Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

MS4 Annual Report Transmittal Form

For the General Permit to Discharge Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)

Print or type unless otherwise noted. Please submit this completed transmittal form, fee, and the MS4 Annual Report as indicated at the end of this form.

CPPU USE ONLY
App #:
Doc #:
Check #:
Program: Stormwater Permits

Part I: Annual Report General Information

1. Reporting Period (Calendar Year): **January 1, 2018 through December 31, 2018**
2. Provide the registration number for the existing general permit registration: **GSM000029**

3. Registrant Type (check one):	Fees
☐ state institution/agency	$375.00 [713]
☐ federal institution/agency	$375.00 [713]
☒ municipality	$187.50 [713]

4. Municipality name or Municipality name where institution is located: **Town of Granby**

The annual report will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection (DEEP) or by such other method as the commissioner may allow.

Part II: Registrant Information

1. Registrant (Name of Municipality or State or Federal Institution/Agency): Town of Granby

Mailing Address: 52 North Granby Road

City/Town: Granby State: CT Zip Code: 06035

Business Phone: 860-653-8960 ext.:

Contact Person: Kirk Severance Phone: 860-653-8960 ext.

*E-mail: kserverance@granby-ct.gov

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

Part II: Registrant Information (continued)

2. Billing contact, if different than the registrant.

Name: **ATC Group Services LLC**

Mailing Address: 290 Roberts Street - Suite 301

City/Town: East Hartford State: CT Zip Code: 06108

Business Phone: 860-282-9924 ext.:

Contact Person: Luke Whitehouse Phone: 860-608-8576 ext.

E-mail: luke.whitehouse@atcgs.com

3. Primary contact for departmental correspondence and inquiries, if different than the registrant.

Name: **ATC Group Services LLC**

Mailing Address: 290 Roberts Street - Suite 301

City/Town: East Hartford State: CT Zip Code: 06108

Business Phone: 860-282-9924 ext.:

Contact Person: Luke Whitehouse Phone: 860-608-8576 ext.

*E-mail: luke.whitehouse@atcgs.com

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

4. Engineer(s) or other consultant(s) employed or retained to assist in preparing the annual report.

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Name: **Nathan L. Jacobson & Associates, Inc.**

Mailing Address: 86 Main Street

City/Town: Chester State: CT Zip Code: 06412

Business Phone: 860-526-9591 ext.:

Contact Person: Wade Thomas Phone: 860-526-9591 ext.

E-mail: wthomas@nlja.com

Service Provided: **Preparation of Annual Report**

5. ☐ Check here if there are adjacent towns or other entities with which implementation of the Stormwater Management Plan is coordinated for a portion of the subject MS4. If so, provide the names of such towns or entities: _____

Part III: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the annual report must sign this part. [If the registrant is the preparer, please mark N/A in the spaces provided for the preparer.]

"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 the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I certify that this annual report transmittal is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that the following public notice requirements have been met.

☒ **Annual Report Availability:** At least forty-five (45) days prior to submission of each Annual Report to DEEP, pursuant to Section 4(d)(3) of the MS4 General Permit, each permittee shall make available for public review and comment a draft copy of the complete Annual Report. Comments on the Annual Report may be made to the permittee and are *not* submitted to DEEP. Reasonable efforts to inform the public of this document shall be undertaken by the permittee. Such draft copies shall be made available electronically on the permittee's website for public inspection and copying, consistent with the federal and state Freedom of Information Acts, and shall be made available, at a minimum, at one of the following locations: the permittee's main office or other designated municipal or institution office, a local library or other central publicly available location. Following submission of the Annual Report to DEEP, a copy of the final report shall be made available for public inspection during regular business hours.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I also certify that the signature of the registrant, or a duly authorized representative, being submitted herewith complies with section 22a-430-3(b)(2)(B) of the Regulations of Connecticut State Agencies.

Signature of Chief Elected official or Principal Executive Officer	**8/19/2019** Date
John Ward Printed Name of Chief Elected official or Principal Executive Officer	**Town Manager** Title (if applicable)
Signature of Preparer (if different than above)	**8/19/2019** Date
Wade Thomas Printed Name of Preparer	Associate Title (if applicable)

Note: Please submit 1) this completed Transmittal Form and the Fee to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

2) **a copy of this completed Transmittal Form and the Annual Report electronically to the following email address: DEEP.StormwaterStaff@ct.gov.**

Refer to www.ct.gov/deep/municipalstormwater for information on Annual Report Templates or other additional information concerning the MS4 General Permit.

In the event that electronic submission is not available or possible, please contact the Stormwater Section at 860-424-3025.

Town of Granby, Connecticut

2018 Annual Report

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Permit Number GSM000029

MS4 General Permit

Town of Granby 2018 Annual Report
Existing MS4 Permittee
Permit Number GSM 000029
January 01, 2018 - December 31, 2018

This report documents the Town of Granby's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2018 to December 31, 2018.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement public education and outreach	In Progress	6 Clean Waters Starting in Your Home and Yard Fact Sheets prepared by a collaborative effort between the Connecticut Sea Grant Extension Program and the University of Connecticut Cooperative Extension System NEMO Program were made available to the public on the town website: https://www.granby-ct.gov/public-works/pages/stormwater-management	Will Be Met	Department of Public Works/ Kirk A. Severance, Director of Public Works	July 01, 2018	***December 01***, 2017	

		Consideration will be given to posting of 10 NEMO Program Fact Sheets on the town website and provision of 9 NEMO Technical Papers which may be made available to land use commission members.					
1-2 Address education/ outreach for pollutants of concern*	In Progress	The following Clean Waters Starting in Your Home and Yard Fact Sheets discuss bacteria were available to the public on the town website: https://www.granby-ct.gov/public-works/pages/stormwater-management: Fact Sheet 3 - Caring for Your Septic System Fact Sheet 6 - Animal Waste and Water Quality		Department of Public Works/ Kirk A. Severance, Director	July 1, 2018	***December 01***, 2017	

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

Additional Fact Sheets and stormwater quality educational materials will be made available to the public on the town website and/or at town public gathering places.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan	Completed	A hard copy of the Draft 2017 Stormwater Management Plan (SMP) was made available to the public for review and comment on the Town Website at: https://www.granby-ct.gov/public-works/pages/stormwater-management	Complied with requirements	Department of Public Works / Kirk A. Severance, Director	April 03, 2017	The 2017 SMP was available to the public on April 12, 2017.	No public comments were received.
2-2 Comply with public notice requirements for Annual Reports	Completed	The Draft 2017 MS4 Annual Report will be made available for public review and comment on the town website at: https://www.granby-ct.gov/public-works/pages/stormwater-management	A Draft copy was provided for public review and comment in March 2018	Department of Public Works / Kirk A. Severance, Director	February 15, 2018	March 2018	The Annual Report will be revised if any pertinent public comments are received.
	Will be completed	The Draft 2018 MS4 Annual Report will be made available for public review and comment on the town website at: https://www.granby-ct.gov/public-works/pages/stormwater-management	A Draft copy will be provided for public review and comment in February 2019	Department of Public Works / Kirk A. Severance, Director	February 15, 2019	*February 2019*	The Annual Report will be revised if any pertinent public comments are received.

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

Community outreach activities will consist of providing GIS mapping of impaired waterbodies in the town and presenting the GIS maps at public meetings.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public to meet FOIA requirements	Yes	04/03/2017	Town Website
Availability of the 2017 MS4 Annual Report announced to public to meet FOIA requirements	Yes	March 2018	Town Website
Availability of the 2018 MS4 Annual Report announced to public to meet FOIA requirements	Yes	February 2019	Town Website

3. Illicit Discharge Detection and Elimination (Section 6(*a*)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	Completed	The Town of Granby has developed a written IDDE program that includes an Illicit Discharge Reporting Form for use by the general public to report suspected illicit discharges and a investigation protocol for town officials to respond to reported illicit discharges. The IDDE program was presented to the DPW staff in December 2017.	Written IDDE Program	Department of Public Works/ ATC Group Services LLC	July 01, 2018	The IDDE Program was implemented in November 2017.	The Department of Public Works is the central reporting agency for citizen illicit discharge complaint filings.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	MS4 stormwater outfall mapping was conducted by the Department of Public Works in 2005-2006 and 2009. The stormwater outfall mapping was compiled on a ESRI GIS layer. The GIS mapping was	Continued Development of an ESRI GIS map layer with MS4 stormwater outfalls.	Department of Public Works/ ATC Group Services LLC Subconsultant Nathan L. Jacobson & Associates, Inc.	July 01, 2019	Prior to July 01, 2018	Continued GIS mapping work is being implemented based on field data and laboratory analytical results collected from stormwater outfalls

		updated to include impaired waters as contained in the State of Connecticut, Department of Energy and Environmental Protection 2016 Integrated Water Quality Report. The stormwater outfalls in the impaired waters were identified.					
3-3 Implement Citizen Reporting Program	In Progress	A program to allow the general public to report suspected illicit discharges was established. The form can be viewed on the town website at: https://www.granby-ct.gov/public-works/files/idde-reporting-form		Board of Selectmen, Town Manager/ ATC Group Services LLC	July 01, 2017	November 2018.	The Department of Public Works is the lead contact for the program.
3-4 Establish legal authority to prohibit illicit discharges	In Place	An Illicit Discharge Detection and Elimination Ordinance was enacted at a Town Meeting on November 21, 2016 and can be viewed on the town website at: https://www.granby-ct.gov/public-works/files/idde-reporting-form	IDDE Ordinance Enactment	Board of Selectmen/Town Manager	July 01, 2018	November 21, 2016	Enacted at a Town Meeting

3-5 Develop record keeping system for IDDE tracking	In Place	The Department of Public Works has developed a record keeping system as a Microsoft Excel spreadsheet for illicit discharge tracking	Develop Microsoft Excel spreadsheet	Department of Public Works and ATC Group Services LLC	July 01, 2017	November 2017	The Department of Public Works is the lead contact for the program.
3-6 Address IDDE in areas with pollutants of concern		Dry weather screening will be conducted during seasonal low groundwater conditions at outfall which discharge to bacteria impaired waters. On 8/23/18, dry weather screening was conducted at 11 outfalls.			Not specified	Additional dry weather screening was anticipated to have been conducted in the Fall of 2018, however, high Fall rainfall and associated high groundwater conditions would not have made outfall dry weather screening productive at all outfall locations	Continued screening of outfalls during dry weather conditions

3.2 Describe any IDDE activities planned for the next year, if applicable.

The written program will be posted to the Department of Public Works webpage and a link listed in next year's Annual Report; will update the written IDDE program as needed throughout the permit term.

3.3 List of citizen reports of suspected illicit discharges received during this reporting period.

Date of Report	**Location / suspected source**	**Response taken**
None Reported	Not Applicable	Not Applicable

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table. **The Town of Granby has no SSOs**

Location (Lat long/ street crossing /address and receiving water)	**Date and duration of occurrence**	**Discharge to MS4 or surface water**	**Estimated volume discharged**	**Known or suspected cause / Responsible party**	**Corrective measures planned and completed** (include dates)		**Sampling data** (if applicable)

3.5 Briefly describe the method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.

See above.

3.6 Provide a summary of actions taken to address septic failures using the table below.

Location and nature of structure with failing septic systems	**Actions taken to respond to and address the failures**	**Impacted waterbody or watershed, if known**

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	188
Estimated or actual number of interconnections	Not Known
Outfall mapping complete	90
Interconnection mapping complete	Not Known
System-wide mapping complete (detailed MS4 infrastructure)	90
Outfall assessment and priority ranking	To be Initiated
Dry weather screening of all High and Low priority outfalls complete	50
Catchment investigations complete	To be Initiated
Estimated percentage of MS4 catchment area investigated	25

3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).

The Department of Public Works will be provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*, Published January 2003 by the New England Interstate Water Pollution Control Commission.

The Department of Public Works will be provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, and Technical Appendices* Published October 2004 by the Center for Watershed Protection and Robert Pitt of the University of Alabama.

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 General Permit	To be Initiated in 2018	The required elements of Minimum Control Measure No. 4 - Construction Site Runoff Control will be incorporated into the land use regulations were provided to the town.	In Process	Community Development Department Director/ Abigail Kenyon, AICP and Land Use Commission Members	July 01, 2019		Representatives from Halloran & Sage LLP have indicated that a Regional Planning Agency is in the process of developing model land use regulations to meet the requirements of the 2017 MS4 General Stormwater Permit.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Ongoing	Kevin W. Clark, P.E., L.S., Town Engineer prepares land use review letters for most applications to the Inland Wetlands Commission, Planning Commission and Zoning Commission.	Interdepartmental Coordination	Land Use Commission Members	July 01, 2017	Ongoing	
4-3 Review site plans for stormwater quality concerns	Ongoing	Kevin W. Clark, P.E., L.S., Town Engineer encourages the use of LID and	Compliance	Town Engineer/ Kevin W. Clark, P.E., L.S.	July 01, 2017	Ongoing	

		Stormwater BMPs practices as contained in the 2004 Connecticut Stormwater Quality Manual.					
4-4 Conduct site inspections	Ongoing	The town conducts construction site inspections for proper implementation and maintenance of soil erosion and sediment control measures.	Compliance with Approved Plans	Community Development Department Director/ Abigail Kenyon, AICP and Town Engineer/Kevin W. Clark, P.E., L.S.	July 01, 2017	Ongoing	
4-5 Implement procedure to allow public comment on site development	Ongoing	The land use application process allows for public comment on land use applications which are submitted to the Inland Wetlands Agency, Planning Commission, Zoning Commission during the Public Hearing Process when applicable.		Community Development Department Director/ Abigail Kenyon, AICP and Land Use Commission Members	July 01, 2017	Ongoing	
4-6 Implement procedure to notify developers about the CT DEEP General Permit for the Discharge of Stormwater and Dewatering wastewaters from Construction Activities (Construction	Ongoing	Since the inception of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities Town	Awareness of the need to register for the General permit for the Discharge of Stormwater and Dewatering Wastewaters	Community Development Department Director/Abigail Kenyon, AICP and Town Engineer/Kevin W. Clark, P.E., L.S.	July 01, 2017	Ongoing	

Stormwater General Permit)		Engineer, Kevin W. Clark, P.E., L.S., has made developer's engineers aware of the need to register for the Construction Stormwater General Permit in engineering review letters which are typically prepared as part of the land use application process.	from Construction Activities				

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

5. Post-construction Stormwater Management (Section 6(*a*)(5) / page 27)

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Under Development	The land use regulations will be revised to incorporate the Minimum Control Measure No. 5 into the applicable land use regulations	The proposed revisions are being reviewed	Community Development Department Director/ Abigail Kenyon, AICP and Land Use Commission Members	July 01, 2021		Representatives from Halloran & Sage LLP have indicated that a Regional Planning Agency is in the process of developing model land use regulations to meet the requirements of the 2017 MS4 General Stormwater Permit.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Ongoing	Continuing	Compliance	Community Development Department Director/Abigail Kenyon, AICP, Town Engineer/Kevin W. Clark, P.E., L.S. and Land Use Commission Members	July 01, 2019		

5-3 Identify retention and detention ponds in priority areas	Under Development	Retention Ponds, Detention Ponds and Hydrodynamic Separators will be inventoried. A GIS Map Layer will be created after the inventory.	Moving to Compliance	Department of Public Works/ ATC Group Services LLC Subconsultant Nathan L. Jacobson & Associates, Inc.	July 01, 2019		
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Under Development	Subsequent to development of the Retention Pond, Detention Pond and Hydrodynamic Separator Inventory and evaluation of existing conditions of the facilities, Long Term Operation and Maintenance Plans will be implemented. The Long Term O&M Plans will be developed with a beginning primary emphasis on impaired waterbodies.	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2019		
5-5 DCIA mapping	Completed	The development of Baseline 2012 DCIA condition was completed in 2018 from base mapping	The DCIA to MS4 stormwater outfalls discharging to waters identified as	ATC Group Services LLC Subconsultant Nathan L. Jacobson & Associates, Inc.	July 01, 2020	January 2019	Compilation of projects that have increased or decreased the DCIA will start in 2019.

		prepared by UConn CLEAR.	impaired in the 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will start in 2018.				
5-6 Address post-construction issues in areas with pollutants of concern	To Be Developed	None	Stormwater outfalls discharging to waters identified as impaired in the 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will be subject to enhanced water quality treatment.	Community Development Department Director/Abigail Kenyon, AICP and Town Engineer, Kevin W. Clark, P.E., L.S.	Not specified		

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	21.19 Acres
DCIA disconnected (redevelopment plus retrofits)	0 acres this year / 0 acres total
Retrofits completed	None
DCIA disconnected	0% this year / Total Acreage Since 2012 To Be Determined
Estimated cost of retrofits	Not Applicable
Detention or retention ponds identified	0 this year /0 total

5.4 Briefly describe the method to be used to determine baseline DCIA.

Based on information contained in the Factsheet: *Town of Granby Water Quality and Stormwater Summary,* prepared by the CT DEEP, 675.70 acres of the town has an impervious area exceeding 12% which is approximately 7.16% of the town. 232.83 acres have an impervious cover of ranging from 12% to 25%, 344.14 acres have an impervious cover ranging from 26% to 50%, 77.24 acres have an impervious cover ranging from 51% to 75% and 21.49 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online The impervious surface area consists of 129.50 acres of buildings, 209.78 acres of roads and 229.33 acres of other impervious surfaces for a total impervious surface area of 568.61 acres.

The DCIA Mapping was conducted in substantial accordance with the methodologies presented in the October 25, 2017 UConn CLEAR Webinar entitled *CT MS4 Mapping Details, Clarifications and Tools,* the October 19, 2018 UConn CLEAR Workshop entitled *CT MS4 Mapping Workshop* as well as information contained in the EPA reference entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit utilizing Sutherland equations*.

The DCIA computations were prepared utilizing Connecticut Environmental Conditions Online MS4 base mapping prepared by UConn CLEAR.

Impaired waters were determined from the report entitled *2016 Integrated Water Quality Report*, dated April 2017, prepared by the State of Connecticut Department of Energy and Environmental protection.
The method to determine the 2012 baseline DCIA was to first compile the CT DEEP drainage basin characteristics in a Microsoft Excel spreadsheet. Information on the Connecticut Environmental Conditions Online MS4 Mapping was used to determine the impervious area breakdown as Buildings, Roads and Other. For CT DEEP drainage basins that fell in two or more municipalities the advanced mapping tab of Connecticut Environmental Conditions Online was used to delineate and determine the applicable town CT DEEP basin area. It was assumed that the entire drainage basin characteristics were directly proportional to the applicable town CT DEEP drainage basin area for each town or towns.

In that the ConnDOT has a MS4 Stormwater Program which applies to state owned roads and facilities which the town has no control over, it was decided that the impervious state road area would be determined and deducted from the total impervious road area for each CT DEEP drainage basin. The ConnDOT impervious road areas were then determined for each CT DEEP drainage basin. The ConnDOT impervious road areas were then deducted from the total impervious road area to determine a town owned impervious road area for each CT DEEP drainage basin. The total impervious area in acres and percentage was then recomputed for each CT DEEP drainage basin. The DCIA formula for each of four development types was then utilized to compute the DCIA. The impervious area in acres was assigned to each of the four Sutherland equations which were modified for the northeastern United State. The Sutherland equation to be utilized was determined using the following methodology:

For impervious percentage less than 6%:

100% of the impervious area was assigned to the slight connectivity Sutherland Equation where DCIA% = 0.01*(IA%)^2.0

For an impervious area between 6% and 12 %:

50% of the area was assigned to the partial connectivity Sutherland Equation where DCIA% = 0.04*(IA%)^1.7
and 50% was assigned to the average connectivity Sutherland Equation where DCIA% = 0.10*(IA%)^1.5.

For an impervious area between 12% and 18 %:

50% of the area was assigned to the average connectivity Sutherland Equation where DCIA% = 0.10*(IA%)^1.5.
and 50% was assigned to the high connectivity Sutherland Equation where DCIA% = 0.40*(IA%)^1.2.

For an impervious area of greater than 18 %:

100% of the area was assigned to the high connectivity Sutherland Equation where DCIA% = 0.40*(IA%)^1.2.

The DCIA for each CT DEEP drainage basin was then summed to determine the entire town DCIA.

Subsequent to completion of 2012 Baseline DCIA computations, UConn CLEAR Mapping available on Connecticut Environmental Conditions Online (CT ECO) was revised to separate road impervious area into State Road Impervious Area (Acres) and Town Road Impervious Area (Acres).

The original 2012 Baseline DCIA computations were revised to include the UConn CLEAR State Road Impervious Area (Acres) and Town Road Impervious Area (Acres). No major 2012 Baseline DCIA computation discrepancies were noted.

6. Pollution Prevention/Good Housekeeping (Section 6(*a*)(6) / page 31)

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Started	A Street Sweepings & Catch Basin Cleanings Management Plan was developed. Annual MS4, IDDE, Stormwater Industrial Permit and SPCC training are conducted for DPW staff.	Moving to Compliance	Department of Public Works and ATC Group Services LLC	July 01, 2017	December 11, 2017	A Street Sweepings & Catch Basin Cleanings Management Plan Training Session was developed by ATC Group Services LLC. The Training Session was held on December 19, 2017 and was attended by twelve employees of the Department of Public Works. The Street Sweepings & Catch Basin Cleanings Management Plan is kept at the DPW Facility for use and reference.
6-2 Implement MS4 property and operations maintenance	Under Development	Development of an online tracking system for maintenance and retrofit activities associated with MS4 infrastructure.	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2018	Fall 2017	The DPW is updating the invoice and work tracking system to better document ongoing MS4 infrastructure maintenance and retrofits.

6-3 Implement coordination with interconnected MS4s	Not Applicable	None	Not Applicable	Department of Public Works/ Kirk A. Severance, Director	July 01, 2017	Not Applicable	
6-4 Develop/implement program to control other sources of pollutants to the MS4	To Be Developed and Implemented in 2019	Under Development	Moving to Compliance	Department of Public Works and ATC Group Services LLC	July 01, 2017	July 01, 2019	
6-5 Evaluate additional measures for discharges to impaired waters*	To Be Implemented in 2019	None	Moving to Compliance	Department of Public Works and ATC Group Services LLC	July 01, 2017		
6-6 Track projects that disconnect DCIA	To Be Implemented in 2019	None	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2017		
6-7 Implement infrastructure repair/rehab program	To Be Implemented	None	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2021		
6-8 Develop/implement plan to identify/prioritize retrofit projects	To Be Implemented	None	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2020		
6-9 Implement retrofit projects to disconnect 2% of DCIA	To Be Implemented	None	Moving to Compliance	Department of Public Works/ Kirk A. Severance, Director	July 01, 2022		
6-10 Develop/implement street sweeping program	Ongoing	The Town of Granby currently implements a road sweeping program.	Continuing	Department of Public Works/ Kirk A. Severance, Director	July 01, 2017		The road sweeping program was developed to address known areas of high

		Approximately 50 miles of roadway (100 lane miles) were swept in 2017. Approximately ***50*** miles of roadway (100 lane miles) were swept in 2018.					sediment accumulation.
6-11 Develop/implement catch basin cleaning program	Ongoing	The Town of Granby currently implements a catch basin cleaning program. 479 catch basins were vactored in 2017. More than 700 catch basins were inspected in 2018 and bottom of sump to lowest pipe invert out height and accumulated sediment depth measurements were obtained in 2018. The catch basins will be vactored starting in April 2019	Continuing	Department of Public Works/ Kirk A. Severance, Director	July 01, 2020		The catch basin cleaning program was developed to address known areas of high sediment accumulation.
6-12 Develop/implement snow management practices	Ongoing	Alternate road deicing mixtures are currently being utilized and will be modified as cost effective emerging	Continuing	Department of Public Works and ATC Group Services LLC	Jul 1, 2018		

		technologies become available.					

6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	2017 - December 19, 2017 2018 - December 21, 2018
Street sweeping	
Lane miles swept	100±
Volume (or mass) of material collected	2017 - 450± Cubic Yards 2018 - 0± Cubic Yards
Catch basin cleaning	
Total catch basins in priority areas	Not Known
Total catch basins in MS4	1,340±
Catch basins inspected	2017 - 480± 2018 - 700±
Catch basins cleaned	2017 - 480± Catch Basins were Vactored 2018 – 0 ± Catch Basins were Vactored
Volume (or mass) of material removed from all catch basins	2017 - 180± Cubic Yards 2018 - 0± Cubic Yards
Volume removed from catch basins to impaired waters (if known)	Undetermined volume in 2017 Catch Basins to be vactored in spring 2019
Snow management	
Type(s) of deicing material used	Deicing Mix

	Comprised of 1 Part Sand to 4 Parts NaCl Salt with a Deicing Additive The Deicing Additive consists of Beet Heet® or Safe Melt® 40/60 at 5 Gallons per Ton of Salt
Total amount of each deicing material applied	1,500 Tons NaCl Salt with a Deicing Additive 3,000 Gallons Beet Heet® or Safe Melt® 40/60 Deicing Additive at 5 Gallons per Ton of Salt 400 Tons of Sand
Type(s) of deicing equipment used	One 10-Wheeler Plow/Spreaders Seven 6- Wheeler Plows/Spreaders One Mason Plows/Spreader Most have Ground Speed Controlled Spreaders Application Rate 400 Pounds per Lane Mile (Min.)
Lane-miles treated	184.68
Snow disposal location	DPW Facility
Staff training provided on application methods & equipment	Annually
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	Not Applicable
Reduction in turf area (since start of permit)	Not Applicable
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	Not Applicable

6.4Catch Basin Cleaning Program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule. [Complete this section for the 2017 Annual Report only]
There are approximately 1,340 catch basins in the Town of Granby. Approximately 480 catch basins were cleaned in 2017 by a subcontracted catch basin cleaning company. The catch basin cleanings are screened and recycled at the former town landfill site in conformance with CT DEEP regulatory guidance.

2018 The sump depth (sump bottom to lowest pipe invert out) and accumulated sediment/debris depth was measured for more than 700 catch basins

2019 Catch basin cleaning activities will begin in April.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]

Storm Drainage Retrofit prioritization will be given to stormwater outfalls that are known to result in soil erosion and sedimentation. Prioritization will be given to the MS4 stormwater outfalls located within impaired water drainage basins with particular emphasis placed on stormwater outfalls which are located on fine grained glacial till soils.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]

The 2012 Baseline Directly Connected Impervious Area was determined to be 21.19 acres as reported above in Section 5.3 using the DCIA computation methodology as described in Section 5.4.

The CT DEEP goal of 2% disconnection of DCIA from July 01, 2012 to June 30, 2022 may be difficult given the rural character of much of the town. Using the 2012 Baseline DCIA of 21.19 acres a goal of 0.42 aces of DCIA reduction is the goal by 2022.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]

Part II: Impaired waters investigation and monitoring [This section required beginning with 2018 Annual Report]

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: http://s.uconn.edu/ctms4map.

Nitrogen/ Phosphorus ☐ Bacteria ☒ Mercury ☐ Other Pollutant of Concern ☐

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.
Wet weather sampling of outfalls directly discharging to the impaired waters was conducted as follows: 2018 - Wet weather samples were obtained from nine outfalls (13, 14, 15, 73, 74, 102, 103, 104 and 105) on September 10, 2018. Wet weather samples were obtained from sixteen outfalls (13, 14, 15, 44, 73, 74, 86, 102, 103, 104, 105, 109, 152, 153, 154 and 155) on December 28, 2018. Nine of the samples were resampling of the September 10, 2018 sampling. One wet weather sample was also obtained from Salmon Brook proximal to outfalls 103 and 104 on December 28, 2018. The wet weather sampling locations are highlighted on a pdf following the text.

2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)

2.1 Screening data collected under 2017 permit

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other	**Results MPN/100ML**	**Name of Laboratory (if used)**	**Follow-up required?**

		pollutant of concern)			
OF-13	09/10/18	Bacteria	E. Coli 20 Total >24,200	Phoenix Environmental Laboratories, Inc. (Phoenix)	
OF-14	09/10/18	Bacteria	E. Coli >24,200 Total >24,200	Phoenix	
OF-15	09/10/18	Bacteria	E. Coli 269 Total >24,200	Phoenix Environmental	
OF-73	09/10/18	Bacteria	E. Coli 6,870 Total >24,200	Phoenix Environmental	
OF-74	09/10/18	Bacteria	E. Coli 13,000 Total >24,200	Phoenix Environmental	
OF-102	09/10/18	Bacteria	E. Coli 9,210 Total >24,200	Phoenix Environmental	
OF-103	09/10/18	Bacteria	E. Coli 12,000 Total >24,200	Phoenix Environmental	
OF-104	09/10/18	Bacteria	E. Coli 4,880 Total >24,200	Phoenix Environmental	
OF-105	09/10/18	Bacteria	E. Coli 9,210 Total >24,200	Phoenix Environmental	
OF-13	12/28/18	Bacteria	E. Coli 4,110 Total 7,270	Phoenix Environmental	
OF-14	12/28/18	Bacteria	E. Coli >24,200 Total >24,200	Phoenix Environmental	
OF-15	12/28/18	Bacteria	E. Coli <10 Total 8,660	Phoenix Environmental	
OF-44	12/28/18	Bacteria	E. Coli 10 Total 2,910	Phoenix Environmental	
OF-73	12/28/18	Bacteria	E. Coli 256 Total 9,210	Phoenix Environmental	
OF-74	12/28/18	Bacteria	E. Coli <10 Total 17,300	Phoenix Environmental	
OF-86	12/28/18	Bacteria	E. Coli <10 Total 1,620	Phoenix Environmental	
OF-102	12/28/18	Bacteria	E. Coli 41 Total 1,790	Phoenix Environmental	
OF-103	12/28/18	Bacteria	E. Coli 120 Total 5,480	Phoenix Environmental	
OF-104	12/28/18	Bacteria	E. Coli 10 Total 14,100	Phoenix Environmental	
OF-105	12/28/18	Bacteria	E. Coli <10 Total >2,610	Phoenix Environmental	
OF-109	12/28/18	Bacteria	E. Coli 433 Total 17,300	Phoenix Environmental	
OF-152	12/28/18	Bacteria	E. Coli <10 Total 1,840	Phoenix Environmental	
OF-153	12/28/18	Bacteria	E. Coli <10 Total 8,160	Phoenix Environmental	

OF-154	12/28/18	Bacteria	E. Coli 20 Total 305	Phoenix Environmental	
OF-155	12/28/18	Bacteria	E. Coli 20 Total 11,200	Phoenix Environmental	
OF-103/104 Stream	12/28/18	Bacteria	E. Coli 216 Total 4,350	Phoenix Environmental	

2.2 Credit for screening data collected under 2004 permit

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

Outfall	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	**Results**	**Name of Laboratory (if used)**	**Follow-up required?**
I-1	11/21/04	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	09/15/05	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	09/14/06	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	10/19/07	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	09/26/08	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	11/14/09	Bacteria	E. coli TBR/ 100mls	Phoenix Environmental	No
I-1	08/01/13	Bacteria	E. coli 200/ 100mls	Phoenix Environmental	No
I-1	08/13/14	Bacteria	E. coli 700/ 100mls	Phoenix Environmental	No
I-1	09/27/16	Bacteria	E. coli 52/ 100mls	Phoenix Environmental	No

3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
13	Wet Weather Resample	Dry Weather Screening
14	Wet Weather Resample	Dry Weather Screening
15	Wet Weather Resample	Dry Weather Screening
73	Wet Weather Resample	Dry Weather Screening
74	Wet Weather Resample	Dry Weather Screening
102	Wet Weather Resample	Dry Weather Screening
103	Wet Weather Resample	Dry Weather Screening
104	Wet Weather Resample	Dry Weather Screening
105	Wet Weather Resample	Dry Weather Screening

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 01, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)

Part III: Additional IDDE Program Data [This section required beginning with 2018 Annual Report]

1. Assessment and Priority Ranking of Catchments Data (Appendix B (A)(7)(c) / page 5)

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4320-00_01 Salmon Brook	High Priority	1
4319-00_01b Salmon Brook, West Branch	High Priority	1

2. Outfall and Interconnection Screening and Sampling Data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
73	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
74	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
102	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
13	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
14	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
15	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
171	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None
172	Dry: 8/23/18	NA	NA	NA	NA		NA	NA	Bacteria	None

2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
74		NA	NA	NA	NA		NA	NA	Bacteria

102		NA	NA	NA	NA		NA	NA	Bacteria
189		NA	NA	NA	NA		NA	NA	Bacteria
13		NA	NA	NA	NA		NA	NA	Bacteria
14		NA	NA	NA	NA		NA	NA	Bacteria
15		NA	NA	NA	NA		NA	NA	Bacteria
153		NA	NA	NA	NA		NA	NA	Bacteria
154		NA	NA	NA	NA		NA	NA	Bacteria
86		NA	NA	NA	NA		NA	NA	Bacteria

3. Catchment Investigation Data (Appendix B (A)(7)(e) / page 9)

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.

2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed

Part IV: Certification

"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."

Chief Elected Official
or Principal Executive Officer
Print Name:

John D. Ward, Town Manager

Signature / Date:

April 23, 2019 4/24/19

Document Prepared by

Print Name:

Wade M. Thomas, CPMSM, CPESC and CPSWQ

Signature / Date:

April 23, 2019

Legend

Outfall Diameter, Inches

15 · 18 · 24 · 30 · 36 · 48

Drainage Basins

Subregional Drainage Basins

Approximate Parcel Line

Marsh

Water

Watercourse

4300 Farmington River Subdrainage Basin
4309 Cherry Brook Subdrainage Basin
4319 West Branch Salmon Brook Subdrainage Basin
4320 Salmon Brook Subdrainage Basin

CT 303 (d) Impaired River 2016

Impaired Waters Sampling

Wet Weather Samples were Obtained from the Following Nine Outfalls on 09/10/18: 13, 14, 15, 73, 74, 102, 103, 104 and 105

Wet Weather Samples were Obtained from the Following Sixteen Outfalls on 12/28/18: 13, 14, 15, 44, 73, 74, 86, 102, 103, 104, 105, 109, 152, 153, 154, 155 and Salmon Brook Proximal to Outfalls 103 and 104

Note: Sampling Locations are Highlighted.

4320

4319

4309

4300

TOWN OF GRANBY

MS4 OUTFALL MAPPING

MAY 2018

0 500 1,000 2,000 Feet

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION DIGITAL DATALAYER
TOWN OF GRANBY ASSESSORS

NATHAN L. JACOBSON & ASSOCIATES, INC