has elapsed for the clean-up event, reconvene at your initial check-in area. Account for all volunteers that did not sign out early.

The UPRP always meets at our initial check-in area. We then account for each group leader and group of volunteers (who did not sign out early) to ensure all have safely returned.



K. Count Full Bags of Trash (or Weigh All Trash): Count all full bags of trash that were collected and returned. If one or more bags are returned and are not considered full, consider consolidating them to make full bags of trash. That way, your measurements of “full bags” collected for this, and any other clean-up events, are consistently measured / counted. If your group has access to a scale, you consider weighing your bags of trash, and any other trash, to account for pounds of trash collected. Another option is to ask if the vendor who is charged with collecting the trash after the event can inform your group of the weight of the collection when the truck enters the scale at the weigh-station before drop-off at the refuse facility.



Since trash collected at UPRP clean-up events has not been weighed by a scale, and trash has been weighed by vendor truck only occasionally, to be consistent, we always count full bags at the site, and consolidate bags of trash that are returned not full in order to make full bags.

L. Account for and Count Other Items: Account for and count the quantity of other items of trash collected that cannot fit into bags.

The UPRP always accounts for and counts any trash that is collected that cannot be bagged. This typically includes vehicular tires, shopping carts, wood debris, construction debris, or any other items that have been illegally dumped.



M. Share the Data with Volunteers: Once you have tallied the final numbers of bags of trash and other items collected during the clean-up event, announce them to your volunteers so they know just how much trash and other debris they removed from the area, know how important their contribution of time and efforts were, and have immediate results of their work!



N. Tally Final Numbers on Clean-Up Attendance Sheet: Once you have tallied everything collected, write these numbers on your “Clean-Up Attendance Sheet”.

O. Take Photographs: To commemorate the success of your clean-up event, take a photo of the trash collected, and of the group of volunteers who helped collect it!

The UPRP always photographs the trash collected (in and out of bags), as well as takes a group photograph in front of or aside the trash collected.



P. Award a Prize, or Two, or Three: If you played one or more games during the clean-up event, consider awarding a certificate or prize to your winner(s) and photographing them with their winning piece of trash!

The UPRP has, for many years, asked volunteers to find the “Most Interesting or Unusual Piece of Trash” at each clean-up event. At the end of the clean-up, volunteers will place their found items in one location for “judging” by the coordinator(s) of the clean-up. Certificates and / or prizes have been awarded to the winner(s), and photos have been taken.



Q. Thank the Volunteers: Before parting ways, be sure to thank your volunteers for their assistance! Encourage them to volunteer again. Be sure to individually thank any special guests (aldermen / selectmen, city employees, media, etc.).

At the end of each clean-up event, the UPRP notes upcoming clean-up events in order to encourage volunteers to return for the next event.



Above Left: Volunteers at the 100th Cleanup of the Manchester Urban Ponds Restoration Program.

Above Right: Cake served to volunteers at the 100th official cleanup of the Manchester Urban Ponds Restoration Program .

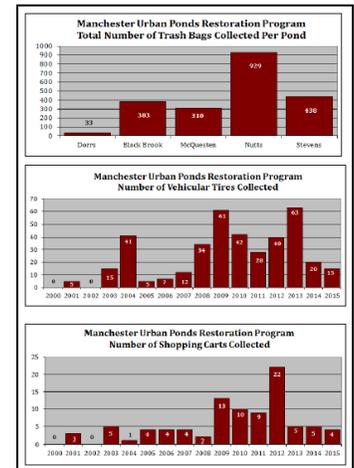
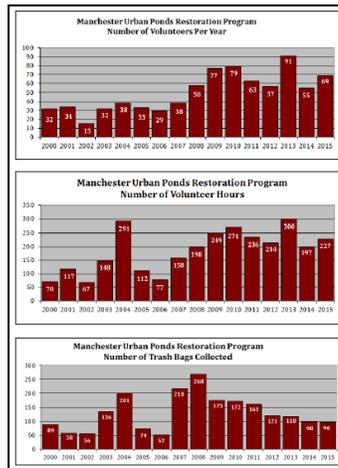
R. Consider Having a Picnic / Cookout / or Lunch: If you have the financial means, consider having a picnic / cookout / lunch afterwards to celebrate your accomplishment. Or, consider soliciting local vendors for food donations in exchange for sponsor / partnership recognition at your clean-up event. If you're not able to make or supply lunch, consider encouraging volunteers to bring a brown-bag lunch for afterwards.

Step 7: Follow Up After the Clean-Up Event

A. Update Your Electronic Records: Now is the time to transpose the information collected on the “Clean-Up Attendance Sheet” into an electronic record-retention system if you have access to one. Perhaps you have access to a database. If not, consider using a Microsoft Excel workbook / spreadsheet system to track measurements from your clean-up events. Now is also the time to update your existing e-mail distribution list with the names and e-mail addresses of those volunteers who participated in your clean-up event.

The UPRP has consistently used Microsoft Excel to track clean-up measurements. In the first worksheet of the workbook, we account for the number of our clean-up event, the location, date, hours spent at the event, numbers of bags of trash collected at the event, number of volunteers at the event, number of volunteer hours at the event, total value of volunteer time for the event, and other items retrieved at the event. For each year tracked, we created a “total” line with auto-calculations to account for the total of each year. To account for the value of volunteer time, we use figures taken from www.independentsector.org. In the second worksheet of the workbook, we account for pond cleanup attendees, where, for each clean-up event, we list the location, date, names (in alphabetical order), address, and hours at event. Similarly, for each year tracked, we created a “total” line. In the third worksheet of the workbook, we have created graphs based upon each year’s total metrics. We then transpose these graphs to a Microsoft Word document, then an Adobe PDF document, and post on our website, and at the kiosks.

Manchester Urban Ponds Restoration Pond Cleanup Measurements									
#	Location	Date	Hours	# Bags Trash Collected	# Volunteers in Attendance	# Volunteer Hours	Value of Volunteer Time (\$22.50/hr)	Other Items Retrieved	
2013									
101	Black Pond	4/20/13	2	16	70	140	\$3,150.00	5 tires, 1 wooden pallet, 2 large plastic coils	
102	Seawall Pond	4/20/13	2	16	6	12	\$270.00		
103	Wells Pond	5/4/13	3	16	5	15	\$337.50	wind socks, 3 shopping carts	
104	Manchester Pond (NHEC)	5/10/13	4	18	10	40	\$900.00	27 tires, 7 compressed buckets, 4 car tires	
105	Manchester Pond (NHEC)	5/10/13	4	18	10	40	\$900.00	26 tires (largely damaged)	
2014									
106	Black Pond	4/20/14	2	16	6	12	\$270.00	wind detritus, 2 plastic chairs	
107	Seawall Pond	5/3/14	2	16	14	28	\$630.00	15 wood detritus, 10 shopping carts, 30 detritus	
108	Wells Pond (EPA)	5/4/14	2	16	40	80	\$1,800.00	20 tires, 2 shopping carts, 10 washing machines	
109	Wells Pond	5/10/14	2	16	40	80	\$1,800.00	8 tires, 2 shopping carts, wood detritus	
110	Manchester Pond (NHEC)	5/10/14	4	18	10	40	\$900.00	12 tires, 3 shopping carts, wood detritus	
2015									
111	Black Pond	4/20/15	2	16	11	22	\$495.00	30 gallon drums, 30 gallon plastic garbage	
112	Seawall Pond	5/3/15	2	16	11	22	\$495.00	4 tires, 1 TV, 1 TV stand, wood detritus	
113	Wells Pond	5/10/15	2	16	10	20	\$450.00	10 tires, 2 shopping carts, 10 tires from car of	
114	Manchester Pond (NHEC)	5/10/15	4	18	10	40	\$900.00	20 tires, 2 shopping carts, 5 tires from car of	
115	Manchester Pond (NHEC)	5/10/15	4	18	10	40	\$900.00	10 wooden pallets, 10 tires from car of	
2015 Total									
			2095	800	800	2928.50	\$64,254.00		



B. Follow Up With an E-mail or Thank-You Note: It is always nice to follow up with your new (and / or returning) volunteers by sending them a formal personalized thank-you via e-mail or US Postal Service. Besides, who doesn't like receiving a letter in the letter box, especially in this electronic day-in-age?

The UPRP, has, on occasion, sent personalized thank-you cards in the mail. Typically, however, we send a group thank-you via e-mail and attach photographs taken at the event(s), as well as re-cap tallies from the clean-up event(s).



C. Consider Writing an Article for Your Newsletter or the Newspaper: Consider writing an article for your newsletter, if you have one, or a local newsletter or newspaper, summarizing the event with photographs and tallies from the event. Volunteers who helped out at your clean-up event will feel proud of their accomplishment and the results. This is a good way to garner publicity about your group and its event as well as garner additional volunteers in the future.

The UPRP has often written newspaper articles and / or shared summary information about the clean-up events (at the end of the season) listing sponsors / project partners and volunteers, and including photographs of volunteers at the event, via an electronic newsletter.



From 2000 - 2005 **The Manchester Urban Ponds Restoration Program** (UPRP) was part of the Supplemental Environmental Projects Plan (SEPP) which was part of an agreement between the City of Manchester, NH Department of Environmental Services, and the US Environmental Protection Agency to address combined sewers in the City. Seven (7) waterbodies in Manchester have been evaluated and monitored for restoration potential. Specific restoration projects to meet the program's goals have also been identified, funded, and completed through this project. Since 2000, the Manchester Urban Ponds Restoration Program has organized 101 clean-up events. Over the past 15 years, 800 volunteers have spent 2,298.50 hours collecting 2,093 bags of trash! This does not include the items illegally “dumped” such as shopping carts (91), tires (388), car batteries, other car parts, construction debris, and other items. In addition, the value of volunteer time spent at these clean-ups has amounted to over \$54,000 over the past 15 years! The Manchester Urban Ponds Restoration Program was awarded an EPA “Environmental Merit Award” in 2011. More information on the Manchester Urban Ponds Restoration Program can be found by visiting www.manchesternh.gov/urbanponds.



Jen Drociak lives in Manchester, NH and holds a Bachelor of Science degree in Environmental Conservation from the University of New Hampshire. She is employed with the New Hampshire Department of Environmental Services where she has worked as a program specialist for the Pollution Prevention Program, a restoration specialist for the NH Coastal Program where she established a monitoring program for pre- and post-restoration projects in NH's salt marshes, and as the Volunteer River Assessment Program Coordinator

where she provided technical assistance to approximately 200 volunteers who collected water quality samples for surface water quality assessments on NH's rivers and streams. Jen has also worked for the Wastewater Engineering Bureau as a grants management specialist and is currently working for the Land Resources Management Bureau as a compliance specialist. Since 2000, Jen has also been involved with the Manchester Urban Ponds Restoration Program, and has served as acting coordinator since 2006 where she largely coordinates annual clean-up events and water quality monitoring.

*Standard Operating Procedures for
Construction Inspection, Erosion and
Sedimentation Inspection, and Constructed
BMP Inspection, Central Massachusetts
Regional Stormwater Coalition*

SOP 5: CONSTRUCTION SITE INSPECTION

Construction sites that lack adequate stormwater controls can contribute a significant amount of sediment to nearby bodies of water. This Standard Operating Procedure describes the major components of a municipal Stormwater Construction Inspection Plan, as well as procedures for evaluating compliance of stormwater controls at construction sites.

Stormwater Construction Inspection Plan

A stormwater Construction Site Inspection program is a program developed by municipalities to track, inspect, and enforce local stormwater requirements at construction sites.

This SOP assumes that the municipality has legal authority (i.e., a bylaw or ordinance) in place, per the requirements of the 2003 Massachusetts MS4 Permit, to require sediment and erosion control at construction sites. This legal authority must require construction site operators “to implement a sediment and erosion control program which includes [Best Management Practices] that are appropriate for the conditions at the construction site, including efforts to minimize the area of the land disturbance.” The legal authority must also give inspectors the authority to enter the site.

A municipal stormwater Construction Site Inspection program should include or address the following:

1. Construction Site Inventory
 - A tracking system to inventory projects and identify sites for inspection.
 - Track the results of inspection and prioritize sites based on factors such as proximity to waterways, size, slope, and history of past violations.
2. Construction Requirements and BMPs
 - Municipalities provide contractors with guidance on the appropriate selection and design of stormwater BMPs.
3. Plan Review Procedures
 - Submitted plans must be reviewed to ensure they address local requirements and protect water quality.
4. Public Input
 - Per the 2003 Massachusetts MS4 Permit, a program must allow the public to provide comment on inspection procedures, and must consider information provided by the public.
5. Construction Site Inspections
 - Identify an inspection frequency for each site.
 - See more detailed information below.
6. Enforcement Procedures
 - A written progressive enforcement policy for the inspection program.

- Sanctions, both monetary and non-monetary, shall be utilized to ensure compliance with the program
7. Training and Education
- Municipal staff conducting inspections should receive training on regulatory requirements, BMPs, inspections, and enforcement.

Conducting Stormwater Inspections at Construction Sites

The role of the construction inspector is to ensure that site operations match the approved site plans and the Stormwater Pollution Prevention Plan (SWPPP) for the project, and that all precautions are taken to prevent pollutants and sediment from the construction site from impacting local waterways. The inspector is also expected to determine the adequacy of construction site stormwater quality control measures.

The attached Construction Site Stormwater Inspection Report shall be used by the inspector during site visits. Construction site inspectors should abide by the following guidelines:

1. Inspections to monitor stormwater compliance should be performed at least once per month at each active construction site, with priority placed on sites that require coverage under the USEPA 2012 Construction General Permit (i.e., that disturb one or more acres), and sites that are located in the watershed of any 303(d) water bodies.
2. The inspection shall begin at a low point and work uphill, observing all discharge points and any off-site support activities.
3. Written and photographic records shall be maintained for each site visit.
4. During the inspection, the inspector should ask questions of the contractor. Understanding the selection, implementation, and maintenance of BMPs is an important goal of the inspection process, and requires site-specific input.
5. The inspector should not recommend or endorse solutions or products. The inspector may offer appropriate advice, but all decisions must be made by the contractor.
6. The inspector shall always wear personal protective equipment appropriate for the site.
7. The inspector shall abide by the contractor's site-specific safety requirements.
8. The inspector has legal authority to enter the site. However, if denied permission to enter the site, the inspector should never force entry.

Prior to planning a site visit, the inspector shall determine if the project is subject to USEPA's 2012 Construction General Permit, which is true if the the project disturbs one or more acres, total. The 2012 Construction General Permit replaces the 2008 Construction General Permit , which expired on February 15, 2012. Operators of sites that required coverage under the USEPA's 2008 Construction General Permit but continue to be active should have submitted a new Notice of Intent (NOI) under the 2012 Permit.

If the site requires this coverage, the inspector shall visit the USEPA Region 1 eNOI website (<http://cfpub.epa.gov/npdes/stormwater/cgpenoi.cfm> or <http://cfpub.epa.gov/npdes/stormwater/noi/noisearch.cfm>) to determine if the contractor filed for coverage under the 2012 and/or 2008 Construction General Permits, respectively. Print a copy of the project's NOI.

If the project disturbs one or more acres and is under construction, but does not show up in either database, the project is in violation of the Construction General Permit. Call the contractor to determine if the NOI process has been started. If not, notify the contractor verbally of this requirement and the violation. Work cannot proceed on the site until a Notice of Intent (NOI) for coverage under the 2012 Construction General Permit has been approved by USEPA. The inspector may choose to print instructions on how to file an NOI and meet with the contractor to review these. Issue a written Stop Work Order until the NOI has been approved by USEPA.

Once it has been determined that the site is in compliance with the 2012 Construction General Permit, the site inspection process can continue. The Construction Site Inspection process shall include the following:

1. Plan the inspection before visiting the construction site
 - a. Obtain and review permits, site plans, previous inspection reports, and any other applicable information.
 - b. Print the approved NOI from the USEPA 2012 Construction General Permit NOI website, listed previously.
 - c. Inform the contractor of the planned site visit.
2. Meet with the contractor
 - a. Review the Construction SWPPP (if the site includes over one acre of disturbance) or other document, as required by the municipality's legal authority. Compare BMPs in the approved site plans with those shown in the SWPPP.
 - b. Review the project's approved NOI and confirm that information shown continues to be accurate.
 - c. Get a general overview of the project from the contractor.
 - d. Review inspections done by the contractor.
 - e. Review the status of any issues or corrective actions noted in previous inspection reports.
 - f. Discuss any complaints or incidents since the last meeting.
3. Inspect perimeter controls
 - a. Examine perimeter controls to determine if they are adequate, properly installed, and properly maintained.
 - b. For each structural BMP, check structural integrity to determine if any portion of the BMP needs to be replaced or requires maintenance.
4. Inspect slopes and temporary stockpiles
 - a. Determine if sediment and erosion controls are effective.
 - b. Look for slumps, rills, and tracking of stockpiled materials around the site.
5. Compare BMPs in the site plan with the construction site conditions

- a. Determine whether BMPs are in place as specified in the site plan, and if the BMPs have been adequately installed and maintained.
- b. Note any areas where additional BMPs may be needed which are not specified in the site plans.
6. Inspect site entrances/exits
 - a. Determine if there has been excessive tracking of sediment from the site.
 - b. Look for evidence of additional entrances/exits which are not on the site plan and are not properly stabilized.
7. Inspect sediment basins
 - a. Look for signs that sediment has accumulated beyond 50% of the original capacity of the basin.
8. Inspect pollution prevention and good housekeeping practices
 - a. Inspect trash areas and material storage/staging areas to ensure that materials are properly maintained and that pollutant sources are not exposed to rainfall or runoff.
 - b. Inspect vehicle/equipment fueling and maintenance areas for the presence of spill control measures and for evidence of leaks or spills.
9. Inspect discharge points and downstream, off-site areas
 - a. Walk down the street and/or in other directions off-site to determine if erosion and sedimentation control measures are effective in preventing off-site impacts.
 - b. Inspect down-slope catch basins to determine if they are protected, and identify whether sediment buildup has occurred.
10. Meet with the contactor again prior to leaving
 - a. Discuss the effectiveness of current controls and whether modifications are needed.
 - b. Discuss possible violations or concerns noted during the site inspection, including discrepancies between approved site plans, the SWPPP, and/or the implementation of stormwater controls.
 - c. Agree on a schedule for addressing all discrepancies, and schedule a follow-up inspection.
11. Provide a written copy of the inspection report to the contractor.
12. Follow up, as determined, and provide copy of subsequent inspection to the contractor.
13. Use Stop Work orders, as needed, until compliance with the 2012 Construction General Permit and/or other document, as required by the municipality's legal authority, can be achieved.

Attachments

1. Construction Site Stormwater Inspection Report

Related Standard Operating Procedures

1. SOP 9, Inspecting Constructed Best Management Practices

(continued)

	BMP Description	Installed and Operating Properly?	Corrective Action Needed
3		Yes <input type="checkbox"/> No <input type="checkbox"/>	
4		Yes <input type="checkbox"/> No <input type="checkbox"/>	
5		Yes <input type="checkbox"/> No <input type="checkbox"/>	
6		Yes <input type="checkbox"/> No <input type="checkbox"/>	
7		Yes <input type="checkbox"/> No <input type="checkbox"/>	
8		Yes <input type="checkbox"/> No <input type="checkbox"/>	
9		Yes <input type="checkbox"/> No <input type="checkbox"/>	
10		Yes <input type="checkbox"/> No <input type="checkbox"/>	
11		Yes <input type="checkbox"/> No <input type="checkbox"/>	
12		Yes <input type="checkbox"/> No <input type="checkbox"/>	
13		Yes <input type="checkbox"/> No <input type="checkbox"/>	
14		Yes <input type="checkbox"/> No <input type="checkbox"/>	
15		Yes <input type="checkbox"/> No <input type="checkbox"/>	
16		Yes <input type="checkbox"/> No <input type="checkbox"/>	
17		Yes <input type="checkbox"/> No <input type="checkbox"/>	
18		Yes <input type="checkbox"/> No <input type="checkbox"/>	
19		Yes <input type="checkbox"/> No <input type="checkbox"/>	
20		Yes <input type="checkbox"/> No <input type="checkbox"/>	



Erosion and Sedimentation Control

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Have all ESC features been constructed before initiating other construction activities?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is the contractor inspecting and maintaining ESC devices regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is existing vegetation maintained on the site as long as possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is construction staged so as to minimize exposed soil and disturbed areas?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are disturbed areas restored as soon as possible after work is completed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is clean water being diverted away from the construction site?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are sediment traps and sediment barriers cleaned regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are vegetated and wooded buffers protected and left undisturbed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are soils stabilized by mulching and/or seeding when they are exposed for a long time?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Has vegetation been allowed to establish itself before flows are introduced to channels?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is regular, light watering used for dust control?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is excessive soil compaction with heavy machinery avoided, to the extent possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	



(continued)

Issue	Status	Corrective Action Needed
Are erosion control blankets used when seeding slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are trees and vegetation that are to be retained during construction adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are areas designated as off-limits to construction equipment flagged or easily distinguishable?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If excavated topsoil has been salvaged and stockpiled for later use on the project, are stockpiles adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are temporary slope drains or chutes used to transport water down steep slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Do all entrances to the storm sewer system have adequate protection?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Overall Site Conditions

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Are slopes and disturbed areas not being actively worked properly stabilized?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are material stockpiles covered or protected when not in use?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are natural resource areas protected with sediment barriers or other BMPs?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are perimeter controls and sediment barriers installed and maintained?	Yes <input type="checkbox"/> No <input type="checkbox"/>	



(continued)

Issue	Status	Corrective Action Needed
Are discharge points and receiving waters free of sediment deposits and turbidity?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are storm drain inlets properly protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there evidence of sediment being tracked into streets?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is trash/litter from the construction site collected and placed in dumpsters?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are vehicle/equipment fueling and maintenance areas free of spills and leaks?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are potential stormwater contaminants protected inside or under cover?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is dewatering from site properly controlled?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are portable restroom facilities properly sited and maintained?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are all hazardous materials and wastes stored in accordance with local regulations?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Non-Compliance Actions

The municipality shall provide the site operator with a copy of this report, and notice of the corrective action(s) to be taken. The site operator shall have thirty days from the receipt of the notice to commence curative action of the violation.



SOP 6: EROSION AND SEDIMENTATION CONTROL

Erosion and sedimentation from land-disturbing human activities can be a significant source of stormwater pollution. This Standard Operating Procedure describes methods for reducing or eliminating pollutant loading from such activities.

Controlling Erosion and Sediment through Design and Planning

Prevention of erosion and sedimentation is preferable to installing treatment devices. Consistent application and implementation of the following guidelines during the design and review phases can prevent erosion and sedimentation:

1. Avoid sensitive areas, steep slopes, and highly erodible soils to the maximum extent possible when developing site plans.
2. Identify potential problem areas before the site plan is finalized and approved.
3. Plan to use sediment barriers along contour lines, with a focus on areas where short-circuiting (i.e., flow around the barrier) may occur.
4. Use berms at the top of a steep slopes to divert runoff away from the slope's edge.
5. Design trapezoidal or parabolic vegetated drainage channels, not triangular.
6. Use vegetated channels with rip rap check dams, instead of impervious pavement or concrete, to reduce the water velocity of the conveyance system.
7. Design a check dam or sediment forebay with level spreader at the exit of outfalls to reduce water velocity of the discharge and collect sediment.
8. Use turf reinforcement matting to stabilize vegetated channels, encourage vegetation establishment, and withstand flow velocities without scouring the base of the channel.
9. Plan open channels to follow land contours so natural drainage is not disrupted.
10. Use organic matting for temporary slope stabilization and synthetic matting for permanent stabilization.
11. Provide a stable channel, flume, or slope drain where it is necessary to carry water down slopes.

Controlling Erosion and Sediment on Construction Sites

During the construction phase, it is important to inspect active sites regularly to ensure that practices are consistent with approved site plans and the site's Stormwater Pollution Prevention Plan (SWPPP) or other document, as required by the municipality's legal authority. The following guidelines apply:

1. Erosion and sediment control features should be constructed before initiating activities that remove vegetated cover or otherwise disturb the site. These shall be installed consistent with the approved site plans and with manufacturer's instructions.
2. Erosion and sediment control devices shall be inspected by the contractor regularly, and maintained as needed to ensure function.

3. In the SWPPP or other document, the contractor shall clearly identify the party responsible for maintaining erosion and sediment control devices.
4. An inspection should be completed of active construction sites every month, at a minimum, to check the status of erosion and sedimentation controls. Refer to SOP 5, "Construction Site Inspection", for construction site stormwater inspection procedures.
5. Existing vegetation should be maintained on site as long as possible.
6. Construction should proceed progressively on the site in order to minimize exposed soil, and disturbed areas should be restored as soon as possible after work has been completed.
7. Stockpiles shall be stabilized by seeding or mulching if they are to remain for more than two weeks.
8. Disturbed areas shall be protected from stormwater runoff by using protective Best Management Practices (BMPs).
9. Clean water shall be diverted away from disturbed areas on construction sites to prevent erosion and sedimentation.
10. Sediment traps and sediment barriers should be cleaned out regularly to reduce clogging and maintain design function.
11. Vegetated and wooded buffers shall be protected.
12. Soils shall be stabilized by mulching and/or seeding when they would be exposed for more than one week during the dry season, or more than two days during the rainy season.
13. Vegetation shall be allowed to establish before introducing flows to channels.
14. Regular light watering shall be used for dust control, as this is more effective than infrequent heavy watering.
15. Excessive soil compaction with heavy machinery shall be avoided, to the extent possible.
16. Construction activities during months with higher runoff rates shall be limited, to the extent possible.

Controlling Erosion and Sediment by Proper Maintenance of Permanent BMPs

Many construction phase BMPs can be integrated into the final site design, but ongoing inspection and maintenance are required to ensure long-term function of any permanent BMP. Refer to SOP 9, "Inspection of Constructed Best Management Practices", for more information. The following guidelines summarize the requirements for long-term maintenance of permanent BMPs.

1. Responsibility for maintaining erosion and sediment control devices shall be clearly identified.
2. Erosion and sediment control devices shall be inspected following heavy rainfall events to ensure they are working properly.
3. Erosion control blankets shall be utilized when seeding slopes.
4. Vegetated and wooded buffers shall be protected, and left undisturbed to the extent possible.
5. Runoff shall not be diverted into a sensitive area unless this has been specifically approved.
6. Sedimentation basins shall be cleaned out once sediment reaches 50% of the basin's design capacity.
7. Snow shall not be plowed into, or stored within, retention basins, rain gardens, or other BMPs.

8. Easements and service routes shall be maintained, to enable maintenance equipment to access BMPs for regular cleaning.

Related Standard Operating Procedures

1. SOP 5, Construction Site Inspection
2. SOP 9, Inspection of Constructed Best Management Practices

Erosion and Sediment Control (ESC) on Construction Sites

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Have all ESC features been constructed before initiating other construction activities?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is the contractor inspecting and maintaining ESC devices regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is existing vegetation maintained on the site as long as possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is construction staged so as to minimize exposed soil and disturbed areas?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are disturbed areas restored as soon as possible after work is completed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is clean water being diverted away from the construction site?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are sediment traps and sediment barriers cleaned regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are vegetated and wooded buffers protected and left undisturbed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are soils stabilized by mulching and/or seeding when they are exposed for a long time?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Has vegetation been allowed to establish itself before flows are introduced to channels?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is regular, light watering used for dust control?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is excessive soil compaction with heavy machinery avoided, to the extent possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	



(continued)

Issue	Status	Corrective Action Needed
Are erosion control blankets used when seeding slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are trees and vegetation that are to be retained during construction adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are areas designated as off-limits to construction equipment flagged or easily distinguishable?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If excavated topsoil has been salvaged and stockpiled for later use on the project, are stockpiles adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are temporary slope drains or chutes used to transport water down steep slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Do all entrances to the storm sewer system have adequate protection?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Non-Compliance Actions

The municipality shall provide the site operator with a copy of this report, and notice of the corrective action(s) to be taken. The site operator shall have thirty days from the receipt of the notice to commence curative action of the violation.



SOP 9: INSPECTING CONSTRUCTED BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are policies, procedures and structures designed to reduce stormwater pollution, prevent contaminant discharges to natural water bodies, and reduce stormwater facility maintenance costs. Constructed BMPs are permanent site features designed to treat stormwater before infiltrating it to the subsurface or discharging it to a surface water body.

This Standard Operating Procedure provides a general summary of inspection procedures for eight common constructed BMPs, including:

1. Bioretention Areas and Rain Gardens
2. Constructed Stormwater Wetlands
3. Extended Dry Detention Basins
4. Proprietary Media Filters
5. Sand and Organic Filters
6. Wet Basins
7. Dry Wells
8. Infiltration Basins

This SOP is based on the Massachusetts Stormwater Handbook and is not intended to replace that document. This SOP is also not intended to replace the Stormwater BMP Operation and Maintenance (O&M) Plan required by the Massachusetts Wetlands Protection Act, Order of Conditions.

Bioretention Areas and Rain Gardens

Bioretention areas and rain gardens are shallow depressions filled with sandy soil, topped with a thick layer of mulch and planted with dense native vegetation. There are two types of bioretention cells:

1. Filtering bioretention area: Areas that are designed solely as an organic filter; and
2. Exfiltration bioretention area: Areas that are configured to recharge groundwater in addition to acting as a filter.

Inspection & Maintenance

Regular inspection and maintenance are important to prevent against premature failure of bioretention areas or rain gardens. Regular inspection and maintenance of pretreatment devices and bioretention cells for sediment buildup, structural damage and standing water can extend the life of the soil media.

Maintenance Schedule: Bioretention Areas and Rain Gardens

Activity	Time of Year	Frequency
Inspect for soil erosion and repair	Year round	Monthly
Inspect for invasive species and remove if present	Year round	Monthly
Remove trash	Year round	Monthly
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and Spring	Bi-Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace all media and vegetation	Late Spring/Early Summer	As Needed

When failure is discovered, excavate the bioretention area, scarify the bottom and sides, replace the filter fabric and soil, replant vegetation and mulch the surface.

Never store snow within a bioretention area or rain garden. This would prevent required water quality treatment and the recharge of groundwater.

Constructed Stormwater Wetlands

Constructed stormwater wetlands maximize the pollutant removal from stormwater through the use of wetland vegetation uptake, retention and settling. Constructed storm water wetlands must be used in conjunction with other BMPs, such as sediment forebays.

Inspection & Maintenance

Regular inspection and maintenance are important to prevent against premature failure of bioretention areas or rain gardens. Regular inspection and maintenance of pretreatment devices and bioretention cells for sediment buildup, structural damage and standing water can extend the life of the soil media.

Maintenance Schedule, Constructed Stormwater Wetlands: Years 0-3

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Record and Map:	Year round	Annually
Types and distribution of dominant wetland plants	Year round	Bi-Annually
Presence and distribution of planted wetland species	Spring	Annually
Presence and distribution of invasive species	Fall and Spring	Bi-Annually
Indications other species are replacing planted wetland species	Spring	Annually
Percent of standing water that is not vegetated	Spring or Fall	Annually
Replace all media and vegetation	Late Spring/Early Summer	As Needed
Stability of original depth zones and micro-topographic features		
Accumulation of sediment in the forebay and micropool and survival rate of plants		

Maintenance Schedule, Constructed Stormwater Wetlands: Years 4-Lifetime

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Clean forebays	Year round	Annually
Clean sediment in basin/wetland system	Year round	Once every 10 years
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and Spring	Bi-Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace all media and vegetation	Late Spring/Early Summer	As Needed

When failure is discovered, excavate the bioretention area, scarify the bottom and sides, replace the filter fabric and soil, replant vegetation and mulch the surface.

Never store snow within a constructed stormwater wetland. This would prevent required water quality treatment and the recharge of groundwater.

Extended Dry Detention Basins

Extended dry detention basins are designed to control both stormwater quantity and quality. These BMPs are designed to hold stormwater for at least 24 hours, allowing solids to settle and to reduce local and downstream flooding. Pretreatment is required to reduce the potential for overflow clogging. The

outflow may be designed as either fixed or adjustable. Additional nutrient removal may be achieved by a micropool or shallow marsh.

Inspection & Maintenance

Annual inspection of extended dry detention basins is required to ensure that the basins are operating properly. Potential problems include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway and sediment accumulation around the outlet. Should any of these problems be encountered, necessary repairs should be made immediately.

Maintenance Schedule: Extended Dry Detention Basins

Activity	Time of Year	Frequency
Inspect basins	Spring and Fall	Bi-Annually, and during and after major storms
Examine outlet structure for clogging or high outflow release velocities	Spring and Fall	Bi-Annually
Mow upper stage, side slopes, embankment and emergency spillway	Spring through Fall	Bi-Annually
Remove trash and debris	Spring	Bi-Annually
Remove sediment from basin	Year round	At least once every 5 years

Proprietary Media Filters

Media Filters are designed to reduce total suspended solids and other target pollutants, such as organics, heavy metals or nutrients, which are sorbed onto the filter media, which is contained in a concrete structure. The substrate used as filter media depends on the target pollutants, and may consist of leaf compost, pleated fabric, activated charcoal, perlite, amended sand in combination with perlite, and zeolite. Two types of Media Filters are manufactured: Dry Media Filters, which are designed to dewater within 72 hours; and Wet Media Filters, which maintain a permanent pool of water as part of the treatment system.

Inspection & Maintenance

Maintenance in accordance with the manufacturer's requirements is necessary to ensure stormwater treatment. Inspection or maintenance of the concrete structure may require OSHA confined space training. Dry Media Filters are required to dewater in 72 hours, thus preventing mosquito and other insect breeding. Proper maintenance is essential to prevent clogging. Wet Media Filters require tight fitting seals to keep mosquitoes and other insects from entering and breeding in the permanent pools. Required maintenance includes routine inspection and treatment.

Maintenance Schedule: Proprietary Media Filters

Activity	Time of Year	Frequency
Inspect for standing water, trash, sediment and clogging	Per manufacturer’s schedule	Bi-Annually (minimum)
Remove trash and debris	N/A	Each Inspection
Examine to determine if system drains in 72 hours	Spring, after large storm	Annually
Inspect filtering media for clogging	Per manufacturer’s schedule	Per manufacturer’s schedule

Sand and Organic Filters

Sand and organic filters, also known as filtration basins, are intended for quality control rather than quantity control. These filters improve water quality by removing pollutants through a filtering media and settling pollutants on top of the sand bed and/or in a pretreatment basin. Pretreatment is required to prevent filter media from clogging. Runoff from the filters is typically discharged to another BMP for additional treatment.

Inspection & Maintenance

If properly maintained, sand and organic filters have a long design life. Maintenance requirements include raking the sand and removing sediment, trash and debris from the surface of the BMP. Over time, fine sediments will penetrate deep into the sand requiring replacement of several inches or the entire sand layer. Discolored sand is an indicator of the presence of fine sediments, suggesting that replacement of the sand should be completed.

Maintenance Schedule: Proprietary Media Filters

Activity	Frequency
Inspect filters and remove debris	After every major storm for the first 3 months after construction completion. Every 6 months thereafter.

Wet Basins

Wet basins are intended to treat stormwater quality through the removal of sediments and soluble pollutants. A permanent pool of water allows sediments to settle and removes the soluble pollutants, including some metals and nutrients. Additional dry storage is required to control peak discharges during large storm events, and if properly designed and maintained wet basins can add fire protection, wildlife habitat and aesthetic values to a property.



Inspection & Maintenance

To ensure proper operation, wet basin outfalls should be inspected for evidence of clogging or excessive outfall releases. Potential problems to investigate include erosion within the basin and banks, damage to the emergency spillway, tree growth on the embankment, sediment accumulation around the outlet and the emergence of invasive species. Should any of these problems be encountered, perform repairs immediately. An on-site sediment disposal area will reduce sediment removal costs.

Maintenance Schedule: Wet Basins

Activity	Time of Year	Frequency
Inspect wet basins	Spring and/or Fall	Annually (Minimum)
Mow upper stage, side slopes, embankment and emergency spillway	Spring through Fall	Bi-Annually (Minimum)
Remove sediment, trash and debris	Spring through Fall	Bi-Annually (Minimum)
Remove sediment from basin	Year round	As required, but at least once every 10 years

Dry Wells

Dry wells are used to infiltrate uncontaminated runoff. These BMPs should never be used to infiltrate stormwater or runoff that has the potential to be contaminated with sediment and other pollutants. Dry wells provide groundwater recharge and can reduce the size and cost required of downstream BMPs or storm drains. However, they are only applicable in drainage areas of less than one acre and may experience high failure rates due to clogging.

Inspection & Maintenance

Proper dry well function depends on regular inspection. Clogging has the potential to cause high failure rates. The water depth in the observation well should be measured at 24 and 48 hour intervals after a storm and the clearance rate calculated. The clearance rate is calculated by dividing the drop in water level (inches) by the time elapsed (hours).

Maintenance Schedule: Dry Wells

Activity	Frequency
Inspect dry wells	After every major storm for the first 3 months after construction completion. Annually thereafter.



Infiltration Basins

Infiltration basins are designed to contain stormwater quantity and provide groundwater recharge. Pollution prevention and pretreatment are required to ensure that contaminated stormwater is not infiltrated. Infiltration basins reduce local flooding and preserve the natural water balance of the site, however high failure rates often occur due to improper siting, inadequate pretreatment, poor design and lack of maintenance.

Inspection & Maintenance

Regular maintenance is required to prevent clogging, which results in infiltration basin failure. Clogging may be due to upland sediment erosion, excessive soil compaction or low spots. Inspections should include signs of differential settlement, cracking, erosion, leakage in the embankments, tree growth on the embankments, riprap condition, sediment accumulation and turf health.

Maintenance Schedule: Infiltration Basins

Activity	Time of Year	Frequency
Preventative maintenance	Spring and Fall	Bi-Annually
Inspection	Spring and Fall	After every major storm for the first 3 months after construction completion. Bi-annually thereafter and discharges through the high outlet orifice.
Mow/rake buffer area, side slopes and basin bottom	Spring and Fall	Bi-Annually
Remove trash, debris and organic matter	Spring and Fall	Bi-Annually



INSPECTION OF BIORETENTION AREAS / RAIN GARDENS

General Information

BMP Description	Bioretention Area / Rain Garden		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for soil erosion and repair	Monthly	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Inspect for invasive species and remove if present	Monthly	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove trash	Monthly	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Mulch void areas	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove dead vegetation	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Replace dead vegetation	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Prune	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Replace all media and vegetation	As Needed	Yes <input type="checkbox"/> No <input type="checkbox"/>	



**INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Years 0-3 of Operation**

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Replace all media and vegetation	As Needed	Yes <input type="checkbox"/> No <input type="checkbox"/>	

In addition, the following information should be recorded and mapped at least once per year:

- Types and distribution of dominant wetland plants
- Presence and distribution of planted wetland species
- Presence and distribution of invasive species
- Indications other species are replacing planted wetland species
- Percent of standing water that is not vegetated
- Replace all media and vegetation
- Stability of original depth zones and micro-topographic features
- Accumulation of sediment in the forebay and micropool and survival rate of plants



**INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Year 4 - Lifetime of Operation**

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Clean forebays	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Clean sediment in basin/wetland system	Once every 10 years	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Mulch void areas	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove dead vegetation	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Replace dead vegetation	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Prune	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Replace all media and vegetation	As Needed	Yes <input type="checkbox"/> No <input type="checkbox"/>	



INSPECTION OF EXTENDED DRY DETENTION BASINS

Inspections should be conducted bi-annually, and during and after major storm events.

General Information

BMP Description	Extended Dry Detention Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Examine outlet structure for clogging or high outflow release velocities	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Mow upper stage, side slopes, embankment and emergency spillway	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove trash and debris	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove sediment from basin	At least once every 5 years	Yes <input type="checkbox"/> No <input type="checkbox"/>	

INSPECTION OF PROPRIETARY MEDIA FILTERS

General Information

BMP Description	Media Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for standing water, trash, sediment and clogging	Bi-Annually (minimum)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove trash and debris	Each Inspection	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Examine to determine if system drains in 72 hours	Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Inspect filtering media for clogging	Per manufacturer's schedule	Yes <input type="checkbox"/> No <input type="checkbox"/>	

INSPECTION OF SAND AND ORGANIC FILTERS

Inspections should be conducted after every major storm event for the first 3 months following completion, then every 6 months thereafter.

General Information

BMP Description	Sand/Organic Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Remove sediment, trash, and debris	Every 6 months	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Rake sand	Every 6 months	Yes <input type="checkbox"/> No <input type="checkbox"/>	

INSPECTION OF DRY WELLS

Regular inspections should be conducted after every major storm event for the first 3 months following completion, then annually thereafter.

General Information

BMP Description	Dry Well		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			
Describe condition of dry well at time of inspection			

After a major storm event, the water depth in the observation well should be measured at 24 and 48 hour intervals and the clearance rate calculated.

INSPECTION OF WET BASINS

Inspections should be conducted after every major storm event for the first 3 months following completion, then biannually thereafter.

General Information

BMP Description	Wet Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			
Describe condition of wet basin at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Preventative maintenance	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Mow/rake buffer area, side slopes and basin bottom	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remove trash, debris and organic matter	Bi-Annually	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Inspect and clean pretreatment devices	Every other month and after every major storm event	Yes <input type="checkbox"/> No <input type="checkbox"/>	

INSPECTION OF OTHER BMP

General Information

BMP Description			
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	



*Draft – Clean Water Starts With You / Think Blue
Connecticut River: Education and Outreach to
Comply with Massachusetts MS4 Permit, Pioneer
Valley Planning Commission Connecticut River
Stormwater Committee*

Target Audience	Topics	Year 1 July 2018 – June 2019	Year 2 July 2019 – June 2020	Year 3 July 2020– June 2021	Year 4 July 2021– June 2022	Year 5 July 2022– June 2023
Residents						
MCM1 - General permit requirement (all MS4s in region)	Message 2x during permit term. Permit suggested topics: Benefits of on-site stormwater infiltration Lawn care best practices without pesticides, herbicides Impacts of automotive work and car washing Septic system maintenance Proper disposal of pet waste, swimming pool water <i>Measurable goal: Increased awareness of stormwater pollution based on estimated audience and materials distributed.</i>	General education using: <u>Videos</u> • 15 to the River video • Think Blue video <u>Radio</u> • Interviews on local radio <u>Website</u> • Launch of Think Blue CT River	X – Cigarette butts • <u>Panels</u> on PVRTA buses, • <u>issue press release</u> • <u>post on social media and website</u> <i>Update Butts materials from previous Think Blue campaign</i> (Responsible party: PVPC/SWC)		X – Litter / nip bottles • <u>Panels</u> on PVRTA buses, • <u>issue press release</u> • <u>post on social media and website</u> <i>Create new ad based on previous CT River Think Blue materials</i> (Responsible party: PVPC/SWC)	
Appendix F - Communities with nitrogen TMDL (all MS4s in region) and phosphorous impaired waters without TMDL**	Message each Fall (Aug.-Oct.): proper disposal of leaf litter <i>Measurable goal: Increased awareness about composting and value of leaf litter based on estimated audience and materials distributed.</i>	X - Proper disposal of leaf litter (based on what each town has) <u>Flyer</u> distributed to lawn and garden centers Posted in each town, on website, and social media (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter <u>Press release and social media post</u> , indicating availability of <u>brochure</u> on website on the value of leaf litter and how to create compost for use in the garden (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter Reprise and update Year 1 flyer as <u>brochure and door hanger</u> to be distributed to homes along waterways where observing issues (Responsible party: PVPC will produce brochure and door hanger/SWC distribute in respective communities perhaps through use of interns)	X – Proper disposal of leaf litter Reprise and update Year 2 <u>press release and social media post</u> (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter <u>PSA</u> to air locally and <u>social media post</u> (Responsible party: PVPC/SWC)
	Message each Spring (April - May): proper use and disposal of grass clippings and encourage proper use of slow-release fertilizers <i>Measurable goal: Increased awareness about connection between fertilizers and polluted rivers, streams, lakes, and use of grass clipping as fertilizers based on estimated audience and materials distributed.</i>	X – Importance of soil test, proper use of fertilizers, and value/disposal of grass clippings <u>Flyer</u> distributed locally where able and posted on <u>social media</u> and <u>website</u> with key actions for good practice (Responsible party: PVPC to produce and post/SWC to distribute locally where able)	X – Importance of soil test, proper use of fertilizers, and value/disposal of grass clippings <u>Press release and social media post</u> , indicating availability of brochure on soil testing, reading results, and proper follow up. <u>Brochure</u> will be posted on website. (Responsible party: PVPC/SWC)	X - Importance of soil test, proper use of fertilizers, and value/disposal of grass clippings Reprise and update Year 1 flyer and social media post on key actions for good practice. (Responsible party: PVPC/SWC)	X - Importance of soil test, proper use of fertilizers, and value/disposal of grass clippings <u>Fact sheet and social media posts</u> on grass clippings = free fertilizer. Fact sheet will be posted on website. (Responsible party: PVPC/SWC)	X - Importance of soil test, proper use of fertilizers, and value/disposal of grass clippings <u>PSA</u> to air locally and post on social media and website (Responsible party: PVPC/SWC)
Also, Appendix H - Communities with bacteria/pathogen impaired waters	Message each Summer (June-July): proper management of pet waste, including noting any existing ordinance and penalties. Also info to owners of septic systems on proper management. <i>Measurable goal: Increased awareness about connection between dog waste and-polluted rivers based on estimated audience, materials distributed, and pledges.</i> As able, survey parks and DPW officials to identify problem locations for pet waste and quantify nature of problem (Responsible party: PVPC/SWC)	X – Pet waste <u>Posters</u> and letters to veterinary offices with follow up by each stormwater coordinator <i>Update Spike materials</i> Distribute information on <u>bylaws/ordinances</u> to members and promote updating if needed. (Responsible parties: PVPC to provide information and local stormwater coordinator to ensure adoption/update if needed)	X – Pet waste <u>Pledge card</u> on pet waste pick up (get dog owners to pledge always properly pick up after dog). Also promote message that pet waste is not a fertilizer (Responsible party: PVPC/SWC) Prepare <u>design template for sign</u> and fabricate (think about using humor). SWC members will install at known problem locations. (Responsible party: PVPC/SWC)	X– Pet waste • <u>Panels</u> on PVRTA buses, • <u>issue press release</u> • <u>post on social media and website</u> <i>Update Spike materials from previous Think Blue campaign</i> (Responsible party: PVPC/SWC) Septic Prepare <u>letter</u> for Boards of Health to promote best practices for homes on septic systems in problem catchments (Responsible Party: PVPC to draft letter; Boards of Health to refine and send)	X– Pet waste <u>Flyer</u> insert announcing new signs with mailing of dog licenses and that this is the law (based on adopted bylaw/ordinance) Also, post on website and social media NEED WINTER DISTRIBUTION ON THIS MESSAGE. (Responsible party: PVPC/SWC)	X– Pet waste Reissue Year 2 <u>pledge card</u> and tally all pledges Also, post on website and social media (Responsible party: PVPC/SWC)

Target Audience	Topics	Year 1 July 2018 – June 2019	Year 2 July 2019 – June 2020	Year 3 July 2020– June 2021	Year 4 July 2021– June 2022	Year 5 July 2022– June 2023
Businesses/Commercial/Institution						
MCM1 - General permit requirement (all MS4s in region)	Permit suggested topics: Benefits of on-site infiltration Lawn care best practices without pesticides, herbicides, and info. on new state fertilizer regulations. Building maintenance best practices Deicing best practices Proper storage of materials, waste management, car care activities <i>Measurable goal: Estimated audience, materials distributed.</i>		X – Dumpster waste and avoiding contaminated flows <u>Flyer</u> to be provided to waste management companies in region for distribution to business customers <i>Customize Think Blue MA material</i> (Responsible Party: PVPC/SWC)		X – Installation of hooded catch basins to keep fuels from local surface waters <u>Letter</u> to facility directors of properties with large p-lots <i>See Industry below</i> (Responsible Party: PVPC to prepare letter; SWC member to identify property owners and send letter)	
Communities with nitrogen TMDL (all MS4s in region) and phosphorous impaired waters <i>Collaborate with UMass Extension where possible</i>	<u>Fall (Aug.-Oct.)</u> : proper disposal of leaf litter <i>Measurable goal: Estimated audience, materials distributed.</i>	X – Proper disposal of leaf litter <u>Letter</u> from SWC to landscapers in region on importance of proper disposal to avoid contamination of stormwater and local waterways. (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter <u>Fact sheet</u> : List locations for disposal of leaf litter and send laminated resource to landscapers. (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter Reprise and update Year 1 <u>letter</u> from SWC to landscapers in region on importance of proper disposal to avoid contamination of stormwater and local waterways. (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter Reprise and update Year 2 <u>fact sheet</u> : List locations for disposal of leaf litter and send laminated resource to landscapers. (Responsible party: PVPC/SWC)	X – Proper disposal of leaf litter Reprise and update Year 3 <u>letter</u> from SWC to landscapers in region on importance of proper disposal to avoid contamination of stormwater and local waterways. (Responsible party: PVPC/SWC)
	<u>Spring (April - May)</u> : proper use and disposal of grass clippings and encourage proper use of slow-release fertilizers <i>Measurable goal: Estimated audience, materials distributed.</i>	X - Grass clippings and slow-release fertilizers <u>Letter</u> from SWC to professional landscapers in region (Responsible party: PVPC/SWC)	X – Best fertilizing practices <u>Workshop</u> for <u>large institutions</u> to promote better turf management practices, and awareness of DAR fertilizer regs and Nitrogen concerns in region (Responsible party: PVPC/SWC)	X – Best fertilizing practices <u>Workshop</u> with UMass Cooperative Extension for <u>professional landscapers</u> (Responsible party: PVPC/SWC)	X - Best fertilizing practices <u>Workshop</u> with UMass Cooperative Extension for <u>garden centers</u> (Responsible party: PVPC/SWC)	X - Grass clippings and slow-release fertilizers <u>Letter</u> from SWC to professional landscapers in region (Responsible party: PVPC/SWC)
	<u>Summer (June - July)</u> : proper management of animal waste <i>Measurable goal: Estimated audience, materials distributed.</i> As able, survey parks and DPW officials to identify problem locations for geese waste and quantify nature of problem	X – Geese <u>Letter</u> to businesses, commercial, and institutional property owners explaining strategies for geese management and resources (Responsible party: PVPC to write letter; municipalities to distribute)	X – Pet waste <u>Letter</u> offering <u>design template for signs</u> to larger properties at problem locations (Responsible party: PVPC to prepare letter, SWC member to reach out to property owners)	X– Pet waste <ul style="list-style-type: none"> • <u>Panels</u> on PVTA buses, • issue <u>press release</u> • Promote on social media, website <i>Update Spike materials from previous Think Blue campaign</i> (Responsible party: PVPC/SWC)	X – Geese Reprise and update Year 1 <u>letter</u> to businesses, commercial, and institutional property owners explaining strategies for geese management and resources (PVPC to write letter; municipalities to distribute)	X – Pet waste Prepare <u>design template for signs</u> as above; offer design to larger properties, problem locations (Responsible party: PVPC to prepare sign template, SWC member to reach out to property owners)
Developers (construction)						
MCM1 - General permit requirement (all MS4s in region)	Permit suggested topics: Proper sediment and erosion control practices Information about LID principles and technologies Information about EPA’s construction general permit <i>Measurable goal: Improved understanding about stormwater management requirements after workshop</i>		X – New MS4 development standards and E&S control <u>Workshop</u> at regional conference w/ survey at end (Responsible Party: PVPC/SWC to hire consultant)	X – LID strategies and technologies <u>Workshop</u> at regional conference -survey at start w/ survey at end (Responsible Party: PVPC/SWC to hire consultant)		
Industrial Facilities						
MCM1 - General permit requirement (all MS4s in region)	Permit suggested topics: Equipment inspection and maintenance Proper storage of industrial materials Proper waste management Benefits of appropriate on-site infiltration <i>Measurable goal: Estimated audience, materials distributed</i>		X – Fleet maintenance <u>Fact sheet</u> for industrial facility directors <i>Customize Think Blue MA material</i> (Responsible Party: PVPC/SWC)		X – Installation of hooded catch basins to keep fuels from local surface waters <u>Letter</u> to facility directors of properties with large p-lots <i>See Business above</i>	

* Permit reads, "The program shall show evidence of focused messages for specific audiences as well as evidence that progress toward the defined educational goals of the program has been achieved. The permittee shall identify methods that it will use to evaluate the effectiveness of the educational messages and the overall education program. Any methods used to evaluate the effectiveness of the program shall be tied to the defined goals of the program and the overall objective of changes in behavior and knowledge.

**Note: Communities with phosphorous TMDL must do Lake Phosphorous Control Plan, which may itself include education and outreach elements (non structural controls) implemented in Year 6. See Appendix F, starting on page 18)

Record Keeping

Tighe&Bond

APPENDIX G

Location and Description of Unauthorized Discharges (SSO Events), 2013-2017

Cabotville Industrial Park (Stormwater Detention Pond/Chicopee River) – May 17, 2018

Sewer discharge to the Dwight Flood Control Station's stormwater detention pond was discovered at approximately 8 AM on May 17 based on cloudy appearance, and was confirmed via dye testing of the upstream sewer system by 10 AM. The discharge was estimated to be 5,000 to 10,000 gallons based on usual flow at the station. The source of the discharge was found to be surcharging of a new sewer pipe down an existing 8" sewer service with a manhole on private property that contained a cross connection with the existing storm drain system that discharges to the stormwater pond. Temporary by-pass pumping of the surcharged line was initiated by 12 PM on May 17, and a hard-piped gravity by-pass was installed by 3:30 PM on May 17. The cross-connection is planned to be fully eliminated by the private property owner.

Industrial/Cabotville Pumping Station, 68 Depot Street (Chicopee River) – August 13, 2018

During a pumping station check at 9 AM on August 13, an equipment malfunction was discovered that resulted in an estimated 60,000 gallons of discharge to the Chicopee River from approximately 1:00 AM until the malfunctioning pump was repaired at 9:30 AM. The issue occurred at an interconnection to an undocumented CSO that was discovered on private property in 2018; the City is currently working with the property owner to abandon the CSO structure.

Tighe&Bond

APPENDIX H

CITY OF CHICOPEE STORMWATER MANAGEMENT PLAN
AMENDMENT LOG



Amend. No.	Description of Amendment	Date of Amend.	Amendment Preparer (Name/Signature)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Tighe&Bond

APPENDIX I



CITY OF CHICOPEE

DEPARTMENT OF PUBLIC WORKS



Elizabeth Botelho, P.E.
Superintendent

Bill Wood
Chief Operator

Quinn T. Lonczak
Project Supervisor

June 11, 2019

Newton Tedder
United States Environmental Protection Agency
5 Post Office Square- Suite 100
Mail Code- OEP06-1
Boston, Massachusetts 02109-3912

Re: Documentation for delegation of "Authorized Representative" for NPDES 2016 Massachusetts Small Municipal Separate Storm Sewer System (MS4) General Permit

This document serves to affirm that the City of Chicopee Superintendent of Public Works has responsibility for the operation of the MS4 and is hereby designated as an authorized person for signing all reports including but not limited to the Stormwater Management Plan (SWMP), Stormwater Pollution Prevention Plans (SWPPPs), inspection reports, annual reports, monitoring reports, reports on training, and other information required by the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts for the City of Chicopee. This authorization cannot be used for signing a NPDES permit application (e.g., Notice of Intent (NOI)) in accordance with 40 CFR 122.22).

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part B.11 of Appendix B of the Small MS4 General Permit:

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official.

"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."

Richard J. Kos
Mayor of Chicopee

7-14-19

Date

Water Pollution Control



CITY OF CHICOPEE

DEPARTMENT OF PUBLIC WORKS



Elizabeth Botelho, P.E.
Superintendent

Bill Wood
Chief Operator

Quinn T. Lonczak
Project Supervisor

June 11, 2019

Newton Tedder
United States Environmental Protection Agency
5 Post Office Square- Suite 100
Mail Code- OEP06-1
Boston, Massachusetts 02109-3912

Re: Documentation for delegation of "Authorized Representative" for NPDES 2016
Massachusetts Small Municipal Separate Storm Sewer System (MS4) General Permit

This document serves to affirm that the Chicopee Water Pollution Control Chief Operator has responsibility for the operation of the MS4 and is hereby designated as an authorized person for signing all reports including but not limited to the Stormwater Management Plan (SWMP), Stormwater Pollution Prevention Plans (SWPPPs), inspection reports, annual reports, monitoring reports, reports on training, and other information required by the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts for the City of Chicopee. This authorization cannot be used for signing a NPDES permit application (e.g., Notice of Intent (NOI)) in accordance with 40 CFR 122.22).

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part B.11 of Appendix B of the Small MS4 General Permit:

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official.

"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."

Richard J. Kos
Mayor of Chicopee

7-14-19

Date

Water Pollution Control

80 MEDINA STREET · CHICOPEE, MA 01013-1041 · TELEPHONE #(413) 594-3585 FAX# (413) 594-3588



CITY OF CHICOPEE

DEPARTMENT OF PUBLIC WORKS



Elizabeth Botelho, P.E.
Superintendent

Bill Wood
Chief Operator

Quinn T. Lonczak
Project Supervisor

June 11, 2019

Newton Tedder
United States Environmental Protection Agency
5 Post Office Square- Suite 100
Mail Code- OEP06-1
Boston, Massachusetts 02109-3912

Re: Documentation for delegation of "Authorized Representative" for NPDES 2016
Massachusetts Small Municipal Separate Storm Sewer System (MS4) General Permit

This document serves to affirm that the Chicopee Water Pollution Control Project Supervisor has responsibility for the operation of the MS4 and is hereby designated as an authorized person for signing all reports including but not limited to the Stormwater Management Plan (SWMP), Stormwater Pollution Prevention Plans (SWPPPs), inspection reports, annual reports, monitoring reports, reports on training, and other information required by the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts for the City of Chicopee. This authorization cannot be used for signing a NPDES permit application (e.g., Notice of Intent (NOI)) in accordance with 40 CFR 122.22).

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part B.11 of Appendix B of the Small MS4 General Permit:

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official.

"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."

Richard J. Kos
Mayor of Chicopee

7-14-19

Date

Water Pollution Control

Tighe&Bond

APPENDIX J

Illicit Discharge Detection and Elimination Plan,
City of Chicopee, 2019

