STORMWATER MANAGEMENT PLAN

JULY 1, 2017

Issued: January 20, 2016
Effective: July 1, 2017
Expires: June 30, 2022

Town of Glastonbury, Connecticut
Department of Physical Services
Engineering Division
2155 Main Street P.O. Box 6523
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This plan is based on a template originally created by Western Connecticut Council of Governments staff and modified for statewide use by staff from UConn Center for Land use Education and Research (CLEAR).

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Introduction

This Stormwater Management Plan (SMP) was developed by the Town of Glastonbury to protect water quality and reduce the discharge of pollutants from the municipality's storm sewer system to the maximum extent practicable (MEP). This SMP addresses the requirements established by the CT Department of Energy and Environmental Protection's (DEEP) General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). This permit is the local enforcement mechanism of the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Rule.

This plan was developed by the Engineering Division of the Physical Services Department with assistance from representatives of the Highway Division, the Community Development Department, and the Parks and Recreation Department.

The plan outlines a program of best management practices (BMPs), measurable goals, responsible individuals or departments, and implementation schedules for the following six minimum control measures:

(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 in new development and redevelopment
(6) Pollution prevention/good housekeeping

Appendices to this plan include the CT DEEP General Permit for the Discharge of Stormwater from Small MS4s.

Description of Municipality

The operator of the MS4 is the Town of Glastonbury. The Town of Glastonbury is a municipality located in the county of Hartford, State of Connecticut. The Town of Glastonbury covers an area of approximately 52.5 square miles and is located in the center of the state approximately 9 miles southeast of Hartford. It is bordered to the east by Hebron and Bolton, to the south by Portland, East Hampton, and Marlborough, to the north by Wethersfield, East Hartford and Manchester and to the west by the center of the Connecticut River and the towns of Wethersfield, Rocky Hill, and Cromwell.

The Town was incorporated in 1693. The form of government is Council/Manager established in 1959. Regulatory commissions include the Town Plan and Zoning Commission, the Zoning Board of Appeals, and the Inland Wetlands and Watercourses Agency/Conservation Commission.

Glastonbury has a diverse landscape. The land rises gradually from near sea level at the Connecticut River to 881 feet above sea level in the eastern highlands. The western section of Glastonbury is part of the central Connecticut lowlands that run from Long Island Sound to Massachusetts, including the Connecticut River Valley and its floodplains. The lowlands are formed over soft bedrock which has been eroded to a relatively low level and subsequently covered by glacial deposits. The Connecticut River floodplain and the Great Meadows are found in this section of Glastonbury. The southeastern section of Glastonbury is part of the eastern highland, characterized by more rugged topography. The highlands are underlain by hard bedrock and are mostly covered with thin layers of glacial till.

Across the Town, densities of development range from high through medium, and then to low as you proceed from the Connecticut River Valley easterly and southeasterly. The highest densities are found within the western valley area primarily due to the general availability of public water and sanitary sewers and level and easily buildable terrain. Residential zones and minimum required lot areas are: (A) 15,000 sq. ft., (AA) 25,000 sq. ft., (AAA) 40,000 sq. ft., and Rural Residence (RR) 40,000 sq. ft.

The medium density area is primarily comprised of single-family homes on a minimum of one acre, with the exception of a number of dwellings on one-half acre lots along Main Street, Dayton Road, and their neighboring local roads. On-site sewage disposal systems and private wells generally service this area. The residential zones and minimum required lot areas are: (AA) 25,000 sq. ft., and Rural Residence (RR) 40,000 sq. ft.

The low density area is primarily comprised of single-family homes on at least one acre and serviced by on-site sewage disposal systems and private wells. This area also contains the majority of the Town's apple orchards and protected open space. The residential zones and minimum required lot areas are: Rural Residence (RR) 40,000 sq. ft. and Country Residence (CR) 80,000 sq. ft. Lots of greater sizes do exist however.

The rugged topography, near surface ledge, and extensive web of wetlands and watercourses commonly found in the southern and eastern sections of the community make it difficult for the extension of public sewer and water services.

Potable water is supplied to Glastonbury by three different commercial water companies. The Metropolitan District Commission (MDC) serves the largest portion of town. The Town of Manchester Water Department serves a small area in the northeast corner of Town and the Neipsic Woods Water Association serves approximately twenty-five single-family homes.

The area served by the MDC includes the northern and western portion of Town. The MDC provides potable water to approximately 72% of the residences in Glastonbury and is projected to remain at 72% to the year 2040, according to the most recent long-range demand study by the MDC. The majority of the commercial and industrial buildings are served by this same water supply. There are reservoirs and public groundwater wells that are part of this water supply. The Town of Manchester Water Department serves a number of homes in the northeast corner of Town. The Buckingham Reservoir is located approximately 1.5 miles south of the Manchester border and is the source for the water supply. It is difficult to economically extend commercial water service to homes in the central and eastern part of Town due to the varying topography in the area. Properties that are not served or will not be served by commercial sources obtain water from individual on-site wells.

Sanitary sewer service within the Town is provided to approximately 59% of the residents. The sewer system consists of approximately 90 miles of sanitary sewer mains and generally serves the more densely populated areas in the northern and western portion of town. The oldest sewers were built in 1960 in the "center area" of town. South Glastonbury and the Apple Hill area were sewered in the 1970's and newer sections of pipe were installed in 1988 along the Salmon Brook Interceptor. Most of the wastewater in the sewer system flows by gravity, however, the town also maintains eight wastewater pumping stations.

On-site wastewater disposal is used by all of those not served by sanitary sewers. This amounts to approximately 41% of the residents in Town. Subsurface disposal systems are regulated by the State Health Code whose requirements are implemented by the Town Health Director. Current Health Code requirements for sizing of subsurface disposal systems dictate that each residence provide a minimum 1,000 gallon septic tank for settling out heavy solids and a leaching field with at least 375 square feet of effective area (larger depending on the number of bedrooms in the house and the type of soil conditions). In addition, 100% reserve areas are required to be located on-site.

Drainage Basin Descriptions

The Town of Glastonbury can be divided into five major watersheds / drainage basins. Each watershed is the area surrounding particular watercourse or watercourses whose runoff is contributory to that watercourse.

Southwest Drainage Basin (portion of Connecticut River subregional basin #4000): The area in the southwest corner of Glastonbury includes two watercourses; Grindle Brook and Hales Brook, which form a portion of the Connecticut River subregional basin #4000. The drainage basin area in Glastonbury for these two brooks is 4.82 square miles. Grindle Brook, having a drainage area of 1.12 square miles, flows generally in a westerly direction through Glastonbury and discharges into the Connecticut River just north of the Town-line. Hales Brook, located in the remainder of the drainage area, flows generally in a southerly direction and outlets into the Connecticut River in Portland.

Salmon Brook Drainage Basin (portion of #4006): The Salmon Brook drainage basin consists of 8.5 square miles and is the northern-most drainage basin in Glastonbury. The northwest and north-central sections of Glastonbury as well as the southwest portion of Manchester drain via the Salmon Brook and its tributaries, including wildcat and Meyers Brooks. Salmon Brook flows generally in a westerly direction through Glastonbury and discharges in the southern portion of Keeney Cove about 500 feet from the Connecticut River. The Salmon Brook drainage basin is one of the most developed drainage basins in town. The western portion of the watershed along the Route 2 and Route 17 corridors is nearing ultimate development.

Hubbard Brook Drainage Basin (#4007): The Hubbard Brook drainage basin consists of approximately 8.2 square miles and is located in the west-central portion of Glastonbury along the Connecticut River. The main watercourse, Hubbard Brook, flows in a westerly direction through the watershed. Meadow Drain is a watercourse that flows north to south near the edge of the Connecticut River floodplain. Along the southerly portion of Hubbard Brook, its tributaries include Wickham, Smith and Holland Brooks which emanate easterly from the lowland terraces.

Roaring Brook Drainage Basin (#4008 and #4009): The Roaring Brook drainage basin consists of 26.1 square miles, nearly fifty percent (50 %) of the town's 55 square miles of area, and is the largest drainage basin within the town. The southwest portion of Manchester, the northern portion of East Hampton and nearly all of the southern and eastern sections of Glastonbury are contained within the drainage basin. The main water course, Roaring Brook (#4009), flows in a southerly direction from a point north of the Buckingham Reservoir to the Connecticut River. Roaring Brook's numerous tributaries include Slab Gut Brook, (A.K.A., Slab Gutter Brook), Cold Brook, and Wintergreen Brook. The Cold Brook drainage basin (#4008), includes Dark Hollow Brook and Mott Hill Brook and extends to the southerly border with East Hampton.

Southeast Drainage Basin (portions of Salmon River subregional basins #4707 and #4708): This drainage basin is located in the southeast portion of Glastonbury and consists of land draining into Blackledge River and Dickinson Creek. Dickinson Creek (#4708), with a total drainage area of 15 square miles (mostly outside the Town's limits), flows generally in a southerly direction and ultimately discharges into the Salmon River in Glastonbury. Only the uplands area of this watershed is within Glastonbury. This area, approximately 0.8 square miles, consists of lands of the Meshomasic State Forest, north of Route 2 and south of Windham Road. The Blackledge River (#4707), having a drainage area of nearly 40 square miles mostly outside Glastonbury, flows in a southerly direction and discharges into the Salmon River in Colchester. The remaining part of the Southeast Drainage Basin, approximately 3.7 square miles, consisting of the Diamond Lake and Marlborough Road areas and the area along the Town line north of Hebron Avenue, contributes stormwater runoff to the Blackledge River and its tributaries including Flat Brook.

Water Quality Classifications and Impaired Waters

In preparing the SMP, the CT DEEP's Water Quality Standards were reviewed in order to determine the Surface Water Quality Classifications for each watercourse in town. Certain BMP's address the watersheds containing watercourses designated as "impaired" by the CT DEEP. Table 1 shows the water quality classification for each watershed. Table 2 summarizes the water bodies within or that run through the municipality that are listed on the 2014 List of Connecticut Water Bodies not meeting water quality standards and are designated as "impaired".

TABLE 1
Water Quality Surface Classifications Glastonbury, CT

Drainage Basin Number	Name	Surface Water Quality Classification	Impaired per Water Quality Standards
4000-00_1	Connecticut River	SB	Yes, Bacteria
4009-00-2-L4_01	Angus Park Pond	A	Yes, Bacteria
4000-30	Grindle Brook	A	No
4006-00	Salmon Brook	A	No
4006-04	Wildcat Brook	A	No
4007-00	Hubbard Brook	A	No
4007-01	Wickham Brook	A	No
4007-02	Smith Brook	A	No
4007-04	Holland Brook	A	No
4008-00	Cold Brook	A	No
4008-01	Dark Hollow Brook	A	No
4008-03	Mott Hill Brook	A	No
4009-00	Roaring Brook	A	No
4009-05	Wintergreen Brook	A	No
4009-10	Slab Gut Brook	A	No
4707-00	Blackledge River	A	No
4707-06	Flat Brook	A	No
4708-00	Dickinson Creek	A	No

The surface water classifications currently assigned to Glastonbury's watercourses are defined below.

Class A-Freshwater

Surface water is known or presumed to meet Water Quality Criteria which support designated uses, which may include potential drinking water supply; fish and wildlife habitat; recreational use; agricultural, industrial supply and other legitimate uses, including navigation.

Class AA-Freshwater

Designated uses include existing or proposed drinking water supply, fish and wildlife habitat, recreational use (may be restricted), agricultural and industrial supply.

Class SB-Saline Waters

Designated uses: Habitat for marine fish and aquatic life and wildlife, commercial shellfish harvesting, recreation, industrial water supply, and navigation.

TABLE 2 Glastonbury Impaired Waterbody					
Waterbody ID	Water Segment Description	Water Segment Length	Impaired Use	Pollutant	Cause/Potential Source
Connecticut River Watershed – Surface Water Quality Classification – SB					
Connecticut River	From Reservoir Brook confluence (adjacent to Gildersleeve Island), Portland, US to MA border.	35.26 miles	Recreation-Non-Designated Swimming and other water contact related activities	Bacteria	Urban Runoff/Stormwater runoff, illicit discharge, permit source, failing septic system, nuisance wildlife/pets, other
Angus Park Pond	Impoundment of Roaring Brook, East of Rte. 83 Glastonbury	9.35 Acres	Recreation	Bacteria	Urban Runoff/Stormwater runoff, illicit discharge, permit source, failing septic system, nuisance wildlife/pets, other

Based on the DEEP Surface Water Quality Classifications and bacteria impairments listed above, the Connecticut River and Angus Park Pond are identified as the surface waters that should take the highest priority in Glastonbury's efforts to address stormwater impacts. This was taken into consideration as the BMPs were developed.

Area Subject to the Plan

The measures identified in this SMP will be applied throughout the boundaries of the Town of Glastonbury except as otherwise noted and be consistent with the MS4 General Permit requirements.

The Town owns and maintains 198 miles of improved roadways and 4.4 miles of unimproved roadways which are covered under the requirements of this SMP. The town also owns and operates a multitude of facilities for various purposes which are listed below. These facilities are all covered as part of the SMP except as noted with an *.

Administrative Facilities	**Parks and Open Space**
Town Hall – 2155 Main Street	Addison Park and Pool – Addison Road
Police Department – 2108 Main Street	Cotton Hollow & Grange Pool – Hopewell Road
Parks & Recreation – 1086 New London Turnpike	Eastbury Pond & Butler Field – Fisher Hill & Forest Ln.
*Board of Education –628 Hebron Avenue, Building 2	J. B. Williams Park – Neipsic Road
*Bulky Waste Facility – 1145 Tryon Street	Shoddy Mill Park – Shoddy Mill to Hebron Avenue
*Solid Waste Transfer Station – 2340 New London Tpk.	Buckingham Park – Manchester Road
*Public Works Garage – 2380 New London Turnpike	Blackledge Falls Park – Hebron Avenue
*Wastewater Treatment Plant – 2149 (rear) Main Street	Riverfront Park – Welles Street
*Bus Maintenance Facility – 311 Oakwood Drive	Welles Park – Griswold Street
Housing Authority – 25 Risley Road	Great Pond Preserve – Great Pond Road
	Addison Bog and Woodland
Educational Facilities	Ferry Landing & Ferry Landing Park – Ferry Lane
Glastonbury High School – 330 Hubbard Street	High Street School Park – High Street
Gideon Welles School – 1029 Neipsic Road	Greyledge Farms Park – Marlborough Road
Smith Middle School – 216 Addison Road	Arbor Acres Park – Marlborough Road
Buttonball School – 376 Buttonball Lane	
Eastbury Elementary School – 1389 Neipsic Road	**Cultural Facilities**
Hebron Avenue School – 1363 Hebron Avenue	Welles Turner Library – 2407 Main Street
Hopewell School – 1068 Chestnut Hill Road	East Glastonbury Library – 1389 Neipsic Road
Naubuc School – 84 Griswold Street	South Glastonbury Library – 80 High Street
Nayaug Elementary School – 222 Old Maids Lane	Community Center – 300 Welles Street
Glastonbury-East Hartford Magnet School – 95 Oak St.	The Cider Mill – 1287 Main Street
	Glastonbury Boathouse – 252 Welles Street

Stormwater discharge from the following Town facilities are not subject to the MS4 General Permit as these facilities are regulated by the DEEP Industrial Stormwater General Permit and will continue to be regulated under the conditions of that permit:

Facility	**Location**	**Permit ID**
Water Pollution Control Facility	2149 Main Street	GSI002133
Transfer Station	2340 New London Turnpike	GSI000607
Public Works (Highway) Garage	2380 New London Turnpike	GSI000621
Bus Yard	311 Oakwood Drive	GSI001867
Bulky Waste Disposal Facility	1145 Tryon Street	GSI000606

The Board of Education office building located at 628 Hebron Avenue is also not subject to this permit since it is a leased building that is not owned or maintained by the Town.

Interconnected MS4's

The Town of Glastonbury has interconnected storm drainage systems with the Town of East Hartford and the Town of Manchester, which are regulated under MS4 Permits registered to those towns.

The Connecticut Department of Transportation (CT DOT) operates an MS4 on various state highways located in the Town of Glastonbury. CT DOT operates highways and arterial roadways in Glastonbury include Route 2, Route 3, Route 17, Route 94 (Hebron Avenue), Route 83 (Manchester Road), and Route 160 (Water Street, Tryon Street, Ferry Lane). This system is regulated separately under the CT DOT's MS4 permit, and the Town drainage system shares many intersections with this system.

Implementation of the BMPs identified in this plan will be coordinated with other adjacent MS4 operators including the Town of East Hartford, Town of Manchester, and CT DOT.

Departmental Responsibilities

The structure and overall responsibility for the various Town departments and divisions that are relevant to this stormwater management plan are as follows:

Physical Services Department (Engineering, Highway and Fleet Divisions)

The Physical Services Department is made up of three divisions under the direction of the Town Engineer / Manager of Physical Services. The Engineering Division is generally responsible for review and inspection of construction activities within the public rights-of-way, and for review of proposed developments to determine compliance with Town standards and effects on public infrastructure and private properties. This division also provides in-house design and project management services for public infrastructure projects, inspects existing infrastructure, and maintains town infrastructure mapping and the GIS system. Overall responsibility for implementation of the elements of this plan will be handled by the Engineering Division, with specific tasks allocated to other departments and divisions as described in the following paragraphs.

The Highway Division of the Physical Services Department is responsible for maintenance, repair, and construction of streets, drainage systems, sanitary sewers, traffic controls, sidewalks, and other features of the Town's infrastructure system. Street sweeping, catch basin cleaning, and snow removal from all 198 miles of improved town roads and 4.4 miles of unimproved town roads is handled by the Highway Division. The Fleet Division is responsible for providing all routine preventive maintenance and repair work on the Town's fleet of over 300 pieces. This includes a wide variety of vehicles ranging from general purpose cars and police cruisers to school buses, fire apparatus, heavy trucks, and construction equipment. These two divisions will be responsible for implementing various portions of BMP #6 Good Housekeeping / Pollution Prevention.

Community Development Department (Planning / Environmental Division, Building/Zoning Enforcement Division)

The Community Development Department is made up of two divisions under the direction of the Director of Planning and Land Use Services. The Planning and Environmental Division of this department provides town planning, environmental planning, development review and permitting associated with residential, commercial, industrial and governmental land use projects. Management and support services are provided to the Town Plan and Zoning Commission and the Conservation Commission/Inland Wetlands and Watercourses Agency. This Department also provides oversight for the Building Inspection/ Zoning Enforcement Division. Regulations related to BMP #4 Construction Site Stormwater Run-off Control and BMP #5 Post Construction Stormwater Management are developed, implemented, and enforced through these departments, who will take responsibility for implementation of these BMPs.

Parks and Recreation Department (Parks Maintenance Division)

The Parks and Recreation Department, under the direction of the Director of Parks and Recreation, is responsible for the organization and administration of all Town sponsored recreation activities and facilities. The Parks Maintenance Division of this department is responsible for the care and maintenance of all Town Parks, open space, municipal grounds, athletic fields, school grounds, street trees, and cemeteries, including snow removal at all of these facilities. This division will be responsible for implementing various portions of BMP #6 Good Housekeeping / Pollution Prevention.

Facilities Maintenance Department

Under the direction of the Building Superintendent, this department provides comprehensive operations and maintenance management of all municipal buildings and facilities, and manages all capital building construction projects for the Town and the Board of Education. This division will be also responsible for implementing various portions of BMP #6 Good Housekeeping / Pollution Prevention.

Annual Reporting:

The SMP's implementation will be tracked and documented in Annual Reports summarizing stormwater management activities carried out by the town. These reports will be submitted to DEEP on an annual basis no later than April 1.

(1) Public Education and Outreach

This minimum control measure outlines a program to communicate common sources of stormwater pollution and the impacts of polluted stormwater to the public. This will be done through distributing educational materials to the community and conducting outreach activities. The following BMPs and implementation schedule serve as Glastonbury's MS4 Public Education Program.

Goals:

- Raise public awareness that polluted stormwater runoff is the most significant source of water quality problems;
- Motivate residents to use Best Management Practices (BMPs) that reduce polluted stormwater runoff; and
- Reduce polluted stormwater runoff in town as a result of increased awareness and utilization of BMPs.

1.1 Implement Public Education Program

The Town of Glastonbury will collect and distribute general stormwater educational materials that, at a minimum, address the impacts of the following on water quality: pet waste, impervious cover, application of fertilizers, pesticides, and herbicides, and illicit discharges and improper disposal of wastes into the MS4.

The Town of Glastonbury will provide a link from the Town's website to UConn NEMO's comprehensive online library of stormwater educational material and promote the availability of these materials. The Town of Glastonbury will also provide certain materials in a printed format to be on display in public locations within the Glastonbury Town Hall and at the Welles Turner Memorial Library. These materials will also be distributed in hard copy form from the Engineering Division and Building Department.

Additional targeted outreach efforts will be completed by the Engineering Division (through print media, the Town website, direct mailings, or other means) to educate particular groups (e.g. developers, contractors, farmers, home-owners, pet-owners etc.) on particular aspects of stormwater management that are relevant to their interests or operations in Town.

The Town of Glastonbury will ensure that all required topics listed in this plan are covered and tracked on an annual basis.

1.2 Address Education and Outreach for Pollutants of Concern (Bacteria)

The Town of Glastonbury will distribute information on common sources of bacteria pollution and how to prevent or reduce the amount reaching the MS4 and discharging into the Connecticut River and Angus Park Pond.

Additional topics to be covered to specifically address the bacteria impairments that exist in the Town of Glastonbury include septic systems, sanitary cross connections, waterfowl, pet waste, and manure management.

Public outreach and education schedule:

BMP	Lead department / individual	Month / year of implementation
Implement public education program	Engineering Division	July 1, 2018 and continue until permit expires
Address education/outreach for pollutants of concern	Engineering Division	July 1, 2018 and continue until permit expires

(2) Public Involvement and Participation

This minimum control measure identifies the process for public involvement and participation in the town's stormwater management efforts.

Goals:

- Involve the community in planning and implementing the town's stormwater management activities.
- Provide a minimum 30 day notice to the public for this plan and annual reports.

2.1 Comply With Public Notice Requirements for the Stormwater Management Plan and Annual Reports

The Town of Glastonbury will publish a public notice on its website to engage the public in review and comment on this SMP. The notice will provide a contact name, phone number, address, and email to whom the public can send comments. Additionally, this plan and the Annual Reports will be publicly accessible on the web and in Glastonbury Town Hall. The public notice will allow for a 30-day comment period, at a minimum.

Public involvement and participation schedule:

BMP	Lead department / individual	Month / year of implementation
Comply with public notice requirements for the SMP and Annual Reports	Engineering Division	July 1, 2017 and continue until permit expires

(3) Illicit Discharge Detection and Elimination

This minimum control measure outlines a program to detect and eliminate current illicit discharges to the MS4 and prevent further illicit discharges in the future. All activities for this measure will be completed in Glastonbury's priority areas (urbanized area, catchment areas with directly connected impervious area (DCIA) > 11%, and outfalls that discharge to impaired waters).

Goal:

Find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and eliminate future illicit discharges.

3.1 Develop Written IDDE Plan

The Town of Glastonbury will develop a written IDDE plan to detect, locate and eliminate illicit discharges (to the maximum extent practicable) from the MS4 within Glastonbury's priority areas. The IDDE plan will provide enforceable legal authority to eliminate illicit discharges, assign responsibilities, and develop a citizen reporting program. The plan will also outline the outfall screening and IDDE protocols consistent with Appendix B of the MS4 General Permit to identify, prioritize, and investigate MS4 catchments for suspected illicit discharge of pollutants. Also, the IDDE plan will outline follow-up screening and illicit discharge prevention procedures.

3.2 Develop List and Map of MS4 Outfalls and Interconnections in Priority Areas

The Town of Glastonbury will review and update as necessary its database of stormwater discharges from a pipe or conduit located within and owned or operated by the municipality and all interconnections with other MS4s. Each entry shall be review/updated to include the following:

a. Type, material, size, shape and location (identified with a grid coordinate) of conveyance, outfall or channelized flow (e.g. 24" concrete pipe);
b. the name, water body ID and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;
c. if the outfall does not discharge directly to a named waterbody, the name and water body ID of the nearest named waterbody to which the outfall eventually discharges;
d. the name of the watershed, including the subregional drainage basin number in which the discharge is located;
e. date of most recent inspection of the outfall, the condition, and any indicators of potential non-stormwater discharges as of most recent inspection;

The database will be made available via a link to the Town's GIS website for review by the public and CTDEEP staff as part of the Town's annual reports.

The database will be updated by the Engineering Division staff as new inspections are conducted to and as any new storm drainage infrastructure is constructed as part of a subdivision or other public improvement project

Engineering staff will be responsible for implementation, testing, monitoring, and record keeping throughout the term of this permit. Record keeping for this portion of the project will be an ongoing task.

3.3 Develop Citizen Reporting Program

The Town of Glastonbury will establish a system to allow for citizen reporting of suspected illicit discharges into the stormwater system, which will be made available to residents via the Town website. The website will include an email address and phone number to be used for submitting a report. The Town of Glastonbury will affirmatively investigate and eliminate any illicit discharges for which a time and location of discharge are provided. The Town of Glastonbury will promptly inspect the reported outfall or manhole and proceed according to the requirements of the written IDDE program. All citizen reports and responses will be included in the Town of Glastonbury's annual report.

3.4 Existing Legal Authority to Prohibit Illicit Discharges

In 2010 the Town of Glastonbury implemented a Town ordinance related to the elimination of illicit discharges which includes all of the following provisions:

a. prohibits illicit discharges to its storm sewer system and require removal of such discharges consistent with the deadlines outlined in the MS4 general; and
b. authorizes the investigation of suspected illicit discharges and elimination of illicit discharge, including from properties not owned or controlled by the MS4 that discharge to the MS4
c. controls the discharge of spills and prohibit the dumping or disposal of materials including, but not limited to, residential, industrial and commercial wastes, trash, used motor vehicle fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
d. authorizes appropriate enforcement procedures and actions;
e. authorizes fines or penalties and/or recoup costs incurred by the permittee from anyone creating an illicit discharge or spilling or dumping.

3.5 Develop Record Keeping System For IDDE Tracking

The Town of Glastonbury will keep a record of illicit discharge abatement activities including location (including grid coordinate or address), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party.

In addition, the Town of Glastonbury will develop and maintain a sanitary sewer overflow (SSO) inventory that records the location, date and time of occurrence, estimated volume of discharge, a description of known or suspected cause, and details about mitigating measures including dates of implementation.

This inventory will also:

- include all known SSOs to their MS4 in the past 5 years (July 1, 2012 – June 30, 2017);
- continue to be updated to track future SSOs; and
- be included in Annual Reports.

3.6 Address IDDE In Areas With Pollutants Of Concern

The Town of Glastonbury will identify which areas in town are most likely to contribute bacteria to the Connecticut River and Angus Park Pond within the MS4. This assessment will consider: historic on-site sanitary system failures, proximity to bacterial impaired waters, low infiltrative soils, and shallow groundwater. Any areas determined to have a high potential for septic system failure will be reported to the Glastonbury Health Department for corrective action.

3.7 Detailed MS4 Infrastructure Mapping

The Town of Glastonbury has a detailed GIS dataset that includes all stormwater related infrastructure. The Town will review and update this information related to the MS4 as necessary to ensure that the following items are included:

- Outfalls & receiving waters;
- Pipes; open channel conveyances; catch basins; manholes;
- Interconnections with other MS4s and other storm sewer systems;
- Municipally-owned stormwater treatment structures (e.g. detention & retention ponds, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other systems);
- Catchment delineations for each outfall;
- Impaired water bodies identified by name and use impairment as defined by the most recent integrated water quality report;

Mapping of the Municipal sanitary sewer system is currently in place and available for review via the Town's GIS website. The Town of Glastonbury will update the GIS dataset as new information becomes available and will report on the progress of the development of this information in the annual report.

Illicit Discharge Detection and Elimination Schedule:

BMP	Lead department / individual	Month / year of implementation
Develop written IDDE program	Engineering Division	July 1, 2018
Develop list and maps of all MS4 stormwater outfalls in priority areas	Engineering Division	July 1, 2019
Develop citizen reporting program	Engineering Division	July 1, 2018
Review legal authority to prohibit illicit discharges	Engineering Division	July 1, 2018
Develop record keeping system for IDDE tracking	Engineering Division	July 1, 2017
Address IDDE in areas with pollutants of concern	Engineering Division	July 1, 2017
Detailed MS4 infrastructure mapping	Engineering Division	July 1, 2020
Complete list and maps of all MS4 stormwater outfalls throughout municipality	Engineering Division	July 1, 2022

(4) Construction Site Stormwater Runoff Control

This minimum control measure outlines procedures for minimizing polluted stormwater runoff from activities that disturb one or more acres of land. In the Town of Glastonbury, this is determined on a site by site basis.

Goal:

Minimize polluted stormwater runoff from construction sites and prevent it from carrying sediment into waterways via MS4 infrastructure.

4.1 Implement, Upgrade, and Enforce Land Use Regulations To Meet Requirements Of MS4 General Permit

The Town of Glastonbury will review and update its land use regulations and policies as required to ensure that suitable legal authority is in place to control stormwater runoff from construction sites in conformance with the general permit and the following:

a. developers, construction site operators, or contractors shall maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, and all stormwater discharge permits issued by the DEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b;
b. the implementation of additional measures to protect/improve water quality (in addition to the above requirements) as deemed necessary by the Town of Glastonbury;
c. The Town of Glastonbury is authorized to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with municipal regulations, ordinances or programs or institutional requirements related to the management of Glastonbury's MS4. Inspections shall be conducted, where allowed, to inventory the number of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive drainage from the permittee's MS4;
d. the owner of a site seeking development approval from the Town of Glastonbury shall provide and comply with a long term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive discharge from Glastonbury's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owner; and
e. The Town of Glastonbury will control, through interagency or inter-jurisdictional agreements, the contribution of pollutants between the permittee's MS4 and MS4s owned or operated by others.

4.2 Existing Procedures for Interdepartmental Coordination of Site Plan Review and Approval

Glastonbury's procedures for the coordination of the functions of all the departments, boards, and commissions involved in the review, permitting, or approval of land disturbance projects is as follows:

All applicants planning a development or redevelopment project attend an "Administrative Review" meeting attended by representatives from all Town departments involved in land use planning and regulation including Engineering, Community Development, Health, Police, and Fire. Applicants are given general feedback relative to

stormwater management, water quality treatment requirements, and protection of wetlands at that meeting to help guide initial design decisions.

Applicants submit plans to Community Development for an informal review by the Conservation/Wetlands Commission. This submission will include all provisions for stormwater management and water quality treatment, a maintenance plan and schedule for all stormwater infrastructure, a detailed soil erosion and sediment control plan, and a Stormwater Management Report. Engineering and Community Development both review these plans and reports in detail and provide feedback to the applicant prior to formal application to the Conservation/Wetlands Commission. Specific issues related to the project stormwater management are incorporated as conditions of approval into the final wetlands permit.

Plot plans for single family homes and commercial developments are reviewed by all of the same departments listed above for consistency with conditions of approval from Inland Wetlands and Town Plan and Zoning approvals, as well as for overall compliance with stormwater management requirements related to construction site run-off as well as long term storm water quality features.

4.3 Existing Procedures for Site Plan Reviews for Stormwater Quality Concerns

All of the Town of Glastonbury Departments involved in land development activities listed above conduct detailed site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality on sites with soil disturbance of one acre or more as part of the regular plan approval process. A plan review checklist has been implemented by the Engineering Division to ensure that all required components are incorporated on the plans.

4.4 Existing Procedures for Site Inspections

The Town of Glastonbury Office of Community Development (OCD) performs construction site inspections and takes enforcement actions as required to ensure the adequacy of the installation, maintenance, operation, and repair of all soil erosion and sediment control measures during construction.

Permanent stormwater quality features and treatment measures are inspected by the Design Engineer of record who is required to provide a written certification to the OCD that such measures were installed in a manner consistent with the approved plans and will function as required. A long-term maintenance plan for all stormwater quality features is required to be included on the final approved plans that are filed on the land records to help ensure proper operation and maintenance procedures are being followed and provide a means of enforcement if such features are not being properly maintained. Site inspections for compliance with long-term maintenance of water quality features post-construction are infrequent due to staffing limitations, and are usually triggered based on complaints or flooding.

4.5 Existing Procedures for Public Comment on Site Development

Glastonbury incorporates public input on proposed and ongoing development and land disturbance activities as the questions or requests for information are received and through public hearings required by the approval process for significant land development activities. Questions are generally received by the Community Development department, who will request assistance from other departments as necessary or perform follow up inspections and inquiries as necessary.

The following multi-stepped regulatory approval process also allows for input by interested parties at any of the various public meetings where there is a published agenda made available to the public:

Administrative review meeting with key department staff, informal review with wetlands commission, formal review and action by wetlands commission (with advertised public hearing for significant activities) , plans review subcommittee review meeting with select members of the Town Plan and Zoning Commission, formal action at Town Plan and Zoning Commission meeting (with advertised public hearing for significant activities).

4.6 Implement Procedure to Notify Developers About DEEP Construction Stormwater Permit

The Town of Glastonbury currently notifies developers and contractors through a standard condition of approval of their potential obligation to obtain authorization under DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (construction general permit) if their project disturbs more than 1 acre of land and results in a point source discharge to Connecticut surface waters directly or through the Town of Glastonbury's MS4. The Town of Glastonbury will also require a copy of the Storm Water Pollution Control Plan be made available to the town on request. The standard condition of approval to be used is as follows:

THE APPLICANT IS HEREBY NOTIFIED OF A POTENTIAL OBLIGATION TO OBTAIN AUTHORIZATION UNDER THE DEEP'S GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS ASSOCIATED WITH CONSTRUCTION ACTIVITIES ("CONSTRUCTION GENERAL PERMIT") IF THEIR DEVELOPMENT OR REDEVELOPMENT PROJECT DISTURBS ONE OR MORE ACRES OF LAND, EITHER INDIVIDUALLY OR COLLECTIVELY, AS PART OF A LARGER COMMON PLAN, AND RESULTS IN A POINT SOURCE DISCHARGE TO THE SURFACE WATERS OF THE STATE EITHER DIRECTLY OR THROUGH THE TOWN'S DRAINAGE SYSTEM. THE APPLICANT SHALL PROVIDE A COPY OF THE STORM WATER POLLUTION CONTROL PLAN REQUIRED BY THIS CONSTRUCTION GENERAL PERMIT TO THE TOWN UPON REQUEST.

Construction Site Stormwater Management Schedule:

BMP	Lead department / individual	Month / year of implementation
Implement, upgrade, and enforce land use regulations and policies to meet MS4 permit requirements	Engineering Division Community Development	July 1, 2019
Develop/implement plan for interdepartmental coordination in site plan review and approval	Engineering Division Community Development	July 1, 2017
Review site plans for stormwater quality concerns	Engineering Division Community Development	July 1, 2017
Conduct site inspections	Community Development	July 1, 2017
Implement procedures to allow public comment on site development	Community Development	July 1, 2017
Implement procedure to notify developers about DEEP construction stormwater permit	Community Development	July 1, 2017

(5) Post-construction Stormwater Management in New Development or Redevelopment

This minimum control measure outlines Glastonbury's program to address stormwater runoff from new or re-development projects that disturb one or more acres of land.

Goal:

Mitigate the long-term impacts of new and re-development projects on water quality through proper use of low impact development and runoff reduction practices.

5.1 Review and Update as Necessary Existing Regulations and Policies Regarding LID and Runoff Reduction In Site Development Planning

The Town of Glastonbury will review existing regulations and policies and update these as necessary to require, to the MEP, developers and contractors seeking the town's approval to consider the use of low impact development (LID) and runoff reduction site planning and development practices that meet or exceed those LID and runoff reduction practices in the CT Stormwater Quality Manual prior to other stormwater management practices allowed in Glastonbury's land use regulations, guidance or construction project requirements.

This legal authority will include the following standards:

1) for redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, the project must retain on-site half the water quality volume for the site, or
2) for new development and redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site, or
3) if those retention standards cannot be met, the developer will be required to provide a report indicating why the standard could not be met and a mitigation project on another property or pay a fee to fund a DCIA retrofit.

In developing this legal authority, the Town of Glastonbury will consider the following watershed protection elements to manage the impacts of stormwater on receiving waters:

a. Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each municipality by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encourage the use of Low Impact Development or green infrastructure practices.
b. Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
c. Implement stormwater management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
d. Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.
e. Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
f. Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.

g. Coordinate with state or local health officials to ensure no interference with performance of on-site septic systems.
h. Limit turf areas.

In addition, the Town of Glastonbury will review its current regulations, including site planning requirements, zoning regulations, street design regulations, and infrastructure specifications with minimum size criteria for impervious cover (roads, parking lots, etc.) to identify and, where appropriate, reduce or eliminate existing regulatory barriers to implementation of LID and runoff reduction practices to the MEP.

5.2 Implement Long-Term Maintenance Plan For Town-owned Stormwater Treatment Structures

The Town of Glastonbury will develop a maintenance plan for retention / detention ponds and stormwater treatment structures that it owns or over which it holds an easement or other authority and that are located in the town's priority areas to ensure their long-term effectiveness. This plan will require an annual inspection of those retention / detention ponds and stormwater treatment structures and removal of accumulated sediment and pollutants in excess of 50% design capacity.

5.3 Directly Connected Impervious Area (DCIA) Mapping

The Town of Glastonbury will follow guidance provided by DEEP and UConn CLEAR to calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls. Progress on this task will be documented in each Annual Report until completion.

5.4 Address Post-Construction Issues In Areas With Pollutants Of Concern

For areas contributing to the Connecticut River and Angus Park Pond where bacteria is a Stormwater Pollutant of Concern and erosion or sedimentation problems are found during the annual inspections conducted under the long-term maintenance plan described in BMP 5.2, The Town of Glastonbury will prioritize those areas for the DCIA retrofit program under minimum control measure 6 – Pollution Prevention/Good Housekeeping.

Post-Construction Stormwater Management Schedule:

BMP	Lead department / individual	Month / year of implementation
Review and update as necessary regulations and policies regarding LID and runoff reduction in site development planning	Engineering Division Community Development	July 1, 2021
Enforce LID/runoff reduction requirements for development and redevelopment projects	Engineering Division Community Development	July 1, 2021
Implement long-term maintenance plan for stormwater basins and treatment structures	Engineering Division	July 1, 2019
Complete DCIA mapping	Engineering Division	July 1, 2020
Address post-construction issues in areas with pollutants of concern	Engineering Division	July 1, 2019

(6) Pollution Prevention / Good Housekeeping

This minimum control measure outlines a program to mitigate the impact of town operations and maintenance on town owned and/or operated properties and the MS4 itself to water quality.

Goal:

Prevent or reduce pollutant runoff as a result of municipal operations.

The Town of Glastonbury will implement an operations and maintenance program to prevent or reduce pollutant runoff from town facilities and protect water quality.

6.1 Develop and Implement Formal Employee Training Program

The Town of Glastonbury will continue its MS4 training program for town employees to increase awareness of water quality issues. Training will include:

- Standard operating procedures consistent with the MS4 general permit;
- General goals and objectives of this Stormwater Management Plan;
- Identification and reporting of illicit discharges and improper disposal; and
- Spill response protocols and responsibilities.

These trainings may also include regional or statewide trainings coordinated by UConn CLEAR or others.

The Engineering Division will provide a generalized Training Program for good housekeeping / stormwater pollution prevention for use by all relevant Town staff. Each Town Department / Division (Highway Division, Parks Maintenance Division, and Facilities Department) will be responsible for preparing and implementing a training program specific to their operational areas and the permit requirements described elsewhere in this SMP.

6.2 Implement MS4 Property and Operations Maintenance

The Town of Glastonbury-owned or -operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town of Glastonbury will be maintained so as to minimize the discharge of pollutants to its MS4. Such maintenance will include, but not be limited to:

(i) Parks and open space

The Town of Glastonbury will optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance. Optimization practices considered may include:

- conducting soil testing and analysis to determine soil phosphorus levels,
- the reduction or elimination of fertilizers,
- reduction of fertilizer usage by adhering to the manufacturers' instructions,
- use of alternative fertilizers forms (i.e. products with reduced, slow-releasing, or insoluble phosphorus compositions),
- proper storage and application practices (i.e. avoid impervious surfaces),

- application schedule (i.e. appropriate season or month) and timing (i.e. coordinated with climatic conditions to minimize runoff potential);
- standard operating practices for the handling, storage, application, and disposal of pesticides and herbicides in compliance with applicable state and federal laws;
- evaluating reduced mowing frequencies and use of alternative landscaping materials like drought resistant and native plantings;
- establish procedures for management of trash containers at parks (scheduled cleanings; sufficient number).

The Town of Glastonbury will establish practices for the proper disposal of grass clippings and leaves at Glastonbury-owned lands. Clippings shall be composted or otherwise appropriately disposed. Clippings will not enter the MS4 system or waters of the state.

(ii) Pet waste management

The Town of Glastonbury will identify locations where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for direct conveyance of waste to its storm system and waters. In such areas, the Town of Glastonbury will, implement targeted management efforts such as public education and enforcement (e.g. increased patrol for violators).

In Glastonbury-owned recreational areas where dog walking is allowed, the Town of Glastonbury will install educational signage, pet waste baggies, and disposal receptacles (or require carry-out).

The Town of Glastonbury will document its efforts in its annual reports, and will include information regarding the scope and extent of its education, compliance, and enforcement efforts taken on this regard (including the number of violations pursued and fines levied or other enforcement taken).

(iii) Waterfowl management

The Town of Glastonbury will identify lands where waterfowl congregate and feeding by the public occurs.

To raise awareness regarding the water quality impacts, the Town of Glastonbury will install signage or use other targeted techniques to educate the public about the detrimental impacts of feeding waterfowl (including the resulting feces deposition) and discourage such feeding practices.

The Town of Glastonbury will also implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters.

(iv) Glastonbury Buildings and facilities (schools under the jurisdiction of Glastonbury, town offices, police and fire stations, pools, parking garages and other Glastonbury-owned or operated buildings or utilities)

The Town of Glastonbury will:

- evaluate the use, storage, and disposal of both petroleum and non-petroleum products and ensure, through employee training, that those responsible for handling these products know proper procedures;
- ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary;
- develop management procedures for dumpsters and other waste management equipment;
- sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants;
- ensure that all interior building floor drains are not connected to the MS4 and are appropriately permitted.

(v) Vehicles and Equipment

The Town of Glastonbury will

- establish procedures for the storage of Glastonbury-owned or -operated vehicles;
- require vehicles with fluid leaks to be stored indoors or in contained areas until repaired;
- evaluate fueling areas owned by the Town of Glastonbury and used by Glastonbury owned or -operated vehicles and if possible, place fueling areas under cover in order to minimize exposure;
- establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters;
- ensure any interior floor drains are appropriately permitted.

(vi) Leaf Management

The Town of Glastonbury will establish and implement procedures to minimize or prevent the deposition of leaves in catch basins, streets, parking lots, driveways, sidewalks or other paved surfaces that discharge to the MS4.

The Town does not offer any leaf collection services, but rather allows residents to dispose of leaves at the Tryon Street Bulky Waste Facility.

6.3 Implement Coordination with Interconnected MS4s

The Town of Glastonbury will coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

6.4 Develop and Implement a Program to Control Other Sources of Pollutants to the MS4

The Town of Glastonbury will develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by a CT DEEP stormwater permit.

6.5 Evaluate Additional Measures For Discharges To Impaired Waters

(ii) For the Connecticut River and Angus Park Pond for which Bacteria is a Stormwater Pollutant of Concern:

On Glastonbury-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems) to these waters, the Town of Glastonbury will develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report will identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(*i*), the cost of such retrofit or program, and the anticipated pollutant reduction. On Glastonbury-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report will discuss the actions taken to implement this program.

6.6 Track Projects That Disconnect DCIA

The Town of Glastonbury will annually track the total acreage of Directly Connected Impervious Area (DCIA) that is disconnected from the MS4 as a result of redevelopment or retrofit projects within the town. For each retrofit/redevelopment project, the Town of Glastonbury will document the amount of existing DCIA that is disconnected. The total amount of disconnected DCIA will be reported each year in the Annual Report. Starting on July 1, 2021, Glastonbury's goal will be to reduce 1% of its total DCIA acreage per year to the maximum extent possible. The Town of Glastonbury will provide updates on this goal in its annual report. The Town of Glastonbury will also incorporate all DCIA disconnections which occurred in the town since July 1, 2012 towards meeting this goal.

6.7 Develop and Implement an Infrastructure Repair, Rehabilitation and Retrofit Program

The Town of Glastonbury will continue a program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies. This program will be responsive to new information on outfalls discharging pollutants, impaired waters, inspections, or observations made during outfall mapping under the IDDE section of this plan.

6.8 Develop and Implement Plan to Identify and Prioritize Retrofit Projects

The Town of Glastonbury will develop a Retrofit Project Plan to identify and prioritize potential DCIA disconnection projects. Prioritization will be based on several factors, including whether the project lies within one of the MS4 priority areas (urbanized area, DCIA > 11%, discharge to impaired waters). The Town of Glastonbury will include in its annual report for the third year of the permit (2020-2021) its identification and prioritization process, a rationale for the selection of projects to be implemented, and the total acres of DCIA to be disconnected upon implementation. The implementation of projects in this plan will begin by June 30, 2022.

6.9 Develop and Implement Street Sweeping Program

The Town of Glastonbury will implement a program to provide for regular inspection and maintenance of Glastonbury-owned or -operated streets, parking areas and other MS4 infrastructure.

The Town of Glastonbury will establish and implement procedures for sweeping town-owned or operated streets and parking lots. All streets and parking lots within the MS4 Priority Areas will be inspected, swept and/or cleaned (as necessary) at least once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). The procedures shall also include more frequent inspections, cleaning and/or sweeping of targeted areas determined by the Town of Glastonbury to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The Town of Glastonbury will identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the Town of Glastonbury. If wet dust suppression is conducted, the use of water will be minimized such that a discharge of excess water to surface waters and/or the storm sewer system does not occur.

For streets and parking lots outside the MS4 Priority Areas, including any rural uncurbed streets and parking lots with no catch basins, the Town of Glastonbury will either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping and/or cleaning plan for those areas by June 30, 2018 and submit such plan with its year one Annual Report. For new and redeveloped municipal parking lots, the

Town of Glastonbury will evaluate options for reducing stormwater runoff to surface waters and/or the storm sewer system by the installing pervious pavements and/or other measures to promote sheet flow of stormwater.

a. The Town of Glastonbury will ensure the proper disposal of street sweepings in accordance with DEEP policies, guidance and regulations. Sweepings shall not be discharged back into the storm drain system and/or surface waters.
b. The Town of Glastonbury will document results of its sweeping program in its annual reports including: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal. The Town of Glastonbury will also include documentation of any alternate sweeping plan for rural uncurbed streets and any runoff reduction measures implemented.

6.10 Develop and Implement Catch Basin Cleaning Program

The Town of Glastonbury will conduct routine cleaning of all catch basins and track catch basin inspection observations. Utilizing information compiled through its inventory of catch basins, operational staff and public complaints, the Town of Glastonbury will optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

a. Inspect all Glastonbury-owned catch basins within MS4 Priority Areas at least once by June 30, 2020. Catch basins outside the MS4 Priority Areas shall be inspected by June 30, 2022.
b. Prioritize inspection and maintenance for Glastonbury-owned catch basins located near impaired waters and construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). The Town of Glastonbury will clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
c. Establish a schedule such that the frequency of routine cleaning will ensure that no catch basin at any time will be more than fifty (50) percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one-half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
d. If a catch basin sump is more than fifty (50) percent full during two consecutive routine inspections/cleaning events, the Town of Glastonbury will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources. The Town of Glastonbury will describe any actions taken in its Annual Report.
e. The Town of Glastonbury will detail its plan for optimizing catch basin cleaning, inspection plans, and its schedule for gathering information to develop the optimization plan in its first annual report. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The Town of Glastonbury will keep a log of catch basins cleaned or inspected.
f. The Town of Glastonbury will report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters.

6.11 Develop and Implement Snow Management Practices

(i) Deicing Material Management

The Town of Glastonbury will develop and implement standard operating practices for the use, handling, storage, application, and disposal of deicing products such as salt and sand to minimize exposure to stormwater; consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product (while maintaining public safety) and consider opportunities for use of alternative materials; for any exterior containers

of liquid deicing materials installed after July 1, 2017, the Town of Glastonbury will provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area.

(ii) Snow and Ice Control Practices

The Town of Glastonbury will implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety).

The Town of Glastonbury will establish goals for the optimization of sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.

The Town of Glastonbury will maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.

The Town of Glastonbury will ensure the proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.

The Town of Glastonbury will manage and dispose of snow accumulations in accordance with DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended (see link at: www.ct.gov/deep/stormwater).

In its Annual Report, the Town of Glastonbury will document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

6.12 Interconnected MS4s

The Town of Glastonbury will coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s. This same coordination will be conducted regarding operation and maintenance procedures utilized in the respective systems.

6.13 Sources Contributing Pollutants to the MS4

The Town of Glastonbury will develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes.

6.14 Additional Measures for Discharges to Impaired Waters

(ii) For the Connecticut River and Angus park Pond for which Bacteria is a Stormwater Pollutant of Concern:

On Glastonbury-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems) to the Connecticut River or Angus Park Pond, the Town of Glastonbury will develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Annual Reports will identify problem areas for which a retrofit or source

management program were developed, the location of the closest outfall monitored in accordance with Section 6(i), the cost of such retrofit or program, and the anticipated pollutant reduction. On Glastonbury-owned or -operated lands, the Town of Glastonbury will prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Annual Reports will discuss the actions taken to implement this program.

Pollution Prevention/ Good Housekeeping Schedule:

BMP	Lead department / individual	Month / year of implementation
Develop/implement formal employee training program	Highway Division Parks Department Facilities Department	July 1, 2017
Implement MS4 property and operations maintenance	Highway Division Parks Department Facilities Department	July 1, 2017
Implement coordination with interconnected MS4s	Engineering Division	July 1, 2017
Develop/implement program to control other sources of pollutants to MS4	Engineering Division	July 1, 2017
Evaluate additional measures for discharges to impaired waters	Engineering Division	July 1, 2017
Track projects the disconnect DCIA	Engineering Division	July 1, 2017
Develop/implement infrastructure repair/rehab program	Engineering Division	July 1, 2017
Develop/implement plan to identify/prioritize retrofit projects	Engineering Division	July 1, 2020
Develop/implement street sweeping program	Highway Division	July 1, 2017
Develop/implement catch basin cleaning program	Highway Division Engineering Division	July 1, 2017
Develop/implement snow management practices	Highway Division Parks Department	July 1, 2017

Outfall Monitoring

Town of Glastonbury will monitor and investigate all MS4 outfalls that discharge to impaired waterbodies by the end of the permit term. Using the outfall inventory developed under the IDDE minimum control measure, the Town of Glastonbury will identify which outfalls discharge to impaired waters and screen them for the specific impairments.

Once half of all outfalls discharging to impaired waterbodies have been screened, the 6 outfalls contributing the highest level of pollutants will be identified and screened on an annual basis.

Based on the screening results, the Town of Glastonbury will investigate the drainage areas of outfalls that are contributing to the impairment. The investigations may consider land use or development patterns, business or commercial activities, industrial activities, DCIA, natural contributors, MS4 maintenance issues, residential activities, or anything else potentially contributing to the source of the impairment.

Based on results of the drainage area investigations, the Town of Glastonbury will implement measures to address sources of the impairments including the specific impaired waters provisions described within the permit control measures.

Plan Amendments

The Town of Glastonbury will amend the SMP whenever:

(1) there is a change which has the potential to cause pollution of the waters of the state; or

(2) the actions required by the Plan fail to prevent pollution of the waters of the state or fail to otherwise comply with any other provision of this general permit; or

(3) the Commissioner requests modification of the Plan.

Stormwater Management Plan Signatures

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

Daniel A. Pennington, P.E.

Town Engineer/ Manager of Physical Services

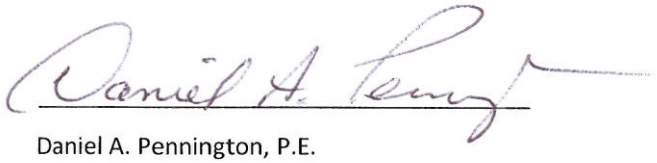
Town of Glastonbury

5/9/2017

Date

Stormwater Management Plan Engineering Certification

"I hereby certify that I am a qualified professional engineer, as defined in the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. I am making this certification in connection with a registration under such general permit, submitted to the Commissioner by DANIEL A. PENNINGTON, P.E. for an activity located at or within TOWN OF GLASTONBURY, CONNECTICUT. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(9)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(9)(A) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Section 3(b)(9)(B) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."



5/9/2017

Daniel A. Pennington, P.E.

Date

Town Engineer/Manager of Physical Services

Town of Glastonbury