

Municipal Stormwater Utility Feasibility Study

Prepared for:
Southeastern Connecticut Council of Governments

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Connecticut Institute for Resilience and Climate Adaptation



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Acronyms

BMP	best management practice
CIP	capital improvements program
CIRCA	Connecticut Institute for Resilience and Climate Adaptation
COG	Council of Government
DCIA	directly connected impervious area
DEEP	Department of Energy and Environmental Protection
EPA	United States Environmental Protection Agency
ERU	Equivalent Residential Unit
FTE	Full Time Equivalent
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
MCM	minimum control measure
MS4	municipal separate storm sewer systems
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
SCCOG	Southeastern Connecticut Council of Governments
SFU	Single-Family Unit
SMP	Stormwater Management Plan
sq. ft.	square feet
TMDL	total maximum daily load

Section 1

Introduction

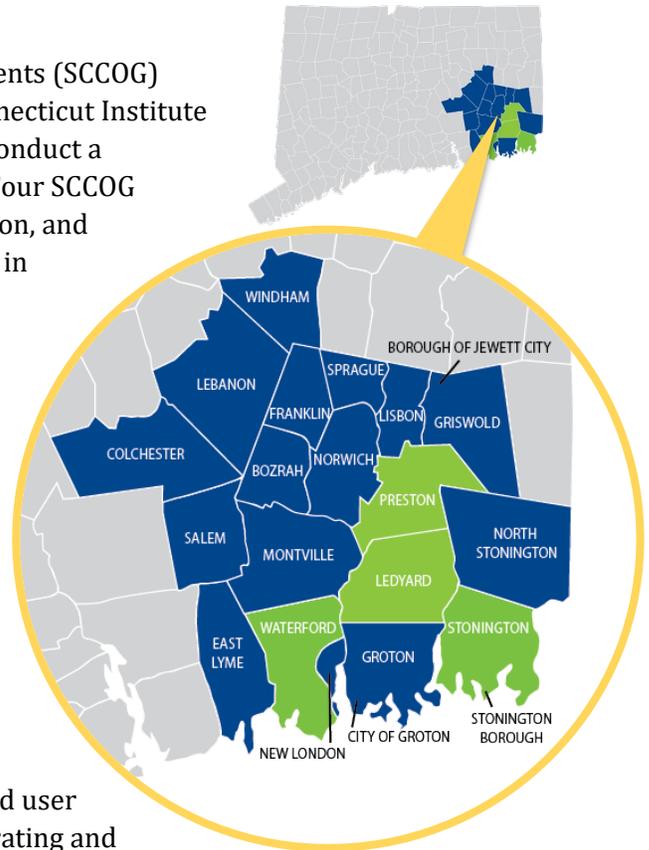
The Southeastern Connecticut Council of Governments (SCCOG) secured a Municipal Resilience Grant from the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to conduct a municipal stormwater authority feasibility study. Four SCCOG member municipalities, Ledyard, Preston, Stonington, and Waterford participated in the study due to interest in possibly forming a stormwater authority. In conjunction with the SCCOG, CDM Smith has been contracted to study the feasibility of establishing municipal stormwater authorities for these four municipalities.

1.1 Background

In 2021, the Connecticut legislature passed Substitute House Bill 6441, authorizing the creation of municipal stormwater authorities pursuant to Section 22a-498 of the Connecticut General Statutes. This bill allows any Connecticut municipality to establish a stormwater authority, which would allow them to assess and collect scaled user fees from property owners, for the purpose of operating and maintaining their respective stormwater programs. In response to that Bill, SCCOG secured the grant and created this Stormwater Authority Feasibility Study Project.

The participating municipalities currently provide administration, planning, operation and maintenance, and capital improvements for their respective stormwater system. Current stormwater activities are funded primarily by the general fund through tax-based revenue. Traditionally, in most Connecticut municipalities, funds allocated for stormwater management have been used to address immediate stormwater problems and have not been adequate to develop comprehensive stormwater management programs.

An additional concern for three of the four municipalities (Ledyard, Stonington, and Waterford) is addressing regulatory requirements for the protection of local water quality. In 2003, these three municipalities were issued a permit under the United States Environmental Protection Agency’s (EPA) National Pollutant Discharge Elimination System (NPDES) Phase II program to authorize stormwater discharges from municipal separate storm sewer systems (MS4). The unfunded mandate required municipalities to fund and implement six stormwater program elements. In 2017, the permit was renewed by the State and expanded to include additional requirements, such as runoff reduction measures, enforcement measures, and outfall sampling. The current permit expired on June 30, 2022, and the next permit renewal date is unknown at this time but



will likely continue the trend of increasing requirements for local programs and resources. Preston may be brought into this MS4 program (Preston is not currently required to comply with the MS4 requirements since they are not an MS4 municipality).

In short, these municipalities recognize that their current stormwater program lacks adequate resources to effectively address the evolving regulatory requirements and stormwater infrastructure improvements and maintenance requirements. This feasibility study will evaluate a user-oriented funding mechanism that equitably allocates the cost of stormwater management according to the runoff contributed by the land for each customer, irrespective of ownership or tax status.

1.2 Scope of Study

Provided herein is documentation of the tasks completed by CDM Smith in the stormwater authority feasibility study. This report was prepared using data from several sources including municipal staff interviews, municipal and UConn GIS databases, annual budgets, and Annual MS4 Reports. This report includes an evaluation of each municipality's stormwater programs with respect to regulatory compliance, operations and maintenance (O&M), stormwater capital improvements program (CIP), and program management; assessment of parcel data for each municipality which was used as the basis for a user fee assessment; and development of 10-year funding projections for each of the four municipalities. The report also includes a summary of key findings and preliminary methods for implementation of a stormwater authority should each municipality wish to move forward with the suggested option.

Section 2

Stormwater Management Program Review

The first task in this study was the evaluation of the existing stormwater management programs with respect to regulatory compliance, O&M, stormwater CIP, and program management. The list below presents the typical components included in each of the four stormwater program categories:

- Regulatory Compliance
 - MS4 Permit requirements
 - Total Maximum Daily Load (TMDL) compliance
- O&M
 - Street sweeping
 - Catch basin cleaning and maintenance
 - Pipe cleaning and maintenance
- Stormwater CIP
 - Drainage system upgrades and replacements
 - Stormwater flood studies
- Program Management
 - Master planning
 - Complaint response
 - Development review

CDM Smith gathered information, reviewed documents, conducted interviews with each municipality, evaluated regulatory compliance for each municipality, and completed an assessment of each municipality's stormwater management program. The results of the existing assessment are presented in Section 2.2.

2.1 Service Area Characteristics

Data for the four municipalities included in this project is summarized in Table 2-1.

Table 2-1. Summary of Municipality Data

	Preston	Ledyard	Stonington	Waterford	Combined
Municipality Data					
Population	4,788	15,413	18,335	19,571	58,107
Area (sq. miles)	31.3	38.2	38.7	32.8	141

For each of the four participating municipalities, CDM Smith gathered, reviewed, and evaluated various documents. The following summarizes the documents reviewed for each municipality:

- Preston
 - Preston 2021-2022 Adopted Budget
- Ledyard
 - Ledyard Stormwater Management Plan
 - Ledyard MS4 Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
 - Ledyard 2021-2022 Adopted Budget
- Stonington
 - Stonington Stormwater Management Plan
 - Stonington MS4 Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
 - Stonington 2022-2023 Adopted Budget
- Waterford
 - Waterford Stormwater Management Plan
 - Waterford MS4 Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
 - Waterford 2021-2022 Adopted Budget

2.2 Summary of Current Stormwater Program Activities

For each of the four participating municipalities, CDM Smith evaluated the regulatory compliance, completed a stormwater checklist, and conducted an interview with key staff to gain a comprehensive understanding of existing stormwater management programs. The results and summaries of these activities are provided in the documents listed below and are provided in the respective appendices:

- Conducted interviews with key personnel in July 2022 to obtain information on each stormwater program. Interview meeting notes are provided in **Appendix A**.
- Completed a Stormwater System Program Self-Assessment Checklist for each municipality (see **Appendix B**).
- Developed an Existing Conditions Technical Memorandum to summarize each municipality's stormwater management program components, including MS4 Permit compliance and an estimate of stormwater costs (see **Appendix C**).

The following summarizes the evaluations of each of the various stormwater program components: regulatory compliance, O&M, stormwater CIP, and program management.

2.2.1 Regulatory Compliance

The Connecticut Department of Energy and Environmental Protection (DEEP) Small MS4 General Permit was effective July 1, 2017 and expired on June 30, 2022. As part of the MS4 Permit

requirements, municipalities were required to develop a Stormwater Management Plan (SMP) that identified best management practices (BMP) that it planned to implement to meet the permit requirements. The following summarizes typical BMPs for the current permit based on the six minimum control measures (MCM).

MCM 1 – Public Education and Outreach

- Implement a public education and outreach program
- Address education/outreach for pollutants of concern
- Regularly update municipality website
- Continue catch basin stenciling program
- Hold household hazardous waste collection days

MCM 2 – Public Participation and Involvement

- Comply with public notice requirements for the SMP and MS4 Annual Reports
- Reach out for community group engagement
- Hold interagency meetings

MCM 3 – Illicit Discharge Detection and Elimination

- Develop a written Illicit Discharge Detection and Elimination (IDDE) program
- Develop a list and maps of all MS4 stormwater outfalls in priority areas
- Develop a citizen reporting program
- Establish legal authority to prohibit illicit discharges
- Develop a record keeping system for IDDE tracking
- Address IDDE in areas with pollutants of concern
- Map MS4 system in priority areas

MCM 4 – Construction Site Stormwater Runoff Control

- Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit
- Develop/implement plan for interdepartmental coordination in site plan review/approval
- Review site plans for stormwater quality concerns
- Conduct site inspections
- Implement procedure to allow public comment on site development
- Implement notification procedure for developers about DEEP stormwater general permit

MCM 5 – Post Construction Stormwater Management

- Establish and/or update legal authority and guidelines regarding Low Impact Development (LID) and runoff reduction in site development planning
- Enforce LID/runoff reduction requirements for development and redevelopment projects

- Identify retention and detention ponds in priority areas
- Implement long-term maintenance plan for stormwater basins and treatment structures
- Directly connected impervious area (DCIA) mapping
- Address post-construction issues in areas with pollutants of concern

MCM 6 – Pollution Prevention/Good Housekeeping

- Develop/implement formal employee training program
- Implement MS4 property and operations maintenance
- Implement coordination with interconnected MS4s
- Develop/implement program to control other sources of pollutants to the MS4
- Evaluate additional measures for discharges to impaired waters
- Track projects that disconnect DCIA
- Develop/implement infrastructure repair/rehab program
- Develop/implement plan to identify/prioritize retrofit projects
- Implement retrofit projects to disconnect 2% of DCIA
- Develop/implement street sweeping, catch basin cleaning, and snow management programs

Outfall Monitoring

To satisfy the Outfall Monitoring requirements of the MS4 Permit, permitted municipalities are required to perform annual wet weather sampling and dry weather screening.

2.2.2 Regulatory Compliance Summary

For each MS4 municipality, an evaluation of the DEEP Stormwater MS4 Permit requirements was performed. For each MCM, the compliance evaluation used the following categories:

“Proactive”	performing all MCM requirements
“Average”	performing the majority of the MCM requirements (typically miss 1–2 requirements)
“Below Average”	performing some of the MCM requirements (typically miss 3–4 requirements)
“Poor”	minimal effort or not performing any BMPs in the respective MCM

Tables 2-2 through 2-4 summarize the MS4 Permit compliance for each municipality. The more detailed “MS4 Permit Compliance Summary” for each municipality is provided as Attachment 1 to the “Existing Conditions Technical Memorandum” provided in **Appendix C**.

Table 2-2. Existing MS4 Permit Compliance – Ledyard

Control Measure	Compliance
1 - Public Education and Outreach	Proactive
2 - Public Participation and Involvement	Proactive
3 - Illicit Discharge Detection and Elimination	Average
4 - Construction Site Stormwater Runoff Control	Proactive
5 - Post Construction Stormwater Management	Average
6 - Pollution Prevention/Good Housekeeping	Average
Outfall Monitoring	Average
Summary/Total	Average

Table 2-3. Existing MS4 Permit Compliance – Stonington

Control Measure	Compliance
1 - Public Education and Outreach	Average
2 - Public Participation and Involvement	Average
3 - Illicit Discharge Detection and Elimination	Average
4 - Construction Site Stormwater Runoff Control	Average
5 - Post Construction Stormwater Management	Below Average
6 - Pollution Prevention/Good Housekeeping	Average
Outfall Monitoring	Average
Summary/Total	Average

Table 2-4. Existing MS4 Permit Compliance – Waterford

Control Measure	Compliance
1 - Public Education and Outreach	Average
2 - Public Participation and Involvement	Proactive
3 - Illicit Discharge Detection and Elimination	Below Average
4 - Construction Site Stormwater Runoff Control	Average
5 - Post Construction Stormwater Management	Average
6 - Pollution Prevention/Good Housekeeping	Below Average
Outfall Monitoring	Below Average
Summary/Total	Average

2.2.3 Operations and Maintenance

During the interviews, each municipality provided information relative to their O&M activities. Based on this information, the results of the respective Stormwater Checklist, and review of the municipality's Annual Budget, each municipality was evaluated with respect to compliance and rated on the same four level ranking in comparison with industry standard in Connecticut and New England. All four municipalities were ranked either "Average" or "Proactive" with respect to their respective O&M programs.

2.2.4 Capital Improvements Program

The same approach was used with the evaluation of each municipality's CIP. Based on discussions with each municipality and review of the municipality's Annual Budget, the same four level

ranking was used to evaluate their stormwater CIP program and the ranking ranged from “Below Average” to “Proactive.”

2.2.5 Program Management

As presented at the beginning of Section 2, program management includes master planning, complaint response, and development review. Based on the interviews and as presented on the Stormwater Checklists, most of the municipalities scored an “Average” compliance rating for their program management, with Waterford scoring a “Below Average” for their compliance rating.

2.3 Summary of Municipality Stormwater Compliance Ratings

Table 2-5 summarizes the results of the compliance ratings evaluation for all four of the stormwater management program components.

Table 2-5. Compliance Ratings Summary

	Preston	Ledyard	Stonington	Waterford	Combined
Municipality Data					
Population	4,788	15,413	18,335	19,571	58,107
Area (sq. miles)	31.3	38.2	38.7	32.8	141
Existing Compliance					
MS4 Compliance	Not Applicable	Average	Average	Average	Average
O&M	Average	Proactive	Proactive	Average	Average
CIP	None Identified	Average	Proactive	None Identified	Average
Program Management	Average	Average	Average	Below	Average
Overall	Average	Average	Proactive	Below	Average

Supporting documentation for the rating for each component for each municipality is provided in **Appendix C**.

2.4 Summary of Current Municipality Stormwater Program Costs

CDM Smith evaluated the costs associated with each municipality’s stormwater activities including MS4 requirements, O&M, stormwater CIP, and administrative activities. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs. CDM Smith also asked each municipality to estimate their staff and equipment needs to meet what the municipality perceives as their current stormwater program gap. CDM Smith used this information to estimate a cost associated with the municipality “perceived gap” in stormwater services.

Table 2-6 presents the total annual current costs for stormwater activities. In addition to current costs, Table 2-6 contains estimated costs for staff and equipment necessary to address the municipality’s stormwater needs as identified by the municipality (“Perceived Gap”). Both costs are presented in Table 2-6 and in Appendix C.

Table 2-6. Stormwater Program Costs Summary

	Preston	Ledyard	Stonington	Waterford	Combined
Municipality Data					
Population	4,788	15,413	18,335	19,571	58,107
Area (sq. miles)	31.3	38.2	38.7	32.8	141
Stormwater Program Costs					
Existing Costs	\$197,200	\$397,600	\$774,600	\$752,600	\$2,122,000
Per Capita Cost	\$41	\$26	\$42	\$38	\$37
Municipality Perceived Gap	\$175,400	\$115,200	\$146,700	\$134,100	\$571,400
Existing Costs with Municipality Perceived Gap	\$372,600	\$512,800	\$921,300	\$886,700	\$2,693,400
Per Capita with Perceived Gap	\$78	\$33	\$50	\$45	\$46

Attachment 2 of the “Existing Conditions Technical Memorandum” in **Appendix C** contains cost calculations based on the Town budgets and input from each municipality.

Section 3

Stormwater Utility Rate Structure Alternatives

Based on data developed by the Western Kentucky University School of Engineering and Applied Sciences 2022 Stormwater Utility Survey, there are a total of 44 stormwater utilities in New England: 22 in Massachusetts, five in Maine, two in Connecticut, and none in either Rhode Island or New Hampshire. New England has been a relatively late adopter of stormwater utilities with the first real utility established in 1998 and then not again until 2006. In contrast, Boulder, Colorado established its utility in the early 1970's and many states have over 100 stormwater utilities in place.

Rate structures of New England utilities are nearly all based on some measure of impervious area, using actual impervious area, an Equivalent Residential Unit (ERU) structure, or a tiered structure. Monthly fees range from \$1.50 per ERU per month to a reported \$33 per ERU per month. The smallest community in New England to report a stormwater utility has a population of 8,500 and the largest is nearly 100,000.

It appears that most New England utilities bill all properties, taxable and tax-exempt including municipal, for compliance with relevant state and case law to confirm the charge is treated as a fee not a tax. Finally, most New England utilities appear to offer some credit (i.e., reduction in fee based upon the implementation of on-site stormwater best management practices), but the value and purpose varies significantly.

Nationwide, there are many stormwater utilities with a population fewer than 5,000 (like those in this study) including a significant number that have populations below 1,000. Utilities also exist nationwide in communities of high density, such as large cities, and low density, such as suburban and rural areas like the four municipalities in this study. According to the Western Kentucky survey, average monthly single-family residential fee is \$6.01 while the median monthly fee is \$5.00. The quartile fees from the study are: 25% - \$3.00 and 75% - \$7.34 for an interquartile range of \$4.34. As a point of reference, the monthly stormwater fee in New London is \$7.50 per 1,000 square feet of impervious area.

The purpose of this section is to discuss the alternative stormwater utility rate structures appropriate for consideration by the municipalities based on CDM Smith's review of each municipality's programs, GIS data, land use characteristics, and available billing methods. The section also concludes with suggestions for a path forward regarding rate structure options.

3.1 Parcel Data

For the purposes of this section, parcel specific information was obtained and evaluated by CDM Smith. Connecticut's Regional Councils of Governments (COGs) collect digital parcel files and standardized property assessment data (CAMA) from each of their member municipalities. CDM Smith acquired these data for each of the four municipalities from the State of Connecticut Office of Policy and Management website (<https://portal.ct.gov/OPM/IGPP/ORG/GIS2/Parcel-Data/Parcel-Data>). Using land use code information within the CAMA data, CDM Smith developed

summary tables of the parcel information for each municipality, showing the breakdown within specific land use types.

Additionally, CDM Smith also acquired GIS information of impervious areas associated with the parcels, as published by the University of Connecticut Environmental Conditions Online UConn/DEEP. The data were developed in 2012, which is sufficient for this analysis in the feasibility study but will need to be updated if a stormwater utility is implemented. Development of a similar dataset representing current conditions would be appropriate or digitizing of impervious areas for parcels developed since 2012 would need to be completed for each of the participating municipalities.

Using ArcGIS, CDM Smith assigned an impervious area to each parcel across the four municipalities to assess the amount of impervious area that would form the basis of a stormwater utility. This approach provides the foundation for potential rate estimates in Section 4.

The parcel breakdowns and associated impervious areas are provided in Tables 3-1 through 3-4 for each of the municipalities. Included in these tables are an estimate of the Billing Units for the rate structures considered in Section 3.2 below.

Table 3-1. Ledyard Parcel and Impervious Area Information

Land Use Type	Parcel Count	% of Total Parcels	Impervious Area	% of Total Impervious Area	Average Per Parcel	Billing Units
Residential						
Single Family	4,658	85%	21,009,825	47.4%	4,510	4,658
Vacant – Developable	85	2%	361,355	0.8%	4,251	99
Mobile Home	53	1%	160,693	0.4%	3,032	44
Vacant – Non-Developable	37	1%	49,399	0.1%	1,335	14
Two Family	29	1%	312,252	0.7%	10,767	86
Multi Houses One Parcel	22	0%	214,767	0.5%	9,762	59
Three Family	2	0%	2,605	0.0%	1,303	1
Non-Residential						
Non-Residential	607	11%	17,046,942	43.5%	28,084	4,670
Grand Total	5,493		39,157,838		N/A	9,630

Note: Impervious area associated with the Foxwoods Resort Casino and surrounding properties were excluded from this evaluation assuming they would unlikely be billed under a stormwater utility funding program.

Table 3-2. Preston Parcel and Impervious Area Information

Land Use Type	Parcel Count	% of Total Parcels	Impervious Area	% of Total Impervious Area	Average Per Parcel	Billing Units
Residential						
Single Family	1,861	76%	11,038,820	58.3%	5,932	1,861
Vacant – Developable	172	7%	176,685	0.9%	1,027	38
Vacant – Non-Developable	31	1%	7,051	0.0%	227	2
Two Family	27	1%	303,457	1.6%	11,239	66
Mobile Home	14	1%	46,576	0.2%	3,327	10
Multi Houses One Parcel	4	0%	51,336	0.3%	12,833.98	11
Three Family	3	0%	19,988	0.1%	6,663	4
Non-Residential						
Non-Residential	341	14%	7,297,964	38.5%	21,402	1,577
Grand Total	2,453	100%	18,941,878	100%	N/A	3,569

Table 3-3. Stonington Parcel and Impervious Area Information

Land Use Type	Parcel Count	% of Total Parcels	Impervious Area	% of Total Impervious Area	Average Per Parcel	Billing Units
Residential						
Single Family	6,886	78%	27,796,762	49.9%	4,037	6,886
Two Family	383	4%	1,301,171	2.3%	3,397	388
Vacant – Non-Developable	216	2%	37,510	0.1%	174	11
Multi Houses One Parcel	96	1%	942,506	1.7%	9,818	281
Vacant – Developable	75	1%	151,907	0.3%	2,025	45
Three Family	24	0%	88,812	0.2%	3,701	26
Non-Residential						
Non-Residential	1,165	13%	25,349,036	45.5%	21,759	7,558
Grand Total	8,845	100%	55,667,704	100%	N/A	15,196

Table 3-4. Waterford Parcel and Impervious Area Information

Land Use Type	Parcel Count	% of Total Parcels	Impervious Area	% of Total Impervious Area	Average Per Parcel	Billing Units
Residential						
Single Family	7,797	90%	30,508,105	54.2%	3,913	7,797
Condo	64	1%	220,462	0.4%	3,445	68
Three Family	14	0%	26,402	0.0%	1,886	8
Mobile Home	11	0%	42,204	0.1%	3,837	13
Two Family	3	0%	19,145	0.0%	6,382	6
Non-Residential						
Non-Residential	799	9%	25,514,834	45.3%	31,933	7,919
Grand Total	8,688	100%	56,331,152	100%	N/A	15,812

3.2 Residential Rate Structures

Based on a review of the available data, CDM Smith identified two feasible stormwater utility rate options for the four participating municipalities to consider: 1) Single Family Unit and 2) Actual Impervious Area. These two approaches were chosen based on the predominate existence of single-family homes across each data set and the availability of impervious area measurements for all parcels. Additional rate structures may be considered in future phases should implementation be deemed appropriate for the municipalities. For example, a more robust analysis of the single-family units could justify the need for tiered rates within the single-family class of parcels. The following subsections describe these two methods.

3.2.1 Single Family Unit

Stormwater utilities are generally based on developed parcels (i.e., parcels that have impervious area on them). To provide an equitable measure of impervious areas for both residential and non-residential developed parcels, stormwater utilities have used an “equivalent unit” to measure the impervious areas by a uniform billing unit. This unit is typically called an “equivalent runoff unit” and is based on a measure of either a mixture of all residential parcels (typically referred to as an ERU) or a sampling of single-family parcels alone.

Like other types of utilities, the equivalent runoff unit for a stormwater utility is the representative amount of runoff contribution of a fee payer compared to a typical residential unit. In other words, the residential unit is the billing unit for the utility fee. If a municipality wants to use actual impervious area for their billing unit, then the tracking and billing requirements significantly increase. A municipality can be more equitable by measuring all residential properties, but then must track and maintain that data in perpetuity to maintain that equity. So, if a resident adds a room, builds a pool, etc., the municipality will need to track and change their fee. With a proxy unit, there is always just 1 unit used for billing.

Based on a review of the data summarized in Section 3.1, single-family units (SFU) make up the predominant residential land use in the four municipalities. Also, limited information is available to determine the dwelling unit counts of the multi-family land uses that would be required to fully evaluate an ERU based on all residential types. Therefore, the SFU was selected for this evaluation to illustrate the potential rates and bills that customers may face.

As expected by the name, a SFU is defined as the average or median impervious area for single-family units within the municipality. Typically, the median is used to determine the SFU as it represents the typical residential home and removes the influence on the average by overly large or very small properties. CDM Smith performed a statistical evaluation of the single-family properties in each municipality to determine the median value for each, as summarized in Table 3-5. This median value was then used as the basis to estimate the number of billing units for each municipality by dividing the total impervious area within each category listed in the tables in Section 3.1 by the median value for the municipality.

Table 3-5. Summary of Median Single-Family Unit for Each Municipality

Municipality	Base (sq. ft.)
Ledyard	3,650
Preston	4,627
Stonington	3,355
Waterford	3,222

It was recognized that the SFU value for Preston was higher than those of the adjacent municipality, which prompted further review to confirm the results. It was determined that Preston has many rural, single-family homes with long driveways that resulted in increased impervious area measurements as compared to typical, suburban single-family homes and thus is the reason for the higher value. This is an example of the uniqueness of a potential rate structure for each community.

If a stormwater utility were determined to be the best approach for generating revenue to fund these municipality stormwater programs, a detailed, statistically significant sampling of each residential type would be suggested to confirm these numbers. For example, whereas the SFU rate structure means that all single-family homes will be charged one base rate, other types of dwelling units may pay more or less than 1 unit based on a comparison to their size versus the typical single-family home.

3.2.2 Actual Impervious Area

As noted, most stormwater utility rate structures are based on an equivalent unit method. However, with the availability of datasets like the UCONN impervious area layer that was used for this evaluation, it is possible to consider a rate structure where all parcels are charged a unique amount based on the actual, measured impervious area on the parcels. For such a rate structure, parcels are typically assigned a fee based on its exact impervious area, measured in units of 100 or 1,000 square feet of impervious area on the parcel. This method is feasible to implement for the four participating municipalities based on the availability of the existing impervious area layer, although updates for parcels developed since 2012 will need to be executed. The advantage of this approach is improved equity in that each parcel would be billed based on its measured impervious area, unlike the SFU method which assumes all single-family homes are statistically similar. However, the disadvantage of this approach is that changes in impervious area for all parcels must be tracked over time, which can be an administrative burden on staff.

3.3 Non-Residential Rates

Non-residential customer fees for adopted stormwater utilities are commonly related to the measured impervious area of the property. That is, utilities charge non-residential customers a fee based on the measured impervious area when compared to the impervious area of a typical residential parcel (either the median single-family property or the median of all residential properties). For example, if a property has 10 times the impervious area of the median residential property, then the property will be charged 10 times the base fee of the residential property.

3.4 Suggested Rate Structure

While both the proposed rate structure methodologies are feasible, CDM Smith suggests use of the SFU method for charging residential customers and measured impervious area for non-residential customers. The primary advantage of this suggested rate structure is the reduced administrative burden for maintaining the billing database since most of the parcels are residential and need only be assigned a charge of 1 SFU. Small changes in impervious area on the lot (such as construction of a patio, expanded driveway, etc.) would not impact the parcel fee. The impervious area on all non-residential properties would need to be measured under this approach, but the UCONN GIS data already includes most of these measurements (through 2012). During implementation, properties constructed after 2012 would need to be measured. Also, it is suggested that a robust statistical analysis be performed on the single-family parcels to confirm the SFU preliminary estimate provided in this report and to determine if a tiered approach to single-family parcels is justified. Under a tiered approach, larger residential properties (such as the top 10%) would pay a higher rate and smaller residential properties (such as the bottom 10%) would pay a lower rate as compared to the median single-family home.

Section 4

Rate and Financial Projections

Based on the information provided in Sections 2 and 3 of this report, it has been estimated how typical customer bills will change over time. The review process has projected future expenditures based on current programmatic efforts and expenditures, anticipated increases to improve the quality of service, and anticipated capital improvements. The details for the current and anticipated expenditures are described in detail in Section 2. The projected total expenditures are then divided by the total estimated number of billing units from Section 3 to calculate a rate, and to show how the rate and typical single-family residential bill will change as the level of expenditures increases.

The projections contained herein are preliminary planning-level estimates to facilitate stakeholder's assessment of the financial impacts of implementing a stormwater utility. These projections and the data/estimates that were used to create them are not sufficient to be used for actual billing given the need for more current and accurate impervious area data (currently based on UCONN 2012 data sets) to ensure the defensibility of billings.

4.1 Methodology and Assumptions

The following process was used to develop these projections:

- A financial projection model was developed to estimate costs and rates over a ten-year period.
- Current expenses were inserted into the model for each entity with an assumption that they were complete fiscal year (FY) 2023 expenditures and that the utility for each entity would take effect at the start of FY 2024.
- The enhanced expenditures identified in Section 2 were phased in starting in FY 2023 and spread over a two- to five-year period depending on the magnitude relative to the current level of expenditures.
- Identified capital improvements were classified as pay-go or borrowing. Pay-go projects were included in the annual revenue requirements for each municipality. Those slated for borrowing were assumed to be included in a conventional bond issue from the respective municipality.

Given the planning-level nature of these projections, a common set of assumptions were used for all four municipalities. Key assumptions include:

- The number of billing units is based on the evaluation described in Section 3 and that number is assumed to remain constant over the forecast period.
- Current and anticipated expenditures are inflated each year. Operating expenses are inflated at 6.5% annual rate (based on current available rate information) through FY 2024 and 3% for each subsequent year.

- Current and anticipated capital expenditures are inflated at 6.5% annual rate through FY 2024 and 4% for each subsequent year.
- Debt service on any projects assumed to be debt financed are based on a 20-year term, 4% annual interest rate and level debt payment structure.
- Each entity is assumed to implement the utility effective the start of FY 2024.

4.2 Preliminary Results

The following subsections present the summary results for each community.

4.2.1 Ledyard

Table 4-1 presents the summary projections for Ledyard for FY 2023 through FY 2028. It should be noted that Ledyard reported that they are performing catch basin cleaning but did not provide that cost separately. So, it is included in the salaries and Materials/O&M costs under Existing Costs. An allowance has also been provided for a Stormwater Master Plan to be conducted in FY 2024 and FY 2025. The master plan would identify, on a consistent and holistic basis, the required capital improvements.

Table 4-1. Ledyard Implementation Projections

	2023	2024	2025	2026	2027	2028
Existing Costs						
Salaries	\$243,860	\$258,500	\$274,000	\$282,200	\$290,700	\$299,400
Materials/O&M	\$60,560	\$64,200	\$68,100	\$70,100	\$72,200	\$74,400
Catch Basin Cleaning	-	-	-	-	-	-
Total Existing Costs	\$304,420	\$322,700	\$342,100	352,300	\$362,900	\$373,800
Additional Costs						
Salaries/OH/Benefits	\$0	\$60,000	\$120,000	\$127,200	\$131,000	\$134,900
Future MS4 Permit Costs	\$0	\$0	\$0	\$0	\$0	\$0
SW Master Plan	\$0	\$50,000	\$50,000	\$0	\$0	\$0
Total Anticipated Costs	-	\$110,000	\$170,000	\$127,200	\$131,000	\$134,900
Capital Costs						
Pay Go	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Costs	-	-	-	-	-	-
Total Expenses	\$304,420	\$432,700	\$512,100	\$479,500	\$493,900	\$508,700
Number of Billing Units	9,630	9,630	9,630	9,630	9,630	9,630
SFU Annual Billing Rate	\$31.61	\$44.93	\$53.18	\$49.79	\$51.29	\$52.82
Quarterly Billing Rate	\$7.90	\$11.23	\$13.29	\$12.45	\$12.82	\$13.21
Monthly Billing Rate	\$2.63	\$3.74	\$4.43	\$4.15	\$4.27	\$4.40

As can be seen, Ledyard's total expenses are projected to increase from approximately \$304,000 in FY 2023 to nearly \$509,000 by FY 2028. Ledyard did not identify any capital projects that it believes it needs to undertake to address system requirements; however, these projections include an allowance for a master plan to systematically evaluate the system needs. The primary

source of the increase is the additional stormwater staffing that Ledyard has identified. Ledyard did not identify the need for a Stormwater Master Plan.

The monthly billing rate per SFU is projected to increase from \$2.63 to \$4.40 by FY 2028. By FY 2033, total expenses are projected to increase to approximately \$433,000. This increase is the result of annual inflation in operating expense costs. The user rate is projected to be nearly \$5.00 in FY 2032.

4.2.2 Preston

Table 4-2 presents the summary projections for Preston for FY 2023 through FY 2028. To provide a common basis for comparison for future costs, it is assumed that Preston will be included in the next MS4 Permit, which is highly likely based on DEEP previous MS4 Permits (2004 and 2017). The content, issuance date, and information on the new DEEP MS4 Permit for the upcoming term is currently unknown. Preston had not identified any capital improvements; these projections include an allowance for a Stormwater Master Plan that would provide a systematic holistic evaluation of potential capital improvements.

Table 4-2. Preston Implementation Projections

	2023	2024	2025	2026	2027	2028
Existing Costs						
Salaries	\$62,000	\$65,700	\$69,600	\$71,700	\$73,900	\$76,100
Materials/O&M	\$50,225	\$53,200	\$56,400	\$58,100	\$59,800	\$61,600
Catch Basin Cleaning	\$85,000	\$110,100	\$146,700	\$176,100	\$181,400	\$186,800
Total Existing Costs	\$197,225	\$229,000	\$272,700	\$305,900	\$315,100	\$324,500
Additional Costs						
Salaries/OH/Benefits	\$0	\$50,000	\$100,000	\$175,000	\$180,300	\$185,700
Future MS4 Permit Costs	\$0	\$20,000	\$30,600	\$52,400	\$54,000	\$55,600
SW Master Plan	\$0	\$50,000	\$50,000	\$0	\$0	\$0
Total Anticipated Costs	-	\$120,000	\$180,600	\$227,400	\$234,300	\$241,300
Capital Costs						
Pay Go	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Costs	-	-	-	-	-	-
Total Expenses	\$197,225	\$349,000	\$453,300	\$533,300	\$549,400	\$565,800
Number of Billing Units	3,569	3,569	3,569	3,569	3,569	3,569
SFU Annual Billing Rate	\$55.26	\$97.79	\$127.01	\$149.43	\$153.94	\$158.53
Quarterly Billing Rate	\$13.82	\$24.45	\$31.75	\$37.36	\$38.48	\$39.63
Monthly Billing Rate	\$4.61	\$8.15	\$10.58	\$12.45	\$12.83	\$13.21

As can be seen, Preston's total expenses are projected to increase from approximately \$197,000 in FY 2023 to nearly \$566,000 by FY 2028. Preston did not identify any capital projects that it believes it needs to undertake to address system requirements. The primary source of the increase is the additional stormwater staffing that Preston has identified, plus the need to implement several programs to comply with future, anticipated MS4 Permit requirements. As

noted, these cost estimates include an allowance for a master plan to identify potential system improvements.

The projected monthly billing rate per SFU is projected to increase from \$4.61 to \$13.21 by FY 2028. By FY 2033, total expenses are projected to increase to approximately \$656,000. This increase is the result of annual inflation in operating expense costs. The projected user rate is projected to be over \$15 in FY 2033.

4.2.3 Stonington

Table 4-3 presents the summary projections for Stonington for FY 2023 through FY 2028. These projections include an allowance for a Stormwater Master Plan to identify the system capital improvement needs systematically and holistically.

Table 4-3. Stonington Implementation Projections

	2023	2024	2025	2026	2027	2028
Existing Costs						
Salaries	\$488,621	\$517,900	\$549,000	\$565,500	\$582,500	\$600,000
Materials/O&M	\$183,000	\$194,000	\$205,600	\$211,800	\$218,200	\$224,700
Catch Basin Cleaning	\$50,000	\$53,000	\$56,200	\$57,900	\$59,600	\$61,400
Total Existing Costs	\$721,621	\$764,900	\$810,800	\$835,200	\$860,300	\$886,100
Additional Costs						
Salaries/OH/Benefits	\$0	\$25,000	\$42,000	\$43,300	\$44,600	\$45,900
Future MS4 Permit Costs	\$0	\$30,000	\$75,000	\$75,000	\$0	\$0
SW Master Plan	\$0	\$75,000	\$75,000	\$0	\$0	\$0
Total Anticipated Costs	-	\$130,000	\$192,000	\$118,300	\$44,600	\$45,900
Capital Costs						
Pay Go	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Debt Service	\$18,400	\$18,400	\$18,400	\$18,400	\$18,400	\$18,400
Total Capital Costs	\$118,400	\$118,400	\$118,400	\$118,400	\$118,400	\$118,400
Total Expenses	\$840,021	\$1,013,300	\$1,121,200	\$1,071,900	\$1,023,300	\$1,050,400
Number of Billing Units	15,196	15,196	15,196	15,196	15,196	15,196
SFU Annual Billing Rate	\$55.28	\$66.68	\$73.78	\$70.54	\$67.34	\$69.12
Quarterly Billing Rate	\$13.82	\$16.67	\$18.45	\$17.63	\$16.84	\$17.68
Monthly Billing Rate	\$4.61	\$5.56	\$6.15	\$5.88	\$5.61	\$5.76

Stonington's total expenses are projected to increase from approximately \$840,000 in FY 2023 to over \$1.05 million by FY 2028. The primary causes of the increase are the additional stormwater staffing that Stonington has identified, plus the need to replace some critical vehicles and equipment. Stonington is assumed to undertake a significant capital project in FY 2023, with the debt service carried for the entire forecast period.

The projected monthly billing rate per single family unit is projected to increase from \$4.61 to \$5.76 by FY 2028. By FY 2033, total expenses are projected to increase to approximately \$1.6 million. This increase is the result of annual inflation in operating expense costs. The user rate is projected to be nearly \$7.00 by FY 2033.

4.2.4 Waterford

Table 4-4 presents the Waterford summary projections for FY 2023 through FY 2028. These projections include an allowance for a Stormwater Master Plan to assess the needs systematically and holistically for capital improvements.

Table 4-4. Waterford Implementation Projections

	2023	2024	2025	2026	2027	2028
Existing Costs						
Salaries	\$556,200	\$589,600	\$625,000	\$643,800	\$663,100	\$683,000
Materials/O&M	\$208,500	\$221,000	\$234,300	\$241,300	\$248,500	\$256,000
Catch Basin Cleaning	-	-	-	-	-	-
Total Existing Costs	\$764,700	\$810,600	\$859,300	\$885,100	\$911,600	\$939,000
Additional Costs						
Salaries/OH/Benefits	\$0	\$70,000	\$135,000	\$140,400	\$144,600	\$148,900
Future MS4 Permit Costs	\$0	\$40,000	\$80,000	\$120,000	\$123,600	\$127,300
SW Master Plan	\$0	\$75,000	\$75,000	\$0	\$0	\$0
Total Anticipated Costs	-	\$185,000	\$290,000	\$260,400	\$268,200	\$276,200
Capital Costs						
Pay Go	\$39,500	\$39,500	\$39,500	\$39,500	\$0	\$0
Debt Service	\$18,400	\$18,400	18,400	18,400	18,400	18,400
Total Capital Costs	\$57,900	\$57,900	\$57,900	\$57,900	\$18,400	\$18,400
Total Expenses	\$822,600	\$1,053,500	\$1,207,200	\$1,203,400	\$1,198,200	\$1,233,600
Number of Billing Units	15, 812	15, 812	15, 812	15, 812	15, 812	15, 812
SFU Annual Billing Rate	\$52.02	\$66.63	\$76.35	\$76.11	\$75.78	\$78.02
Quarterly Billing Rate	\$13.01	\$16.66	\$19.09	\$18.94	\$19.50	\$20.08
Monthly Billing Rate	\$4.34	\$5.55	\$6.36	\$6.34	\$6.31	\$6.50

Waterford's total expenses are projected to increase from approximately \$823,000 in FY 2023 to over \$1.2 million by FY 2028. The primary causes of the increase are the additional stormwater staffing that Waterford has identified, plus an increased expenditure level for retrofit projects.

The projected monthly billing rate per SFU is projected to increase from \$4.34 to \$6.50 by FY 2028. By FY 2033, total expenses are projected to increase to approximately \$1.4 million. This increase is the result of annual inflation in operating expense costs. The user rate is projected to be nearly \$7.52 by FY 2033.

4.3 Stormwater Fee Credit Considerations

As utilities are formed, most utilities throughout the country offer discounts or credits for stormwater fees if a property owner implements stormwater BMPs on-site, which reduce the runoff burden of the property on the utility system. Generally, these credits reduce the amount collected by less than 3%. As the SCCOG municipalities move towards implementation, each will need to determine whether it wishes to offer credits to property owners that take such action. For example, the municipality may offer a partial credit for parcels that have invested in retention/detention facilities more than what they were required to do to develop the property.

The community may want to offer a credit to properties that do not discharge to the municipal system. However, many communities only offer a partial credit since runoff from such parcels and activities from that parcel do impact water quality.

4.4 General Conclusions

Based on the planning-level projections developed, each entity will be facing a moderate charge to residential customers that after the initial years will increase gradually at the anticipated rate of inflation. Under the assumptions used for these projections, each community is anticipated to comply with the requirements of the current MS4 Permit. Preston is assumed to implement the major cost-impacting programs that would be required under the MS4 Permit. The variation in the rate across the communities is primarily due to the differences in impervious area density and to a lesser extent the higher level of service proposed by several of the communities.

The implementation of a stormwater utility in any of the municipalities will shift how the burden is borne between residential and non-residential customers. Figure 4-1 shows the share of the burden projected to be borne by residential customers—single-family and multi-family if the estimated stormwater costs are raised through the property tax system versus a utility fee system as described herein. As can be seen for each of the municipalities, the total share borne by residential customers is materially higher if the expenditures are funded through the property tax system versus the utility fee. This reflects the proportionally higher share of residential property in the tax base and, also, under the tax system tax-exempt property, will not contribute to paying stormwater related costs.

Figure 4-1. Share of Stormwater Cost Borne by Residential Customers, Tax Basis vs Stormwater Utility (SWU)

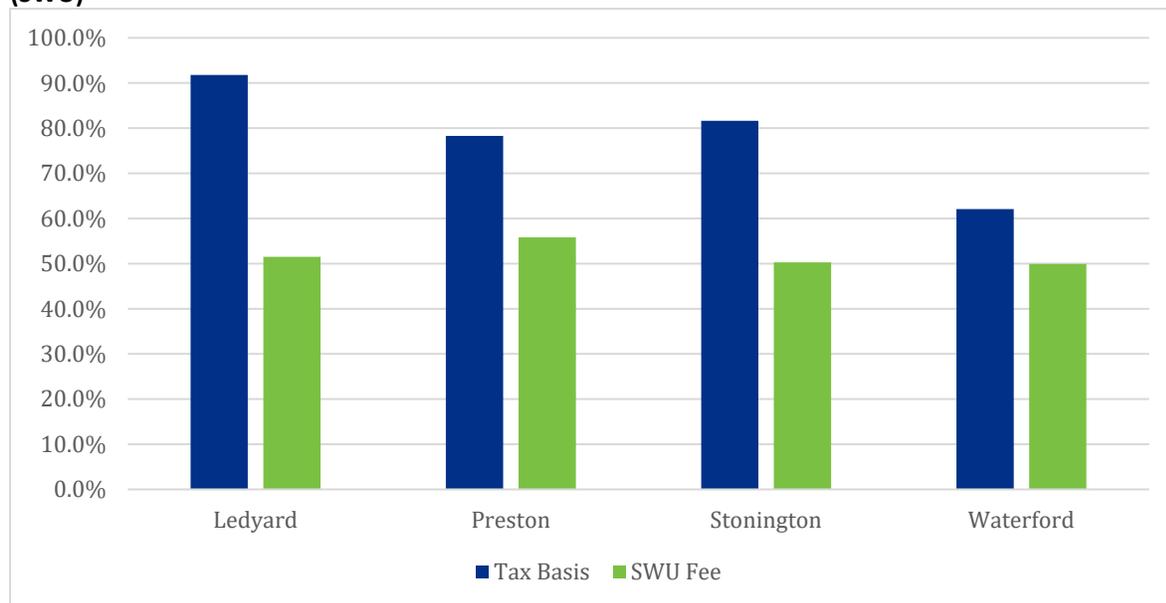
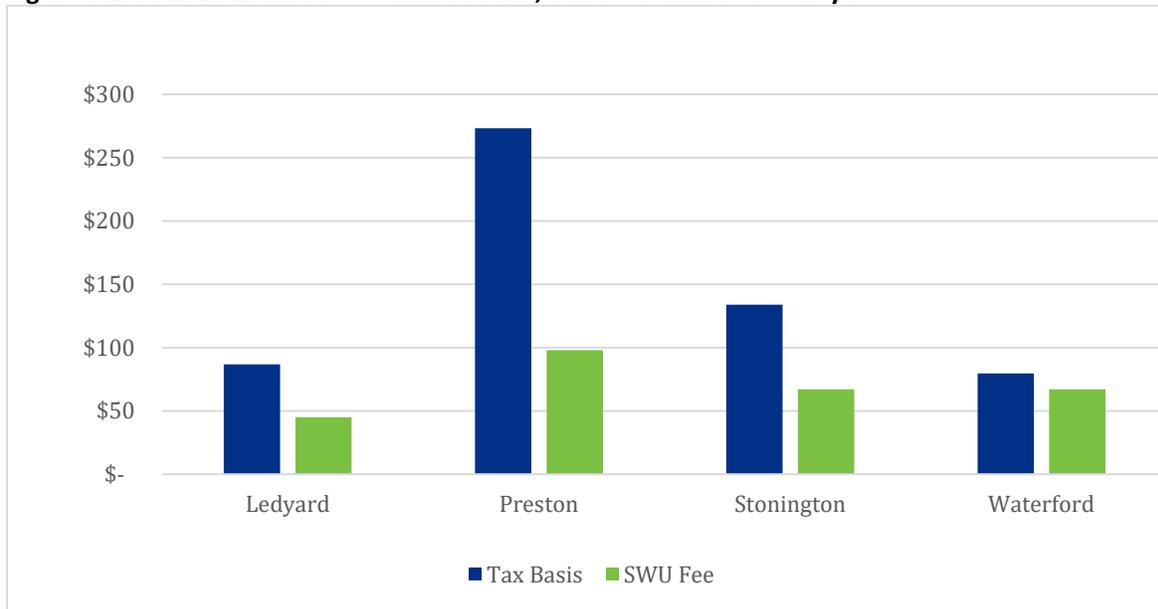


Figure 4-2 presents the projected FY 2024 bills for single-family properties under the tax basis versus the utility fee system. Like Figure 4-1, the amount single-family property owners under the fee is materially less than under the tax system.

Figure 4-2. FY 2024 Estimated Stormwater Bill, Tax vs Stormwater Utility Fee

Additional information on the 2,057 stormwater utilities nationally (and 62 in Canada) is presented in the “Western Kentucky University Stormwater Utility Survey 2022.” This document is on their website at https://digitalcommons.wku.edu/seas_faculty_pubs/6/ and provides information on fees, year created, population, ERU, and fee type.

Section 5

Billing System Analysis

5.1 Billing Options

One of the major decisions to make as part of stormwater utility implementation is how to bill the stormwater utility fee. To address this issue, this section provides a summary of the major elements of this decision. Three options considered are an existing utility bill, the Tax Assessor's bill, and a separate billing program.

5.2 Summary of Billing Discussions

CDM Smith interviewed each municipality to gather information on available, existing billing options to determine the suggested approach for each municipality. The following sections summarize the results of the meetings with each municipality.

5.2.1 Ledyard Billing Options

Current utility billing in Ledyard is performed by two separate water districts. Ledyard staff did not believe it would be feasible to attach a stormwater utility fee to any of these bills. However, Ledyard's Tax Assessor's office does send an annual bill to most parcels within the municipality (other than tax-exempt properties). Therefore, a stormwater utility fee could be associated with this billing approach to cover nearly all properties in the municipality. Tax-exempt properties would need to be identified and billed separately for their associated share of impervious areas. The billing is ultimately performed by a third party, but local staff generate the billing file and perform the collections. The Ledyard staff noted that the Tax Assessor's department has limited capacity to perform the additional billing of a stormwater utility fee so an additional Full Time Equivalent (FTE) in the department may be required to administer the new fee. The third option of creating a new billing program was discussed but determined to be administratively less desirable due to cost and collections concerns.

5.2.2 Preston Billing Options

Like Ledyard, all of Preston's major utility services such as water, sewer, gas, and electric are performed by outside entities not under the control of the municipality. Therefore, adding a new stormwater utility fee to outside provider bills is likely not feasible. However, Preston does have a Tax Assessor's office that performs billing for most properties in the municipality (aside from tax-exempt properties). Of the 2,500 parcels in Preston, approximately 35 are tax-exempt properties that do not currently receive a bill. It was determined that billing of the stormwater fee on/with the tax bill is the most feasible billing approach for Preston.

5.2.3 Stonington Billing Options

Water service within Stonington is provided by three different water providers, but Stonington does provide sewer billing. However, staff estimated that only about half of the parcels in the municipality receive a sewer bill. Therefore, billing through the Tax Assessor's office was also the most feasible option for the stormwater fee. Staff noted that the Tax Assessor also sends a fire

district bill, which is assessed on most properties in the municipality. The logistics of each approach would need to be further evaluated during implementation but billing via the Tax Assessor is suggested.

5.2.4 Waterford Billing Options

Sewer service in Waterford is provided via a three-town agreement; however, Waterford has limited control over how the sewer service billing is performed. Regarding water, billing is provided by Veolia (contractor for New London) via a bi-town agreement. Staff estimated that approximately 85% of the town is sewered and likely gets a bill. Therefore, billing via a sewer bill may be a viable option for Waterford. Like the others above, however, the best way to reach most of the customers will be via the Tax Assessor's bill. Staff noted that there is a limited number of tax-exempt properties in town that would not currently receive a bill.

5.2.5 Billing Software Options

As noted in previous subsections, none of the municipalities have a utility billing system in place that can accommodate stormwater utility bills. Generally, most municipal utility billing systems and enterprise resource plans are capable of issuing stormwater bills. The software must be able to link dynamically with Tax Assessor's records to identify property owners and current billing address and either read a billing data file or calculate bills based on impervious area information input into the software.

The challenge facing these municipalities is that the cost of acquiring and maintaining a utility billing system is high relative to the total dollars to be generated through the stormwater fee.

5.3 Summary of Billing Discussions

Based on the results of the interviews, CDM Smith suggests that each of the four municipalities consider associating the stormwater utility fee with the tax billing. The following summarizes the advantages and disadvantages of this approach:

The advantages are:

- The mechanism for billing is in place
- Tax bills are sent to most customers across each municipality
- The extra step to match the utility accounts to parcels is not required
- The initial set-up is less administratively complex

The disadvantages are:

- Revenue could not be collected until the taxes are paid (typically once or twice per year)
- Since it is associated with the tax bill, it has the appearance of a new tax (even though it is not)
- Separate billing would be required for tax-exempt properties since they do not currently receive a tax bill

Section 6

Study Findings and Implementation

The final section of this report represents a summary of the findings related to the stormwater management program review and the analysis of potential rates and revenue generated to support various program levels of service. In addition, this section includes suggestions for implementation of a fully funded stormwater utility program to replace and/or supplement the existing funding.

6.1 Stormwater Program Review Findings

CDM Smith performed an independent assessment of each municipality's stormwater management program to determine the current level of service of the program, to document existing resources used to support the current program, and to identify potential activities that could be implemented to increase the current level of service. The following is a summary of related findings:

- Resources allocated for the implementation of mandated, regulatory programs (aside from Preston, which is not a MS4 permittee yet) have allowed the municipalities to achieve minimum, regulatory compliance.
- Limited resources have prevented the municipalities from pursuing a proactive maintenance and repair program to improve the condition and effectiveness of the existing stormwater infrastructure. Current maintenance practices are performed on an as-needed or emergency basis in response to calls/complaints.
- Based on an independent evaluation of the existing stormwater programs and comparison to CDM Smith benchmarking information, most of the municipalities provide an average to below-average level of service for stormwater management. Services are generally provided on a reactionary basis due to lack of dedicated staff or resources.
- Activities such as stormwater system inventory development, proactive drainage system maintenance, and implementation of critical capital improvement projects would increase the municipality's levels of service.
- Municipality staff identified additional services to meet existing customer demands. CDM Smith also estimated the cost of providing a fully compliant MS4 permitting program. These additional services generate a gap in funding.

6.2 Alternative Funding Options Findings

There are two primary options to consider to meet the financial needs of the program, which includes increasing taxes or implementation of a stormwater utility fee. Stormwater utility fees, which are fully authorized by Connecticut state law, represent the most equitable approach for stormwater program funding as the fees paid by customers are related to the amount of runoff burden on the municipality systems. Meanwhile, a tax-based system has no correlation to the runoff generated by a priority and thus the burden placed upon the public system. Also, in a tax-

based system, properties that generate runoff are not paying into the system due to tax exempt status. This means that other properties in the community are subsidizing those properties that do not pay. Therefore, implementation of a stormwater utility funding program is preferred over a new tax due to the equity of the program.

Section 3 provides a summary of the data analysis performed to develop a rate structure that covers the financial needs of each municipality's programs. Since the predominant land use within the municipalities is single-family homes, the SFU method is preferred as the proposed approach for future consideration.

6.3 Ordinance Requirements

If a municipality elects to move forward with the stormwater utility, one of the items that it will be required to do is to adopt an ordinance that establishes the utility and then sets forth the basic structure. Depending on municipality practice, this ordinance may include the actual rate provisions. **Appendix D** includes sample utility ordinances from New Britain, CT; New London, CT; Fall River, MA; and Lewiston, ME. There are differences in each depending on the requirements of state law, as well as local practice. The rate ordinance(s) should include the following:

- Clear statement of the authorizing authority to create a stormwater utility with references to the relevant state law
- Clear statement that the utility will be an enterprise fund consistent with the requirements for state law an enterprise fund
- Description of the purpose of the utility and when the utility and the stormwater charge will take effect
- Description of the rate structure—what properties will be billed and the basis for billing those properties (e.g., flat rate, actual impervious area, equivalent residential unit including the size of the ERU, etc.)
- Amount to be charged to properties and the frequency of billing, depending on community practice
- Credit policies and description of what actions by a property owner may potentially make them eligible for a credit
- Notice or description of the appeal process that customers who believe they have not been charged appropriately can utilize to challenge bills

As each municipality develops its ordinance, it will need to give due consideration to the final two items listed above. The following discussion highlights some of the considerations related to credit policies and review/appeal processes.

6.3.1 Credit Policies and Requirements

To ensure the equity of the utility and to provide customers an ability to control their bills, most stormwater utilities adopt credit policies that provide parcel owners incentives to undertake actions that benefit the public stormwater system. In Connecticut, the enabling legislation

requires communities that adopt stormwater utilities to include a policy for partial fee credits. Typically, credits are provided for some combination of these broad issues:

- **Stormwater Quantity Improvement.** This type of credit is granted to properties that reduce the volume of stormwater runoff leaving a property and entering the municipal stormwater system. Credits are typically only offered to properties with BMPs that exceed the local development requirements.
- **Stormwater Quality Improvement.** This type of credit is granted to properties that take actions, beyond what they are required to do to develop property that lessen the adverse water quality impact of stormwater on the municipal system and the receiving waters. For example, retention ponds that reduce the solids contained in the stormwater might be granted a credit.
- **Stormwater Impact Fee Credit.** Some utilities will provide a credit if a parcel owner can demonstrate that portions of the subject parcel do not impact the municipality’s stormwater infrastructure. Connecticut law includes a requirement to offer such a credit, defined as “disconnecting” a portion of the property from the system.

Other potential credit opportunities may include:

- **NPDES Industrial Permit Holder Credit.** This credit may be offered to industrial properties that are regulated by the State for stormwater discharges.
- **Education Credit.** This type of credit may be offered to education agencies that provide relevant stormwater pollution education programs in classrooms.

In developing credits, each of the municipalities will need to make the following determinations:

- **How much should the maximum credit be?** In CDM Smith’s experience, credits are typically provided up to 50% or, less frequently, 70% of the fee. Even if a parcel is mitigating a significant portion of the adverse impacts of stormwater from the parcel, the public system still must maintain an administrative program, comply with State-mandated regulatory requirements, and address water quality impacts from the system, including vehicular traffic that leaves and enters each parcel, and ensure sufficient capacity to handle the volume of stormwater. The establishment of the credit ceiling is often aligned with the typical allocation of program spending. For example, if annual spending on administration and regulatory compliance is 25% of the total program budget, then the maximum credit a property owner may receive can align with the remaining program spending for O&M and capital projects (75% cap).
- **What parcels are eligible for credits?** State law requires that partial fee reduction opportunities are offered to “any property owner.” If credits are to be offered to single-family or small residential properties, it is suggested that these credits be smaller in comparison to large commercial properties, which have a bigger impact on the system. Additionally, compliance requirements for residential properties should be less, to reduce the potential administrative burden on municipal staff to track residential credits.
- **How long is the credit in effect and how will compliance be monitored?** Certain credits, such as those related to stormwater quality improvement, typically are related to

some physical infrastructure that requires periodic maintenance. Therefore, with those types of credits, the municipality typically will grant the credit for a limited period, generally 1 to 3 years. Then, for the credit to be renewed, either the municipality or the property owner must inspect and certify the performance of the facility. In those cases where the property owner may provide the certification, it generally requires an independent licensed engineer, or similar, to certify that the facility has been maintained and is operating properly.

- **What is the review, approval, and appeal process for credits?** Each municipality will need to designate an entity within the municipality to develop credit applications, as well as review each application and determine appropriateness. Each municipality will also need an appeal process, so that parcel owners can appeal unfavorable decisions. Typically, the review and approval process is handled by the Department of Public Works or Utility Department, in combination with the Finance/Billing staff. The appeal process is typically tied to the overall billing process.

6.3.2 Utility Billing and Appeal Processes

Stormwater billing is like other municipal billing systems. Erroneous bills are possible, so it is critical that a process be established for customers to make inquiries about bills that they believe are incorrect. And, if they do not believe that the initial review is appropriate, to appeal the bill and have some adjudication of their complaint.

Customers who believe they have been billed incorrectly may request a modification to the bill. Bills may be incorrect for a variety of reasons, some of which will depend on the details of the billing structure adopted by the municipality. The following are two common corrections:

- **Incorrect Land Use.** If a customer believes that it should be classified as a single-family or other residential class on a flat fee, they may challenge a bill that is based on actual impervious area. The municipal department will then need to research the appropriate land use code and determine if an error has been made.
- **Incorrect Impervious Area.** The most common perceived billing error relates to a customer that believes the municipality has misidentified the amount of impervious area. The following general procedures are suggested to determine the accuracy of the bill:
 - The municipal office can access the GIS system and describe to the customer the components of the parcel that are contributing to the calculation.
 - If the customer still believes the information is incorrect, the municipal office working with the Engineering/GIS staff will provide a parcel map to the customer and request the customer identify where the records are incorrect.
 - When the customer provides updated information, the municipality may elect to accept the information provided by the customer, dispatch staff to field-verify the information provided by the customer or to reject the information provided by the customer. If field staff are dispatched, they will provide a written memo summarizing their findings.
 - The customer will be informed of the determination.

- The customer will then have the option to accept the municipal determination or to appeal the decision. All such appeals will be heard in a formal quasi-judicial proceeding conducted by the Office of the City Administrator.
- If a customer remains unsatisfied at that point, the customer may seek redress through the court system.

The municipality will need to establish a policy establishing the retroactive period for bill corrections. The municipality will also need to establish a policy for how quickly it will refund customer over-payments if an appeal is successful.

As noted, the municipality will also need to establish a quasi-judicial process for customers to appeal determinations by the staff. In most cases, municipalities, in developing a stormwater bill appeal process, have followed processes that are already in place for other utility or tax payments. These processes also are typically used to allow customers to appeal adverse decisions on credit applications.

The primary elements of an appeal process are as follows:

- Customers are provided a written determination of their bill appeal by the municipal department that has received the complaint.
- Within a certain, limited time (e.g., 60 days) the customers may file a formal appeal.
- The municipality will need to establish the reviewing “officer” or entity that will hear and rule on the appeal. In some cases, the appeal may be heard by the chief administrative officer in the municipality, such as the Town Manager, or the utility director. In other cases, the appeal may be heard by some oversight board, such as the Board of Public Works, the Utility Board of Directors, or the Town Council members—maybe the entire Board or a designated subcommittee.
- That review entity will conduct a formal hearing on the complaint and the conflicting parties will present their case. The review board must then make a determination and issue a written finding.
- If the parcel owner is not satisfied at that point, they have the right to litigate in the court system.

6.4 Implementation Suggestions

The following highlights the major steps for the municipalities to move forward and fully implement a stormwater utility. There are several key policy decisions that will impact the schedule, as well as data that would be required to ensure the sustainability of the utility considering potential changes.

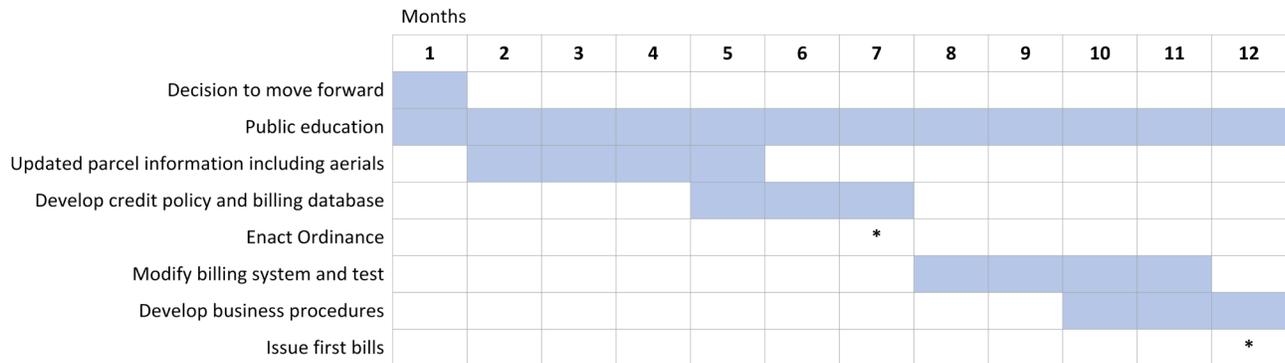
- First and foremost, if the community is intending to move forward with a utility, a significant public education and outreach program has proved critical to the success of getting approval for the utility, as well as the actual operation of the utility. Additionally, a robust public education and outreach program brings transparency and public trust into the process. Prior to undertaking these efforts, it will be critical to be able to explain the

purpose/driver for the utility, what typical rates will be, what credits might be granted, and how will customers receive a bill. Elements of a successful program can include:

- Establish a citizen’s advisory group, including trusted community members, that can act as the face of the program, explain the need for it, and review policies.
 - Public notices posted to community websites and discussion and selectmen/council workshops, especially when broadcast.
 - Speaker’s bureaus and outreach to key community groups, especially environmental policy groups but also business and chamber of commerce groups.
 - Seek to obtain local newspaper coverage and spend time with editors and reporters so that they fully understand the issue. This is especially important as the time of approval elections (Town meeting, selectman, etc.) becomes near.
- Each community will need to determine whether it wishes to offer credits to property owners that have undertaken actions to reduce their impact on the municipal stormwater infrastructure.
 - Each community will need to enact an ordinance that describes the purpose of the utility, who is subject to the charge, the rate structure, and the availability of credits and exemptions. Depending on the practice of the individual municipality, the actual rate being implemented may be included in this underlying ordinance or enacted as a separate ordinance. The feasibility study rate projections are based on planning-level data, as well as impervious area data that is approximately 10 years old. For billing purposes, it is believed that more current data are necessary to ensure the accuracy and integrity of bills when they are issued. Some locations elect to get new aerial photography done that can provide updated parcel and impervious data, but it may be possible that the state has or will update its aerials. It may also be possible to use the existing older aerials but update them based on major property changes since the aerials were done. This normally requires reviewing building permit files and inspecting parcels where it appears major changes occurred from the base year of the aerials.
 - Each community will need to determine how it will physically calculate and issue bills. Ideally, the property tax billing systems can accommodate an additional bill methodology and could be used to calculate the bills going to each parcel owner. It is likely in the best of circumstances, that this will require the updated aerials or parcel information discussed above and some programming in the billing software.
 - It will be necessary to develop business procedures to ensure the integrity of the billing database and provide for a billing review and appeal process. The business procedures primarily revolve around ensuring that the department responsible for stormwater is informed when building permits are applied for (it may be necessary to modify building permit applications to capture information on the total impervious area resulting on the parcel). The stormwater group can then incorporate the information into the billing database, then when a final inspection is completed and an occupancy permit issued, the account can be activated in the billing system.

- All utilities must have some sort of exemption and appeal process. If the municipalities are going to operate a stormwater utility, they will need to establish a set of procedures for customers to challenge their bill. The timeline for this process could vary significantly given both the degree of urgency to move forward, as well as physical (new aerials can only be done in the spring before leaves are out and ground is clear) and technical (how much time and effort is required to modify the available billing system to incorporate stormwater bills or devise a third-party solution) factors.

The following provides a typical schedule providing a rough timeline for moving forward with implementation of a stormwater utility.



Note * means milestone

Appendix A

Municipality Interviews – Meeting Notes



Meeting Notes

From: Cindy Baumann, P.E.
Date: August 15, 2022
Subject: SCCOG Stormwater Management District Feasibility Study
Meeting Notes – July 20, 2022

Attendees: Ledyard Steve Masalin
CDM Smith Cindy Baumann, Elise Puliafico

The following summarizes the items discussed at the coordination meeting with the Town of Ledyard for the Southern Connecticut Council of Governments (SCCOG) Stormwater Management District Feasibility Study meeting held at the Ledyard Town Hall Annex on July 20, 2022. The discussion followed the attached “Stormwater System Program Self-Assessment Checklist” with the following additional discussion items.

- Discussions regarding costs for staff performing stormwater activities included the following:

Highway: 2,600 possible total man days (10 staff), at 20% for stormwater - approximately 500 man days equates to approximately \$580,000 annually for all highway staff

Building inspector and Conservation Commission: approximately \$10,000 annually

DPW Director: approximately 15% of annual salary

- Mr. Masalin has an equipment replacement plan, he will email the spreadsheet to CDM Smith
- Mr. Masalin requested information regarding IDDE abatement activities



Meeting Notes

From: Cindy Baumann, P.E.
Date: August 15, 2022
Subject: SCCOG Stormwater Management District Feasibility Study
Meeting Notes – July 20, 2022

Attendees: Preston Jim Corley, Kathy Warzecha
CDM Smith Cindy Baumann, Elise Puliafico

The following summarizes the items discussed at the coordination meeting with the Town of Preston for the Southern Connecticut Council of Governments (SCCOG) Stormwater Management District Feasibility Study meeting held at the Preston Town Hall on July 20, 2022. The discussion followed the attached “Stormwater System Program Self-Assessment Checklist” with the following additional discussion items.

- The only area within the Town that is sewerred is near the state hospital
- Mr. Corley provided additional information relative to stormwater budgets, street sweeping quantities and employee overhead costs
- The Town is bonded for CIP projects
- During the discussion about inspection of Town owned stormwater facilities, CDM Smith mentioned that they will forward the Town a copy of the inspection checklist that is available for stormwater treatment facilities



Meeting Notes

From: Cindy Baumann, P.E.
Date: August 15, 2022
Subject: SCCOG Stormwater Management District Feasibility Study
Meeting Notes – July 22, 2022

Attendees: Stonington Danielle Chesebrough, Steven Matile, Barbara McKrell,
Christopher Greenlaw
CDM Smith Cindy Baumann

The following summarizes the items discussed at the coordination meeting with the Town of Stonington for the Southern Connecticut Council of Governments (SCCOG) Stormwater Management District Feasibility Study. The meeting was held at the Stonington Town Hall on July 22, 2022. Mr. Matile and Mr. Greenlaw provided a draft completed “Stormwater System Program Self-Assessment Checklist” (see attached). The additional discussion included the following items.

- General discussion of a stormwater utility, determination of the equivalent residential unit (ERU), determination of impervious area, tiered versus flat rate approach for residential properties, billing options, potential for variances including properties with existing stormwater controls, various options for credits, project scope, project deliverables, and project schedule.
- The Town uses a consultant (CLA) to assist with Stormwater MS4 permit requirements.
- CDM Smith will be using the GIS impervious layer provided by NEMO. To fill in the recent development changes from that data, the Town will provide CDM Smith with the GIS data layer showing these impervious area updates. The Town has been tracking GIS impervious area updates from 2012 to present.
- The Town of Stonington shares MS4 responsibilities (as well as police, fire, schools) with the Borough of Stonington.
- The Town has three water districts as well as some properties with wells, so using water bills as an option does not seem feasible.
- The Town requested examples of stormwater utility assessments that have been conducted in similar towns. CDM Smith mentioned that we did a study for the MDC of the eight member towns and for the six municipalities surrounding Providence. CDM Smith will provide examples as part of the project report.



Meeting Notes

From: Cindy Baumann, P.E.

Date: August 15, 2022

Subject: SCCOG Stormwater Management District Feasibility Study
Meeting Notes – July 21, 2022

Attendees: Waterford Gary Schneider, Abby Piersall
CDM Smith Cindy Baumann, Emily McCarran, Elise Puliafico

The following summarizes the items discussed at the coordination meeting with the Town of Waterford for the Southern Connecticut Council of Governments (SCCOG) Stormwater Management District Feasibility Study virtual meeting held on July 21, 2022. The discussion followed the attached “Stormwater System Program Self-Assessment Checklist” with the following additional discussion items.

- The Town uses BL Companies as their Stormwater MS4 consultant and a PO for additional work will be awarded soon
- BL Companies has the Town’s most current GIS data and the Town will get the information and provide it to CDM Smith
- CDM Smith will coordinate with the Town with respect to a drop box to transfer GIS data files
- Abby Piersall will provide additional information on bonding, dept services, and overhead rates for Town employees
- CDM Smith will provide the Town with information on turf management practices

Appendix B

Stormwater Checklists

**SCCOG Stormwater Management District Feasibility Study
Stormwater System Program Self-Assessment Checklist**

Municipality: Ledyard

Date: 7/20/2022

Staff Interviewed: Steve Masalin

I. General Information – Stormwater System Description

I	Question	Response
1	Identify the number of people currently served by your stormwater system.	15,413
2	Provide information on stormwater assets, status of condition assessments and extent of mapping of assets: <ul style="list-style-type: none"> • Manholes • CB's • Outfalls • Interconnections • Culverts • Detention ponds • Channels • Storage facilities • Municipal BMP's • Ponds • Private facilities • Storm drains (length) • Pump stations 	The Town has mapped the following features: <ul style="list-style-type: none"> - 301 outfalls in Priority Areas - 465 outfalls outside the Priority Areas - CB's 2200 (identified in 2017) - Detention ponds fully inventoried and inspected (designated private and municipal owned) <ul style="list-style-type: none"> -- 70% are town owned <p>The entire drainage system is in the GIS database</p>
3	Outfall/Interconnection Inventory Assessment <ul style="list-style-type: none"> • Size and Location • Where is inventory maintained (GIS) • Outfall Screening status 	The Town has mapped 8 interconnections <ul style="list-style-type: none"> - Groton has reached out and coordinated
4	What is the age of your stormwater system and your sewer system (e.g., percentage over 100, 75, 50, 30, etc. years old)?	85% is >35 years old 50% is > 50 years old
5	Type(s) and age of stormwater system maps that are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)?	100% of the drainage system is mapped
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?	No
7	Describe the type of maintenance management system used to track work (e.g. card catalog, spreadsheets, CMMS software program, etc.)	No work order system/record of what has been done specifically Highway Superintendent keeps a list of what needs to be done
8	Do you have documentation of the interconnections with other adjacent MS4's?	yes

II. Stormwater System Management Organizational Structure

II	Question	Response
1	Provide an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff. (Responsible Parties – distribution of work)	Only PW does stormwater, Town Engineer does all inhouse review work - Average of 50k a year for new MS4 consultant Not a lot of stormwater is farmed out Planning - Dedicated ~\$10k Town Engineer/DPW Director - Time spent on stormwater: 15%
2	How many staff members work on storm water system and % of work per staff member?	Highway Superintendent - 9 employees and one superintendent in Highway -- 6 wks., 2/day – 60 man days -- 5 wks., 6/day – 150 man days -- 6 wks., 3/day – 90 man days - Time spent on stormwater: 20% - Total spent on crew: \$580k

III. MS4 – Six Minimum Control Measures

III.A. Minimum Control Measure #1: Public Education and Outreach

Develop and implement a public education program to distribute educational materials to the community or conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

III A	Question	Response
1	What types of Public Education and Outreach activities/programming have been conducted? <ul style="list-style-type: none"> Website, Flyers, Clean up days, Public Meetings, Social Media, etc. 	Information on programs and informational links provided to general public on Town website
2	Have additional measures for discharges been implemented to target specific pollutants (household and others)?	Information on programs and informational links appropriate to pollutants of concern provided to general public on Town website
3	Have you utilized NEMO public outreach materials?	No – link to NEMO on website

III.B. Minimum Control Measure #2: Public Involvement / Participation

Develop a program that involves the community in both the planning and implementation process of improving water quality.

III B	Question	Response
1	How was the public notice of the Plan and Annual Report distributed? Did it include: <ul style="list-style-type: none"> Contact name and information Access information to the Plan and Annual report both electronically and at a publicly available location Allowance for 30-day minimum comment period Sent annually no later than January 31 	SMP and sample results posted on website and filed with CTDEEP, and Draft Annual Report Posted

III.C. Minimum Control Measure #3: Illicit Discharge Detection and Elimination (IDDE)

Develop a program to systematically find and eliminate sources on non-storm water and to ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

III C	Question	Response
1	Do you have an IDDE Plan? Have you implemented the IDDE Plan?	Written IDDE plan was developed in April 2019 and revised in January 2020
2	Describe your program to detect and eliminate illicit discharges.	See IDDE Plan
3	How do you track and document citizen complaints/reports relating to illicit discharges spills or dumping into the streets, public rights-of-ways or stormwater drains connected to your MS4?	If complaints are received, they are tracked in GIS by consultant IDDE connections to CB's are identified during CB cleaning
4	Procedures to detect and address non storm water discharges?	BOH identified septic system non stormwater discharges Letters are sent to non-conforming property owners
5	How do you track illicit discharge abatement activities?	Town has a list of follow up requirements
6	Stormwater regulations that prohibit illegal discharges (enforcement actions) - Have you adopted an IDDE Ordinance?	Done under 2004 permit and has been revised from template
7	Do you have adequate legal authority to enforce the IDDE Ordinance and capacity to implement the Ordinance?	Ordinance that provides legal authority for IDDE
8	Have you developed a list and mapped all stormwater outfalls owned by the municipality and all interconnections with other MS4s? Describe how you map outfalls and connectivity of the stormwater drainage system.	Yes
9	How does your municipality address the following categories of non-storm water discharges: <ul style="list-style-type: none"> • Water line flushing • Diverted stream flows • Water from crawl space • Air conditioning condensation • Pool drainage 	Found with inspections – ongoing Majority of the Town is on Septic Sewer force main extension planned for 2 years from now: from High School and road from school to plant including extension to Town Center
10	Have you conducted dry weather screening of all outfalls and interconnections?	Not at all outfalls, work is ongoing by priority and non-priority - Priority outfalls are complete
11	Are there any outfalls or interconnections that were identified that require follow up? If so, what is/was the follow up?	Follow up inspections are ongoing - Mostly NW corner of Town
12	Have you completed dry weather catchment investigations?	Catchment investigations are ongoing
13	Have you identified industrial activities that discharge to your MS4?	Western side of town drains toward river - Only 2 spots Regional group (TMDL) focused on the Flat Brook area (technically industrially zoned area)
14	When addressing septic failures are areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4 given the highest priority?	Septic failures are passed on to Ledyard Health District

III.D. Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Develop, implement, and enforce a program to control stormwater discharges associated with land disturbance or development activities from sites with one acre or more of soil disturbance, whether considered individually or collectively as a part of a larger common plan.

III D	Question	Response
1	Describe the ordinance or other regulatory mechanism used by your jurisdiction that includes erosion and sediment controls, as well as sanctions to ensure compliance?	Town requires adhering to CT DEEP guidelines for Erosion and Sediment Control
2	Have necessary additional measures to protect/improve water quality been implemented?	No
3	Have you developed/implemented a plan outlining how all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects in the MS4 will coordinate their functions?	Done under 2004 permit, Town maintains paper files recording actions - Consultant streamlining Town regulations will be working on this for the Town this coming year
4	Have you implemented a procedure for the receipt and consideration of information submitted by the public concerning proposed and ongoing disturbance and development activities?	Done under 2004 permit. The Town Planning IW and PW staff currently perform. Town maintains paper files recording actions
5	Has a procedure for notifying developers or contractors of their potential obligation to obtain authorization under DEEP Construction General Permit been implemented?	Done under 2004 permit. The Town Planning IW and PW staff currently perform. Town maintains paper files recording actions

III.E. Minimum Control Measure #5: Post-Construction for New Development and Redevelopment

Develop, implement, and enforce a program to ensure reduction of pollutants in any stormwater runoff to the maximum extent practicable (MEP) from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development.

III E	Question	Response
1	Has appropriate legal authority that requires a developer or contractor seeking approval to consider the use of LID and runoff reduction site planning and development practices been established?	In Progress: regulations and ordinances revised for LID barriers, goal of having a written legal authority in place
2	Describe your provisions and engineering/design standards that require new developments to incorporate structural and non-structural stormwater management facilities and Green Infrastructure?	Town uses the CT DEEP Stormwater Regulations
3	Have you calculated the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to MS4 outfalls?	Ongoing: New post 2012 development IA and DCIA added to tracking sheet, goal of having GIS layer complete
4	Have you tracked DCIA reductions to meet the permit reduction requirements? Do you have municipal improvements planned to reduce DCIA?	Town has a plan to retrofit detention basins within the town to get the 2% reduction in DCIA
5	Has a plan for inspecting and ensuring long term effectiveness of retention or detention ponds, stormwater treatment structures, and stormwater control measures installed within the MS4?	Inspected all known BMP Basins town wide. Maintenance Plan for BMPs being developed Comprehensive report by the Town's consultant of treatment options - Likely kept on spreadsheet - CLA Engineers

6	Have additional measures for discharges to impaired waters, erosion, and sedimentation post-construction been implemented?	No
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III.F. Minimum Control Measure #6: Pollution Prevention/Good Housekeeping in Municipal Operations

Develop and implement an operations and maintenance program with ultimate goal of preventing and/or reducing pollutant runoff and protecting water quality permittee-owned or -operated MS4s.

III F	Question	Response
1	Has a formal employee training program to increase awareness of water quality related issues been continued?	Program has been developed; staff training performed 06/02/21.
2	Has infrastructure been repaired in a timely manner to eliminate discharge of pollutants based on information on outfalls discharging pollutants, impaired water, inspection, or outfall mapping observations made?	Priority focus on safety/sensitivity concerns - DPW keeps a spreadsheet list of required repairs (prioritized)
3	Describe CB cleaning, inspection, and documentation program.	Cleaning done at least once every 3 years. Prioritization has already been completed with more frequent cleaning as needed. Cleaned 33% of basins.
4	Describe your street sweeping program. Include minimum yearly effort, sediment tracking and how you evaluate the effectiveness of this program.	Done annually Replacing sweeper - Only need 1 - Refurbishment every 10 years - Replacement every 20 years - Cycle seems to work
5	Describe your snow and ice management practices. Include standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.	Material used is Treated Salt (Ice-B-Gone) - No sand used
6	Have you implemented a program to provide for regular inspection and maintenance of permittee-owned or operated streets, parking areas and other MS4 infrastructure?	Implemented: Execute existing SWPPS for town properties and document execution
7	Has coordination been implemented between interconnected MS4s?	8 have been identified, and coordination has been implemented
8	Have you identified field program activities and associated potential pollutants? <ul style="list-style-type: none"> • Roads, Streets, and highway operation • Sidewalk, parking lots maintenance and cleaning • Landscape maintenance • Drainage system operation and maintenance • SSO List 	No SSO's Town has identified high groundwater areas and performed CIP lining to remove infiltration
9	Has a program been implemented to control the contribution of pollutants from commercial, industrial, municipal, institutional, or other facilities not otherwise authorized by permit?	No
10	Have you implemented a turf management practices and procedures policy for waters which Nitrogen and Phosphorus are Stormwater Pollutants of Concern? Has there been a reduction in application of fertilizer and/or turf area?	No Unsure of fertilizer use, Town focuses on mowing

SCCOG Stormwater Management District Feasibility Study
Self Assessment Checklist - Ledyard

11	Have you implemented and prioritized a retrofit or source management program to correct the problem(s) within a specific timeframe for waters which Bacteria is a Stormwater Pollutant of Concern? Has the 2% DCIA reduction been met? What is the cost of retrofit projects?	One detention basin retrofit project identified and feasibility design complete
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III.G. Monitoring Requirements

Implement a screening and monitoring program in accordance with Section 6(i).

III G	Question	Response
1	Have you identified Impaired waters and the outfalls that discharge to impaired waters?	Yes
2	Have you completed dry weather sampling of all outfalls?	Yes
3	Have you conducted wet weather sampling of outfalls that discharge to Impaired Waters?	Yes
4	Do you conduct annual wet weather screening of the six highest contributors?	Unknown

IV. Capital Improvements Program (CIP)

Identification, prioritization and ranking of stormwater infrastructure improvements.

IV	Question	Response
1	Describe your stormwater CIP program including identification of problem, prioritization, and ranking.	Have dealt with most flooding areas, no major vulnerable areas Bridge that was overtopped, permitting is being done and applying for special funding, project should be done in 2 yrs. DCIA retrofits - 6 ponds over 15-year period and starting in approximately 3 years
2	How are stormwater projects funded?	The Town applies for grants when applicable
3	Who is the most knowledgeable about stormwater infrastructure improvement needs?	Steve Masalin
4	Does your Annual Budget include stormwater CIP projects?	Nominally to cover any emergent needs – annual budget included \$3,000 for drainage improvements and \$3,000 for gravel
5	Does your Annual Budget include identified stormwater allocations for maintenance?	No – under the highway budget
6	Does your Comprehensive Plan include stormwater infrastructure projects?	No
7	Are flood studies available that identify the problems and provide long term solutions?	FEMA, someone in town is designated to be flood related agent
8	Misc. Proposed Drainage Improvements	Costs are 30k annually on materials used in house

V. Stormwater Personnel and Budgets

Identification of staffing utilization/needs for stormwater improvements and associated budgets for the stormwater programs.

V	Question	Response
1	Describe your stormwater current staff and % utilization on stormwater.	Highway: 2,600 possible total man days (10 staff), at 20% for stormwater - approximately 500 man days equates to approximately \$580,000 annually for all highway staff Building inspector and Conservation Commission: approximately \$10,000 annually DPW Director: approximately 15% of annual salary
2	Describe your future stormwater staff needs.	Town needs an additional 2 staff at 50% on stormwater activities
3	Annual budgets and what line items or % are for stormwater – O&M, CIP and Management	Yes
4	Do you have any debt service related to stormwater?	No
5	Do you have betterments related to stormwater?	No
6	What are your overhead rates for employees?	Nominal percentage rates (maybe 40%)
7	Miscellaneous budget or staffing budgets, needs or requirements	Town has an annual equipment replacement plan

**SCCOG Stormwater Management District Feasibility Study
Stormwater System Program Self-Assessment Checklist**

Municipality: Town of Preston

Date: July 20, 2022

Staff Interviewed: Jim Corley, Kathy Warzecha

I. General Information – Stormwater System Description

I	Question	Response
1	Identify the number of people currently served by your stormwater system.	4,788
2	Provide information on stormwater assets, status of condition assessments and extent of mapping of assets: <ul style="list-style-type: none"> • Manholes • CB's • Outfalls • Interconnections • Culverts • Detention ponds • Channels • Storage facilities • Municipal BMP's • Ponds • Private facilities • Storm drains (length) • Pump stations 	<ul style="list-style-type: none"> - CB's: 250 - Outfalls: 25 - Interconnections: 0 - Culverts: 225 - Storage Facilities: 0 - Municipal BMP's: 0 - Pump Stations: 0 <p>Kathy will look at detention facilities and provide a list</p> <ul style="list-style-type: none"> - Avery Pond - Julian Drive - Main's Way - New system in the NW corner of Town
3	Outfall/Interconnection Inventory Assessment <ul style="list-style-type: none"> • Size and Location • Where is inventory maintained (GIS) • Outfall Screening status 	Likely none
4	What is the age of your stormwater system and your sewer system (e.g., percentage over 100, 75, 50, 30, etc. years old)?	Amos Lake and Avery Pond 60-70 years old 60% older systems (60-70 yrs.) 40% younger systems (≤25 yrs.)
5	Type(s) and age of stormwater system maps that are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)?	The Town does not have GIS mapping of the drainage system Most drainage system knowledge is in experienced staff Newer subdivisions have drainage systems that are mapped
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?	No
7	Describe the type of maintenance management system used to track work (e.g. card catalog, spreadsheets, CMMS software program, etc.)	Operation and maintenance of the drainage system is done in response to calls No tracking for small projects Spreadsheet exists to track larger projects
8	Do you have documentation of the interconnections with other adjacent MS4's?	N/A

II. Stormwater System Management Organizational Structure

II	Question	Response
1	Provide an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff. (Responsible Parties – distribution of work)	Community Park is maintained by Parks & Recreation department <ul style="list-style-type: none"> - One pipe/pond Stormwater staff includes 5 employees (including Jim) <ul style="list-style-type: none"> - 4 staff: spend 5-10% on stormwater - Jim: spends 15% on stormwater
2	How many staff members work on storm water system and % of work per staff member?	Town is in need of 3 more employees for 7/12 of time on stormwater

III. MS4 – Six Minimum Control Measures

III.A. Minimum Control Measure #1: Public Education and Outreach

Develop and implement a public education program to distribute educational materials to the community or conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

III A	Question	Response
1	What types of Public Education and Outreach activities/programming have been conducted? <ul style="list-style-type: none"> • Website • Flyers • Clean up days • Public Meetings • Social Media 	<ul style="list-style-type: none"> - Preston works with other surrounding towns on Hazardous Waste pickups/collection days - Currently has mutt mitt stations - Conservation Commission & Agricultural Commission has public outreach information - Organizations in Town have clean up days
2	Have additional measures for discharges been implemented to target specific pollutants (household and others)?	N/A
3	Have you utilized NEMO public outreach materials?	N/A

III.B. Minimum Control Measure #2: Public Involvement / Participation

Develop a program that involves the community in both the planning and implementation process of improving water quality.

III B	Question	Response
1	How was the public notice of the Plan and Annual Report distributed? Did it include: <ul style="list-style-type: none"> • Contact name and information • Access information to the Plan and Annual report both electronically and at a publicly available location • Allowance for 30-day minimum comment period • Sent annually no later than February 25 	N/A

III.C. Minimum Control Measure #3: Illicit Discharge Detection and Elimination (IDDE)

Develop a program to systematically find and eliminate sources on non-storm water and to ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

III C	Question	Response
1	Do you have an IDDE Plan? Have you implemented the IDDE Plan?	N/A

III.D. Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Develop, implement, and enforce a program to control stormwater discharges associated with land disturbance or development activities from sites with one acre or more of soil disturbance, whether considered individually or collectively as a part of a larger common plan.

III D	Question	Response
1	Describe the ordinance or other regulatory mechanism used for erosion and sediment controls, as well as sanctions to ensure compliance?	Town has Erosion & Sediment Control measure requirements in their Zoning Regulations, and it includes measures for enforcement
2	Have necessary additional measures to protect/improve water quality been implemented?	N/A
3	Have you developed/implemented a plan outlining how all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects will coordinate?	Yes, the Town has a review process for applications. For larger developments the Town uses a subconsultant to perform a peer review
4	Have you implemented a procedure for the receipt and consideration of information submitted by the public concerning proposed and ongoing development activities?	Yes, everybody can view documents for projects that require and don't require a public hearing
5	Has a procedure for notifying developers or contractors of their potential obligation to obtain authorization under DEEP Construction General Permit been implemented?	Yes, Town Engineer notifies them during review

III.E. Minimum Control Measure #5: Post-Construction for New Development and Redevelopment

Develop, implement, and enforce a program to ensure reduction of pollutants in any stormwater runoff to the maximum extent practicable (MEP) from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development.

III E	Question	Response
1	Has appropriate legal authority that requires a developer or contractor seeking approval to consider the use of LID and runoff reduction site planning and development practices been established?	Yes, developer is required
2	Describe your provisions and engineering/design standards that require new developments to incorporate structural and non-structural stormwater management facilities and Green Infrastructure?	Town uses the CT DEEP Stormwater Design Standards
3	Have you calculated the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to MS4 outfalls?	N/A
4	Have you tracked DCIA reductions to meet the permit reduction requirements? Do you have municipal improvements planned to reduce DCIA?	N/A

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5	Has a plan for inspecting and ensuring long term effectiveness of retention or detention ponds, stormwater treatment structures, and stormwater control measures installed within the MS4?	Unknown Town will look into this
6	Have additional measures for discharges to impaired waters, erosion, and sedimentation post-construction been implemented?	N/A

III.F. Minimum Control Measure #6: Pollution Prevention/Good Housekeeping in Municipal Operations

Develop and implement an operations and maintenance program with ultimate goal of preventing and/or reducing pollutant runoff and protecting water quality permittee-owned or -operated MS4s.

III F	Question	Response
1	Has a formal employee training program to increase awareness of water quality related issues been continued?	None
2	Has infrastructure been repaired in a timely manner to eliminate discharge of pollutants based on information on outfalls discharging pollutants, impaired water, inspection, or outfall mapping observations made?	Nonwritten procedure <ul style="list-style-type: none"> - Initial inspection is typically the same day - Fixed quickly inhouse if small - Added to spreadsheet if large
3	Describe your CB cleaning, inspection, and documentation program.	1/2 of CB's are cleaned a year <ul style="list-style-type: none"> - No formal tracking - About 6-12 known to get more frequently blocked
4	Describe your street sweeping program. Include minimum yearly effort, sediment tracking and how you evaluate the effectiveness of this program.	For the last 2 years all streets have been swept <ul style="list-style-type: none"> - No formal street sweeping plan or documentation
5	Describe your snow and ice management practices. Include standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.	<ul style="list-style-type: none"> - Only use salt - Application is left up to driver - Salt usage is tracked
6	Have you implemented a program to provide for regular inspection and maintenance of permittee-owned or operated streets, parking areas and other MS4 infrastructure?	N/A
7	Has coordination been implemented between interconnected MS4s?	N/A
8	Have you identified field program activities and associated potential pollutants? <ul style="list-style-type: none"> • Roads, Streets, and highway operation • Sidewalk, parking lots maintenance and cleaning • Landscape maintenance • Drainage system O&M • SSO List (please provide this) 	<ul style="list-style-type: none"> - Community Park has a lot of geese - Town is currently using fake coyotes as a measure to deter the geese
9	Has a program been implemented to control the contribution of pollutants from commercial, industrial, municipal, institutional, or other facilities not otherwise authorized by permit?	Possible areas of pollutants <ul style="list-style-type: none"> - Norwich Hospital - Route 2 corridor Limited knowledge of pollutant contributions to the Town's drainage system

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Self Assessment Checklist – Preston

10	Have you implemented a turf management practices and procedures policy for waters which Nitrogen and Phosphorus are Stormwater Pollutants of Concern? Has there been a reduction in application of fertilizer and/or turf area?	N/A
11	Have you implemented and prioritized a retrofit or source management program to correct the problem(s) within a specific timeframe for waters which Bacteria is a Stormwater Pollutant of Concern? Has the 2% DCIA reduction been met? What is the cost of retrofit projects?	N/A

III.G. Monitoring Requirements

Implement a screening and monitoring program in accordance with Section 6(i).

III G	Question	Response
1	Have you identified Impaired waters and the outfalls that discharge to the Impaired waters?	N/A
2	Have you completed dry weather sampling of all outfalls?	N/A
3	Have you conducted wet weather sampling of outfalls that discharge to Impaired Waters?	N/A
4	Do you conduct annual wet weather screening of the six highest contributors?	N/A

IV. Capital Improvements Program (CIP)

Identification, prioritization and ranking of stormwater infrastructure improvements.

IV	Question	Response
1	Describe your stormwater CIP program including identification of problem, prioritization, and ranking.	On a list and in staff knowledge of areas <ul style="list-style-type: none"> - Currently try to work with state on projects involving state roads - No formal list to encompass all areas of Town
2	How are stormwater projects funded?	With the operating budget
3	Who is the most knowledgeable about stormwater infrastructure improvement needs?	Jim Corley
4	Does your Annual Budget include stormwater CIP projects?	Not currently
5	Does your Annual Budget include identified stormwater allocations for maintenance?	No
6	Does your Comprehensive Plan include stormwater infrastructure projects?	N/A
7	Are flood studies available that identify the problems and provide long term solutions?	No Town specific flood studies – just FEMA information
8	Misc. Proposed Drainage Improvements	None

V. Stormwater Personnel and Budgets

Identification of staffing utilization/needs for stormwater improvements and associated budgets for the stormwater programs.

V	Question	Response
1	Describe your stormwater current staff and % utilization on stormwater.	Five staff - Four maintenance staff at 5-10% stormwater - One supervisor at 15% stormwater
2	Describe your future stormwater staff needs.	Town is in need of 3 additional staff (at 7/12 time) to assist with Stormwater needs
3	Annual budgets and what line items or % are for stormwater – O&M, CIP and Management	No stormwater specific line items in the Town’s budget – Town provided a list of costs for 20/21 and 21/22 during the meeting
4	Do you have any dept service related to stormwater?	No
5	Do you have betterments related to stormwater?	No
6	What are your overhead rates for employees?	Town provided: \$44.21 for staff, \$57.57 for supervisor
7	Miscellaneous budget or staffing budgets, needs or requirements	Town is bonded for CIP projects

**SCCOG Stormwater Management District Feasibility Study
Stormwater System Program Self-Assessment Checklist**

Municipality: Stonington

Date: 7/22/2022

Staff Interviewed: Danielle Chesebrough, Steven Matile, Barbara McKrell, and Christopher Greenlaw

I. General Information – Stormwater System Description

I	Question	Response
1	Identify the number of people currently served by your stormwater system.	18,335
2	Provide information on stormwater assets, status of condition assessments and extent of mapping of assets: <ul style="list-style-type: none"> • Manholes • CB's • Outfalls • Interconnections • Culverts • Detention ponds • Channels • Storage facilities • Municipal BMP's • Ponds • Private facilities • Storm drains (length) • Pump stations 	<ul style="list-style-type: none"> - MHs: 110 - CBs: 2511 - OFs: 342 - ICs: ~40 - Culverts: 205 - DP: ~10-15 - Channels: unk >25 - SF: 1 (of more?) - BMP's: 5-10 - Ponds: ≥3 - PF: >25 - SD(L): 238,701 ft (45 miles) - Sys units: PS=1 at Levvs GIS mapping 100% Wells, 3 water district
3	Outfall/Interconnection Inventory Assessment <ul style="list-style-type: none"> • Size and Location • Where is inventory maintained (GIS) • Outfall Screening status 	F+O GIS maps
3	What is the age of your stormwater system and your sewer system (percentage over 100, 75, 50, 30, etc. years old)?	Over 100 years old: <5% 75 to 100 years old: 5-10% 50 to 75 years old: 30-40% 25 to 50 years old: 20-30% Under 25 years old: 20-30%
4	Type(s) and age of stormwater system maps that are available and what percent of the system is mapped by each method (paper only, paper scanned, digitized, interactive GIS, etc.)?	<ul style="list-style-type: none"> - 1989 Drainage Study (paper) scanned maps - 2004 NE Geo Study, GIS, Interactive, pdfs - Current map being updated
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?	Some available, sanitary As-builts and Clerk's Maps <ul style="list-style-type: none"> - Being compiled
7	Describe the type of maintenance management system used to track work (card catalog, spreadsheets, CMMS software program, etc.)	None
8	Do you have documentation of the interconnections with other adjacent MS4's?	No, only GIS State layer

II. Stormwater System Management Organizational Structure

II	Question	Response
1	Provide an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff.	Barbara Tom Tim & Steve Joe & Nate
2	How many staff members work on storm water system and % of work per staff member?	Total Hwy - 2 employees – 10% - 1 Engineer – 15% - 1 Intern – 70%

III. MS4 – Six Minimum Control Measures

III.A. Minimum Control Measure #1: Public Education and Outreach

Develop and implement a public education program to distribute educational materials to the community or conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

III A	Question	Response
1	What types of Public Education and Outreach activities/programming have been conducted? <ul style="list-style-type: none"> Website, Flyers, Clean up days, Public Meetings, Social Media, etc. 	Maintained the Town and Borough’s Stormwater webpage. Participated in Eastern Connecticut Stormwater Collaborative events. The Town hosted Sarah Ridyard, the author of Mermaid Island, in a virtual visit to a middle school class and read to them (04/23/21).
2	Have additional measures for discharges been implemented to target specific pollutants (household and others)?	Town distributed article in “Stonington Events” magazine regarding nitrogen & Bacteria. DPW Engineering worked with the Clerk’s office to distribute a pet waste flier with dog licenses and installed a signage at Donahue Park.
3	Have you utilized NEMO public outreach materials?	Yes

III.B. Minimum Control Measure #2: Public Involvement / Participation

Develop a program that involves the community in both the planning and implementation process of improving water quality.

III B	Question	Response
1	How was the public notice of the Plan and Annual Report distributed? Did it include: <ul style="list-style-type: none"> Contact name and information Access information to the Plan and Annual report electronically and publicly available location Allow 30-day comment period Sent annually by January 31 	The SMP is maintained on the Town Engineering webpage and the Borough Stormwater Management webpage. Applicable public notice for Annual Reports is maintained on the Town Engineering webpage and the Borough Stormwater Management webpage. A reformation of the Stormwater Task Force was completed in 2018.

III.C. Minimum Control Measure #3: Illicit Discharge Detection and Elimination (IDDE)

Develop a program to systematically find and eliminate sources on non-storm water and to ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

III C	Question	Response
1	Do you have an IDDE Plan? Have you implemented the IDDE Plan?	The Town previously completed a joint written IDDE program for the Town and Borough
2	Describe your program to detect and eliminate illicit discharges.	See IDDE Plan
3	How do you track and document citizen complaints/reports relating to illicit discharges spills or dumping into the streets, public rights-of-ways or stormwater drains connected to your MS4?	The stormwater hotline is still available on the Engineering website for citizens to report concerns regarding stormwater. The Town compiles all the IDDE tracking requirements into one spreadsheet.
4	Procedures to detect and address non storm water discharges?	See IDDE Plan
5	How do you track illicit discharge abatement activities?	In 2018 the Town contracted out to develop a digital data collection system for tracking and recording data related to dry weather outfall inspections and sampling and wet weather sampling of outfalls that discharge to impaired waters.
6	Stormwater regulations that prohibit illegal discharges (enforcement actions) - Have you adopted an IDDE Ordinance?	The Town reviewed and updated the IDDE Ordinance in 2018 to ensure compliance with the permit. The IDDE Ordinance is posted on the Town website.
7	Do you have adequate legal authority to enforce the IDDE Ordinance and capacity to implement the Ordinance?	The Director of Public Works has authority under our IDDE ordinance to seek out illicit discharges and rectify them.
8	Have you developed a list and mapped all stormwater outfalls owned by the municipality and all interconnections with other MS4s? Describe how you map outfalls and connectivity of the stormwater drainage system.	The Town/Borough previously contracted out to identify and map the priority areas in the Town and Borough to identify all MS4 stormwater outfalls in the priority areas. The Town/Borough also utilized the same Contractor to complete an analysis of DCIA for each CT DEEP Local Basin within the Town and Borough.
9	How does your municipality address the following categories of non-storm water discharges: <ul style="list-style-type: none"> • Water line flushing • Diverted stream flows • Water from crawl space • Air conditioning condensation • Pool drainage 	Ordinance <ul style="list-style-type: none"> - Water line flushing – Allowed for Public Utility - Diverted stream flows – Allowed - Water from crawl space – Not addressed, illicit - Air conditioning condensation – Allowed - Pool drainage – Dispense according to DEEP
10	Have you conducted dry weather screening of all outfalls and interconnections?	99% of dry weather outfall inspections complete, reviewing interconnections
11	Are there any outfalls or interconnections that were identified that require follow up? If so, what is/was the follow up?	Dry weather outfall inspections and sampling and wet weather sampling of impaired waters began in 2019.
12	Have you completed dry weather catchment investigations?	No
13	Have you identified industrial activities that discharge to your MS4?	DPW Garage
14	When addressing septic failures are areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4 given the highest priority?	The Town/Borough contracted out to complete catchment ranking and prioritization of outfalls in 2018.

III.D. Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Develop, implement, and enforce a program to control stormwater discharges associated with land disturbance or development activities from sites with one acre or more of soil disturbance, whether considered individually or collectively as a part of a larger common plan.

III D	Question	Response
1	Describe the ordinance or other regulatory mechanism used by your jurisdiction that includes erosion and sediment controls, as well as sanctions to ensure compliance?	The Town/Borough contracted out in 2019 to complete a review of the Town and Borough’s land use regulations and implementation policies for compliance with the MS4 permit.
2	Have necessary additional measures to protect/improve water quality been implemented?	The Town reviewed 140 Land development applications in total, including all greater than 1 acre, for compliance with existing stormwater quality regulations in the Town of Stonington. The Borough did not review any site plans for land development in 2021.
3	Have you developed/implemented a plan outlining how all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects in the MS4 will coordinate their functions?	Site plan review & approval processes are followed for all applicable land use applications.
4	Have you implemented a procedure for the receipt and consideration of information submitted by the public concerning proposed and ongoing disturbance and development activities?	Both the Town of Stonington & Borough have a hotline which remains active and up to date.
5	Has a procedure for notifying developers or contractors of their potential obligation to obtain authorization under DEEP Construction General Permit been implemented?	The Town requires qualifying land development projects to register with the CT DEEP and show proof of registration prior to construction.

III.E. Minimum Control Measure #5: Post-Construction for New Development and Redevelopment

Develop, implement, and enforce a program to ensure reduction of pollutants in any stormwater runoff to the maximum extent practicable (MEP) from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development.

III E	Question	Response
1	Has appropriate legal authority that requires a developer or contractor seeking approval to consider the use of LID and runoff reduction site planning and development practices been established?	The Town/Borough contracted out in 2019 to complete a review of the Town and Borough’s land use regulations, including the Town’s Technical Standards. This includes review of the Town’s Post-construction regulatory mechanisms and legal authority, as well as identification of regulatory barriers to implementing LID and runoff reduction practices and suggestions for reducing or eliminating those barriers.
2	Describe your provisions and engineering/design standards that require new developments to incorporate structural and non-structural stormwater management facilities and Green Infrastructure?	The Engineering Department and Planning Department continue to require maintenance plans for all stormwater infrastructure proposed as part of land-use applications. Follow-up of implementation strategies and measures can be improved upon

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Self Assessment Checklist - Stonington

3	Have you calculated the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to MS4 outfalls?	Initial mapping is completed, revisions are ongoing as DCIA is added or removed. The Town/Borough contracted a consultant to complete an initial analysis of DCIA in the Town and Borough's Priority Area for each CT DEEP Local Basin. <u>The Town/Borough have previously contracted with this consultant to complete revisions to DCIA estimates based on development projects completed within 5 years prior to the permit effective date.</u>
4	Have you tracked DCIA reductions to meet the permit reduction requirements? Do you have municipal improvements planned to reduce DCIA?	Yes, we have a tracking program which can be found in the most recent annual report in the appendix. We are required to remove approximately 18 acres of DCIA and are in the design stage of our first town-funded retrofit projects directly related to the MS4 DCIA requirements.
5	Has a plan for inspecting and ensuring long term effectiveness of retention or detention ponds, stormwater treatment structures, and stormwater control measures installed within the MS4?	The Town and Borough have in past years contracted out to identify additional existing stormwater BMPs throughout the Town and Borough and update this list annually. This survey included identification of ownership and maintenance responsibility. The Town conducted 4 maintenance inspections of BMPs in 2022. The Borough conducted 1 maintenance inspection of BMPs in 2022. Grates and gutters were cleaned, vegetation removed, and sediment removed.
6	Have additional measures for discharges to impaired waters, erosion, and sedimentation post-construction been implemented?	No

III.F. Minimum Control Measure #6: Pollution Prevention/Good Housekeeping in Municipal Operations

Develop and implement an operations and maintenance program with ultimate goal of preventing and/or reducing pollutant runoff and protecting water quality permittee-owned or -operated MS4s.

III F	Question	Response
1	Has a formal employee training program to increase awareness of water quality related issues been continued?	The Town and Borough contracted with their consultant to do annual MS4 training that was scheduled for spring 2020. This training was cancelled due to COVI-19. On 02/08/2019 the Town of Stonington and the Town's sampling consultant received training regarding use of a digital data collection system for dry weather outfall screening and sampling and wet weather sampling of outfalls that discharge to impaired waters.
2	Has infrastructure been repaired in a timely manner to eliminate discharge of pollutants based on information on outfalls discharging pollutants, impaired water, inspection, or outfall mapping observations made?	No, all work orders are communicated by staff and written when needed.
3	Describe your CB cleaning, inspection, and documentation program.	Both the Town and Borough clean/vacuum catch basins on an annual basis.
4	Describe your street sweeping program. Include minimum yearly effort, sediment tracking and how you evaluate the effectiveness of this program.	Both the Town and Borough sweep streets on an annual basis. Downtown areas get swept multiple times per year to keep areas clean and prepare for special events.
5	Describe your snow and ice management practices. Include standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.	The Town of Stonington has 14 designated plow routes. All plow drivers have attended training for salt application and snow removal BMPs in the past. Employees are trained annually on BMPs for snow management.

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Self Assessment Checklist - Stonington

5 cont	Describe your snow and ice management practices. Include standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.	<p>Training was completed in November 2019 during the prewinter operations meeting. Software to manage salt application is installed in all large trucks with built in spreaders. All trucks with spreaders are calibrated prior to the start of a winter event and then are rechecked in February. The Town minimizes the use of salt, and no sand is used on the Town's road system. The Town uses treated salt only and it is only applied when the road surface is wet to ensure maximum adhesion to the road surface.</p> <p>GPS units were previously installed on all plow trucks within the Town of Stonington DPW Department.</p>
6	Have you implemented a program to provide for regular inspection and maintenance of permittee-owned or operated streets, parking areas and other MS4 infrastructure?	<p>The DPW has two State certified lawn/turf care applicators of which are directly responsible for the day-to-day maintenance of athletic fields for the Stonington school district. The care of these athletic fields utilizes current industry BMP standards.</p> <p>Town employees attended training in 2019 and one employee attended in 2020. The Town reduced herbicide use by 20% in 2019 and 10% in 2020.</p> <p>All other municipal buildings and facilities' grounds are maintained by the DPW. The Town-wide residential leaf collection program was discontinued in 2020. The Town still collects leaves from the public right of way and from areas with poor drainage.</p>
7	Has coordination been implemented between interconnected MS4s?	The Town currently notifies the clerk of any adjoining municipality or subdivision applications for which a significant portion of water drainage will flow through and significantly impact the adjoining municipality. The Town also requires Subdividers to obtain an encroachment permit from CTDOT when a proposed drainage system connects to a state-maintained drainage system.
8	<p>Have you identified field program activities and associated potential pollutants?</p> <ul style="list-style-type: none"> • Roads, Streets, sidewalks, parking lots and highway operation • Drainage system operation and maintenance • Water and Sewer Utility Operation 	None identified
9	Has a program been implemented to control the contribution of pollutants from commercial, industrial, municipal, institutional, or other facilities not otherwise authorized by permit?	No, working on SOP SPCC for facilities Plan review for BMP's (LID)
10	Have you implemented a turf management practices and procedures policy for waters which Nitrogen and Phosphorus are Stormwater Pollutants of Concern? Has there been a reduction in application of fertilizer and/or turf area?	Yes Town has reduced fertilizer use and utilizing organic materials
11	Have you implemented and prioritized a retrofit or source management program to correct the problem(s) within a specific timeframe? Has the 2% DCIA reduction been met? What is the cost of retrofit projects?	No, working on retrofit design currently underway

III.G. Monitoring Requirements

Implement a screening and monitoring program in accordance with Section 6(i).

III G	Question	Response
1	Have you identified Impaired waters and the outfalls that discharge to the Impaired waters?	Yes
2	Have you completed dry weather sampling of all outfalls?	75-90% complete
3	Have you conducted wet weather sampling of outfalls that discharge to Impaired Waters?	Approximately 50%
4	Do you conduct annual wet weather screening of the six highest contributors?	Yes, recently signed contract with consultant to perform

IV. Capital Improvements Program (CIP)

Identification, prioritization and ranking of stormwater infrastructure improvements.

IV	Question	Response
1	Describe your stormwater CIP program including identification of problem and prioritization.	The Town has a drainage program that identifies and prioritizes stormwater improvements
2	How are stormwater projects funded?	Town budget for CIP projects
3	Who is the most knowledgeable about stormwater infrastructure improvement needs?	Barbara
4	Does your Annual Budget include stormwater CIP projects?	Yes
5	Does your Annual Budget include identified stormwater allocations for maintenance?	Drainage materials line item
6	Does your Comprehensive Plan include stormwater infrastructure projects?	No
7	Are flood studies available that identify the problems and provide long term solutions?	No
8	Misc. Proposed Drainage Improvements	Allen Street, Taugwonk, Money, etc.

V. Stormwater Personnel and Budgets

Identification of staffing utilization/needs for stormwater improvements and associated budgets for the stormwater programs.

V	Question	Response
1	Describe your stormwater current staff and % utilization on stormwater.	Hwy Workers, Senior Op & crew – approximately 30% Engineering Intern – 70%
2	Describe your future stormwater staff needs.	1 Senior Equipment Operator, 2 Operators, 3 truck drivers, 1 Engineer 75% of work is for stormwater activities
3	Annual budgets and what line items or % are for stormwater – O&M, CIP and Management	Provided by 10Engineering
4	Do you have any debt service related to stormwater?	No
5	Do you have betterments related to stormwater?	No
6	What are your overhead rates for employees?	Ask HR
7	Miscellaneous budget or staffing budgets, needs or requirements	GIS Person, Facility, Machines, Admin.

**SCCOG Stormwater Management District Feasibility Study
Stormwater System Program Self-Assessment Checklist**

Municipality: Waterford

Date: 7/21/2022

Staff Interviewed: Gary Schneider & Abby Piersall

I. General Information – Stormwater System Description

I	Question	Response
1	Identify the number of people currently served by your stormwater system.	19,571
2	Provide information on stormwater assets, status of condition assessments and extent of mapping of assets: <ul style="list-style-type: none"> • Manholes • CB's • Outfalls • Interconnections • Culverts • Detention ponds • Channels • Storage facilities • Municipal BMP's • Ponds • Private facilities • Storm drains (length) • Pump stations 	<ul style="list-style-type: none"> - Outfalls: 387 and counting - Interconnections: 10 - Detention Ponds: 40 (annual) - Pump Stations: none - Outfall mapping: 75% complete - Interconnection mapping: 25% complete - GIS mapping: 30% complete
3	Outfall/Interconnection Inventory Assessment <ul style="list-style-type: none"> • Size and Location • Where is inventory maintained (GIS) • Outfall Screening status 	387 outfalls (and counting)
4	What is the age of your stormwater system and your sewer system (e.g., percentage over 100, 75, 50, 30, etc. years old)?	<ul style="list-style-type: none"> - 50-60 years old: 80% - Older: 10% - Newer: 10%
5	Type(s) and age of stormwater system maps that are available and what percent of the system is mapped by each method (paper only, paper scanned electronic, digitized, interactive GIS, etc.)?	Annual 2021 Report <ul style="list-style-type: none"> - GIS mapping of drainage system – Town uses no paper plans
6	Are “as-built” plans (record drawings) or maps available and used by field crews in the office and in the field?	No
7	Describe the type of maintenance management system used to track work (card catalog, spreadsheets, CMMS software program, etc.)	Drainage system maintenance is a dynamic, reactionary system Town uses a spreadsheet that is coded by crew (details about work done not necessarily location)
8	Do you have documentation of the interconnections with other adjacent MS4's?	No coordination yet

II. Stormwater System Management Organizational Structure

II	Question	Response
1	Provide an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff.	33 people
2	How many staff members work on storm water system and % of work per staff member?	Need % on stormwater for each of the 33 staff OR a total cost for partial salaries for stormwater

III. MS4 – Six Minimum Control Measures

III.A. Minimum Control Measure #1: Public Education and Outreach

Develop and implement a public education program to distribute educational materials to the community or conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

III A	Question	Response
1	What types of Public Education and Outreach activities/programming have been conducted? <ul style="list-style-type: none"> Website, Flyers, Clean up days, Public Meetings, Social Media, etc. 	Stormwater Regulations website was created and linked to Town website, Planning & Development website, and Recreation and Parks website, as well as informational material available at Town offices. Links regarding water quality, impervious cover, urban runoff, NPDES Program, Save the Sound, and pollutants and how to mitigate them are on Stormwater webpage. SMP and Annual Report available on Town Website. All CBs have been stenciled.
2	Have additional measures for discharges been implemented to target specific pollutants (household and others)?	Information on nitrogen, phosphorus, turbidity, and bacteria and mitigation strategies are on Town website. Household Hazardous Waste Collection Days also occur multiple times a year
3	Have you utilized NEMO public outreach materials?	Yes

III.B. Minimum Control Measure #2: Public Involvement / Participation

Develop a program that involves the community in both the planning and implementation process of improving water quality.

III B	Question	Response
1	How was the public notice of the Plan and Annual Report distributed? Did it include: <ul style="list-style-type: none"> Contact name and information Access information to Plan and Annual report electronically and publicly 30-day comment period Sent annually January 31 	Notice of SMP was published in The Day newspaper and on the Town’s Stormwater website. Notice of 2020 Annual Report draft posted on Town’s website and report was available on site from 2/16/21 to 3/29/21.

III.C. Minimum Control Measure #3: Illicit Discharge Detection and Elimination (IDDE)

Develop a program to systematically find and eliminate sources on non-storm water and to ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

III C	Question	Response
1	Do you have an IDDE Plan? Have you implemented the IDDE Plan?	IDDE Plan has been finalized
2	Describe your program to detect and eliminate illicit discharges.	See IDDE Plan
3	How do you track and document citizen complaints/reports relating to illicit discharges spills or dumping into the streets, public ROW or stormwater drains?	Citizens can call DPW to report any activities, an updated system will be developed to include use of <i>Municipity Software</i> - Software not currently used for IDDE
4	Procedures to detect and address non storm water discharges?	No
5	How do you track illicit discharge abatement activities?	Currently using excel and access spreadsheets, along with GIS
6	Stormwater regulations that prohibit illegal discharges (enforcement actions) - Have you adopted an IDDE Ordinance?	IDDE Plan has been finalized - On the books, not updated
7	Do you have adequate legal authority to enforce the IDDE Ordinance and capacity to implement the Ordinance?	Current ordinance generally meets requirements and will have slight changes made to be more consistent with the UConn CLEAR template
8	Have you developed a list and mapped all stormwater outfalls owned by the municipality and all interconnections with other MS4s? Describe how you map outfalls and connectivity of the stormwater drainage system.	Outfalls in priority areas have been listed/mapped. In 2021 with assistance from Town's Consultant, the Town conducted significant efforts to confirm and locate additional outfalls in priority areas that were either not mapped correctly or were not previously identified. The Town also conducted efforts for updating the mapping for catch basins, piping, and stormwater structures in priority areas.
9	How does your municipality address the following categories of non-storm water discharges: <ul style="list-style-type: none"> • Water line flushing • Diverted stream flows • Water from crawl space • Air conditioning condensation • Pool drainage 	Clean water discharge permits are issued by the DPW
10	Have you conducted dry weather screening of all outfalls and interconnections?	98% complete – ongoing – inspections delayed due to COVID
11	Are there any outfalls or interconnections that were identified that require follow up? If so, what is/was the follow up?	No
12	Have you completed dry weather catchment investigations?	6 initiated
13	Have you identified industrial activities that discharge to your MS4?	- Industrial Drive and 85 Corridor most discharge to State system - Residential to ponds and own system
14	When addressing septic failures are areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4 given the highest priority?	In 2021 Town's Consultant initiated 4 IDDE investigations for catchment areas that discharge to impaired waters. It is anticipated that Consultant will complete the initial investigations started and will continue to investigate additional suspected illicit discharges in 2022 to the maximum extent practicable.

III.D. Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Develop, implement, and enforce a program to control stormwater discharges associated with land disturbance or development activities from sites with one acre or more of soil disturbance, whether considered individually or collectively as a part of a larger common plan.

III D	Question	Response
1	Describe the ordinance or other regulatory mechanism used by your jurisdiction that includes erosion and sediment controls, as well as sanctions to ensure compliance?	P&Z updated Subdivision and Zoning Regulations to incorporate LID, green infrastructure, and stormwater design requirements. Town’s consultant evaluated the Town’s land use regulations in 2021 and made recommendations towards improving compliance with the MS4 GP
2	Have you developed/implemented a plan outlining how all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects in the MS4 will coordinate their functions?	Site applications are forwarded to Town Officials for review and comment during application process. Plans are not signed by commission until all departments have signed off on project plan.
3	Have you implemented a procedure for the receipt and consideration of information submitted by the public concerning proposed and ongoing disturbance and development activities?	Agendas and minutes are noticed in compliance with State requirements. Public hearings announced in newspaper, complaints regarding land-disturbance are forwarded to Planning and Development Department
4	Has a procedure for notifying developers or contractors of their potential obligation to obtain authorization under DEEP Construction General Permit been implemented?	Town agencies notify developers of stormwater requirements, when applicable, developers submit notification of registration to State. P&Z application checklist was revised to require applicant’s determination if a Construction Stormwater GP is required.

III.E. Minimum Control Measure #5: Post-Construction for New Development and Redevelopment

Develop, implement, and enforce a program to ensure reduction of pollutants in any stormwater runoff to the maximum extent practicable (MEP) from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development.

III E	Question	Response
1	Has appropriate legal authority that requires a developer or contractor seeking approval to consider the use of LID and runoff reduction site planning and development practices been established?	P&Z updated Subdivision and Zoning Regulations to incorporate LID, green infrastructure, and stormwater design requirements. Town’s consultant evaluated the Town’s land use regulations in 2021 and made recommendations towards improving compliance with the MS4 GP
2	Describe your provisions and engineering/design standards that require new developments to incorporate structural and non-structural stormwater management facilities and Green Infrastructure?	Section 25.6 Stormwater Management regulations require LID, run-off control and stormwater treatment to the maximum extent practicable for all new development >0.5 acre. Town’s consultant evaluated the Town’s LID/runoff reduction requirements in 2021 and made recommendations towards improving compliance with the MS4 General Permit.
3	Have you calculated the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to MS4 outfalls?	The DCIA for the priority areas have been calculated using the available impervious cover layers
4	Have you tracked DCIA reductions to meet the permit reduction requirements? Do you have municipal improvements planned to reduce DCIA?	No tracking - Consultant working on going back 5 years prior to permit (2012) Retrofits projects have been selected and planned for implementation in future years (see Attachment 6 of Annual Report)

SCCOG Stormwater Management District Feasibility Study
Self Assessment Checklist - Waterford

5	Has a plan for inspecting and ensuring long term effectiveness of retention or detention ponds, stormwater treatment structures, and stormwater control measures installed within the MS4?	Inspection reports and water quality monitoring for stormwater and treatment basins were completed. Town maintains an inventory of required stormwater management control practices for completed site developments. Documentation of inspection and maintenance of stormwater treatment is requested as part of land use and building permit approvals. Town employees receive instruction on maintenance for rain gardens, stormwater detention /treatment systems. All basins and structures are maintained at least annually.
6	Have additional measures for discharges to impaired waters, erosion, and sedimentation post-construction been implemented?	Not started

III.F. Minimum Control Measure #6: Pollution Prevention/Good Housekeeping in Municipal Operations

Develop and implement an operations and maintenance program with ultimate goal of preventing and/or reducing pollutant runoff and protecting water quality permittee-owned or -operated MS4s.

III F	Question	Response
1	Has a formal employee training program to increase awareness of water quality related issues been continued?	Training program has been developed, due to COVID-19 pandemic a virtual training was provided to select personnel from PW and the Conservation Commission on 5/27/2021
2	Has infrastructure been repaired in a timely manner to eliminate discharge of pollutants based on information on outfalls discharging pollutants, impaired water, inspection, or outfall mapping observations made?	Yes – infrastructure repairs are ongoing
3	Describe your CB cleaning, inspection, and documentation program.	Town cleans approximately 1/3 of all the catch basins annually
4	Describe your street sweeping program. Include minimum yearly effort, sediment tracking and how you evaluate the effectiveness of this program.	Typically, all Town-owned roads are swept every year, starting after the last snow melt. The Town had maintenance issues with their sweepers in 2021 and will continue their sweeping program in 2022
5	Describe your snow and ice management practices. Include standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.	DEEP Guidelines on snow management provided to Town. The Town streets and municipal lots were plowed as necessary. Roads were treated with salt (no sand) as necessary
6	Have you implemented a program to provide for regular inspection and maintenance of permittee-owned or operated streets, parking areas and other MS4 infrastructure?	Yes and perform sweeping as needed
7	Has coordination been implemented between interconnected MS4s?	Through the outfall identification process the Town has identified several interconnections with the neighboring towns/cities
8	Have you identified field program activities and associated potential pollutants? <ul style="list-style-type: none"> • Roads, Streets, and highway operation • Sidewalk, parking lots maintenance and cleaning • Landscape maintenance • Drainage system operation and maintenance • Water and Sewer Utility Operation 	<ul style="list-style-type: none"> - Majority of developed – sewered 70% - Not sewered 30% - New London – Utility Commission - Modifying billing software - merging billing database - No SSO's

SCCOG Stormwater Management District Feasibility Study
Self Assessment Checklist - Waterford

9	Has a program been implemented to control the contribution of pollutants from commercial, industrial, municipal, institutional, or other facilities not otherwise authorized by permit?	Yes - ongoing
10	Have you implemented a turf management practices and procedures policy for waters which Nitrogen and Phosphorus are Stormwater Pollutants of Concern? Has there been a reduction in application of fertilizer and/or turf area?	Information will be forwarded from Parks & Recreation Town has reduced pesticide application rate on Town land by approximately 25% and herbicide use by approximately 20%
11	Have you implemented and prioritized a retrofit or source management program to correct the problem(s) within a specific timeframe for waters which Bacteria is a Stormwater Pollutant of Concern? Has the 2% DCIA reduction been met? What is the cost of retrofit projects?	Not started Retrofit projects have been selected, screened, designed (including preliminary costs) and planned for future implementation (See Attachment 6 of the Annual Report)

III.G. Monitoring Requirements

Implement a screening and monitoring program in accordance with Section 6(i).

III G	Question	Response
1	Have you identified Impaired waters and the outfalls that discharge to the Impaired waters?	Yes
2	Have you completed dry weather sampling of all outfalls?	240/262 done as of 2020 report
3	Have you conducted wet weather sampling of outfalls that discharge to Impaired Waters?	Unknown
4	Do you conduct annual wet weather screening of the six highest contributors?	No

IV. Capital Improvements Program (CIP)

Identification, prioritization and ranking of stormwater infrastructure improvements.

IV	Question	Response
1	Describe your stormwater CIP program including identification of problem, prioritization, and ranking.	2017 Vulnerability Assessment No separate CIP budget/planning process
2	How are stormwater projects funded?	Town funds - Some occasional retrofits and grants
3	Who is the most knowledgeable about stormwater infrastructure improvement needs?	Gary Schneider
4	Does your Annual Budget include stormwater CIP projects?	No
5	Does your Annual Budget include identified stormwater allocations for maintenance?	No
6	Does your Comprehensive Plan include stormwater infrastructure projects?	N/A
7	Are flood studies available that identify the problems and provide long term solutions?	2017 Vulnerability Assessment
8	Misc. Proposed Drainage Improvements	None

V. Stormwater Personnel and Budgets

Identification of staffing utilization/needs for stormwater improvements and associated budgets for the stormwater programs.

V	Question	Response
1	Describe your stormwater current staff and % utilization on stormwater.	Abby – 1 person 50% stormwater ms4 Gary – 1 person
2	Describe your future stormwater staff needs.	Town could use additional staff
3	Annual budgets and what line items or % are for stormwater – O&M, CIP and Management	- Current managing - \$54,000 for consultant assistance with MS4 requirements
4	Do you have any debt service related to stormwater?	Bonding – dept services (Abby to provide)
5	Do you have betterments related to stormwater?	None
6	What are your overhead rates for employees?	Will be provided
7	Miscellaneous budget or staffing budgets, needs or requirements	Any additional needs?

Appendix C

Existing Conditions Technical Memorandums



Memorandum

To: Ledyard CT

From: CDM Smith

Date: October 13, 2022

*Subject: Municipal Stormwater Authority Feasibility Study
Existing Conditions Analysis*

In conjunction with the Southeastern Connecticut Council of Governments (SCCOG), CDM Smith has been contracted to study the feasibility of establishing a municipal stormwater authority for four member municipalities: the Towns of Ledyard, Preston, Stonington and Waterford. The first task in this study is the evaluation of the existing stormwater management programs with respect to: regulatory compliance, operations and maintenance (O&M), stormwater capital improvements projects (CIP) program and program management.

PROGRAM MANAGEMENT	REGULATORY COMPLIANCE
<ul style="list-style-type: none">• Master planning• Complaint response• Development review	<ul style="list-style-type: none">• MS4 Permit requirements (6 minimum control measures)• TMDL compliance
OPERATIONS AND MAINTENANCE	CAPITAL IMPROVEMENT PROJECTS
<ul style="list-style-type: none">• Street sweeping• Catchbasin and pipe cleaning	<ul style="list-style-type: none">• System upgrades & replacement• Stormwater Flooding Studies

Upon completion of the existing conditions analysis, CDM Smith will evaluate two scenarios: one that focuses on meeting the regulatory compliance requirements, second to have a proactive stormwater program. Using these two scenarios, CDM Smith will then perform a feasibility assessment that includes: an assessment of fee structures, billing system requirements, implementation requirements and stormwater ordinances. Once all three activities are completed, CDM Smith will prepare a Feasibility Study Report that summarizes the results of the evaluations.



For the Town of Ledyard, CDM Smith evaluated the Town’s regulatory compliance, completed a stormwater checklist, and conducted an interview with key staff in order to gain a comprehensive understanding of Ledyard’s stormwater management program. The following summarizes the results of these activities with respect to regulatory compliance, O&M, CIP and program management.

Regulatory Compliance

The Connecticut Department of Energy and Environmental Protection (CT DEEP) released the Small Municipal Separate Storm Sewer Systems (MS4) General Permit effective July 1, 2017. Small MS4’s were required to submit a Stormwater Management Plan (SMP) on April 1, 2017 and implement the SMP over the five year permit term.

This memorandum includes an evaluation of the Town of Ledyard’s existing permit requirements, their level of compliance with the MS4 permit, and an estimation of their stormwater program costs. It also includes an estimate of the Town’s gap in meeting stormwater compliance and an estimate of additional costs associated with bridging the gap.

In order to review compliance with the Town’s MS4 permit, CDM Smith reviewed the following documents:

- Ledyard Stormwater Management Plan
- Ledyard Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
- Ledyard 2021-2022 Adopted Budget

Existing MS4 Permit Requirements

The Town of Ledyard implements the current MS4 general permit through the six minimum control measures (MCM’s), each containing multiple best management practices (BMP’s). Each BMP is defined in the SMP and includes measurable goals designed to provide milestones for each BMP. Below is a summary of each of the Town of Ledyard’s MCM’s and their compliance with each of the BMPs. The compliance evaluation uses:

“Proactive”	performing all MCM requirements
“Average”	performing the majority of the MCM requirements (typically miss 1-2 requirements)
“Below Average”	performing some of the MCM requirements (typically miss 3-4 requirements)
“Poor”	minimal effort or not performing any BMPs in the respective MCM

MCM 1 – Public Education and Outreach

To satisfy the Public Education and Outreach requirements in MCM 1, the Town of Ledyard agreed to perform the following BMPs

- Provide information on stormwater programs and informational links on Town website
- Provide information on programs and informational links related to pollutants of concern

The Town of Ledyard implements this MCM using the Town’s website, which is updated annually.

Rating: Proactive

MCM 2 – Public Participation and Involvement

To satisfy the Public Participation and Involvement requirements in MCM 2, the Town of Ledyard agreed to perform the following BMPs:

- Make final Stormwater Management Plan publicly available
- Comply with public notice requirements for Annual Reports

The Town of Ledyard fully implements this MCM and performs all BMPs. The Town has also posted sample results on the website as well as file them with CT DEEP.

Rating: Proactive

MCM 3 – Illicit Discharge Detection and Elimination

To satisfy the Illicit Discharge Detection and Elimination (IDDE) requirements in MCM 3, the Town of Ledyard agreed to perform the following BMPs

- Develop a written IDDE program
- Develop a list and maps of all MS4 stormwater outfalls in priority areas
- Implement a citizen reporting program
- Establish legal authority to prohibit illicit discharges
- Develop a record keeping system for IDDE tracking
- Address IDDE in areas with pollutants of concern
- Detailed MS4 infrastructure and mapping
- Complete list and maps of all MS4 stormwater outfalls throughout municipality

The Town of Ledyard implements most of this MCM. The Town has previously completed and updated many of these programs, however, no work has been done on addressing IDDE since dry weather sampling in 2019.

Rating: Average

MCM 4 – Construction Site Stormwater Runoff Control

To satisfy the Construction Site Stormwater Runoff Control requirements in MCM 4, the Town of Ledyard agreed to perform the following BMPs

- Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit
- Develop/Implement plan for interdepartmental coordination in site plan review/approval

- Review site plans for stormwater quality concerns
- Conduct site inspections
- Implement procedure to allow public comment on site development
- Implement procedure to notify developers about DEEP construction stormwater permit

The Town of Ledyard implements this MCM and performed all BMPs, some of which are ongoing as needed. Many of the BMPs were already completed under the 2004 permit.

Rating: Proactive

MCM 5 – Post Construction Stormwater Management

To satisfy the Post Construction Stormwater Management requirements in MCM 5, the Town of Ledyard agreed to perform the following BMPs:

- Establish and/or update legal authority and guidelines regarding Low Impact Development (LID) and runoff reduction in site development planning
- Enforce LID/runoff reduction requirements for development and redevelopment projects
- Identify retention and detention ponds in priority areas
- Implement long-term maintenance plan for stormwater basins and treatment structures
- Directly Connected Impervious Area (DCIA) mapping
- Address post-construction issues in areas with pollutants of concern

The Town of Ledyard partially implements this MCM. Legal authority is being reviewed and revised while a long-term maintenance plan is being developed. Resources have not been available to fully address post construction issues in areas of concern, and many projected completion dates are after listed permit due dates.

Rating: Average

MCM 6 – Pollution Prevention/Good Housekeeping

To satisfy the Pollution Prevention and Good Housekeeping requirements in MCM 6, the Town of Ledyard performs the following BMPs:

- Develop/implement formal employee training program
- Implement MS4 property and operations maintenance
- Implement coordination with interconnected MS4s
- Develop/implement program to control other sources of pollutants to the MS4
- Evaluate additional measures for discharges to impaired waters
- Track projects that disconnect DICA

- Implement infrastructure repair/rehab program
- Develop/implement plan to identify/prioritize retrofit projects
- Implement retrofit projects to disconnect 2% of DCIA
- Develop/implement street sweeping program
- Develop/implement catch basin cleaning program
- Develop/implement snow management practices

The Town of Ledyard implements this control measure and performs some BMPs. Some coordination has been implemented between connected MS4s, programs to control pollutants and evaluation of discharges to impaired waters have not begun. Retrofit projects are in progress and on track to meet due date but are not yet completed.

Rating: Average

Outfall Monitoring

To satisfy the Outfall Monitoring requirements, dry weather sampling of outfalls was completed according to permit requirements. The Town of Ledyard performed annual wet weather sampling of MS4 stormwater outfalls that discharge to priority areas and submitted the results to CT DEEP. The Town was supposed to perform wet weather sampling between March 1st and June 30th; however, sampling was completed in the fall.

Rating: Average

Stormwater MS4 Compliance Summary

In general, the Town of Ledyard has completed most of the requirements in their SMP and is considered to have an “Average” level of compliance with the MS4 permit requirements. Attachment 1 provides a list of the BMPs included in the SMP for each MCM and summarizes compliance with the SMP based on the Town’s annual reports. Table 1 provides an overall summary of compliance for each MCM.

Table 1: Existing MS4 Permit Compliance - Ledyard

Control Measure	Compliance
1 - Public Education and Outreach	Proactive
2 - Public Participation and Involvement	Proactive
3 - Illicit Discharge Detection and Elimination	Average
4 - Construction Site Stormwater Runoff Control	Proactive
5 - Post Construction Stormwater Management	Average
6 - Pollution Prevention/Good Housekeeping	Average
Outfall Monitoring	Average
Summary/Total	Average

Stormwater O&M Summary

During the interview, the Town discussed their infrastructure repair program and equipment replacement annualized budgets. It appears that they are proactive with respect to projecting replacement costs for equipment and average with respect to infrastructure repairs.

Rating: Between Average and Proactive

Stormwater CIP Summary

During our interview with Ledyard, it was stated that the Town has invested in stormwater capital improvements in the past to address stormwater deficiencies, so they currently do not have any immediate need for stormwater CIP funding. They are planning for retrofit improvements to six of the Towns’ detention basins over the next 15 years to incorporate water quality treatment and address the DCIA requirements of the MS4 permit. Based on discussions with the Town, the stormwater CIP program appears to have been addressed in the past. The Town does not currently have a stormwater CIP plan or allocated funding for future CIP projects.

Rating: Average

Program Management

During the interview and as presented on the Stormwater Checklist, the Town does well with development review activities and has previously addressed flooding locations within the Town, prior to this evaluation. Ledyard currently does not have any flooding improvements identified and is reactive with respect to complaints related to stormwater infrastructure.

Rating: Average

Existing Cost Comparison

CDM Smith evaluated the costs associated with the Town’s stormwater activities including MS4 requirements, stormwater operations and maintenance and administrative activities. Attachment 2 contains cost calculations based on the 2022 Council Budget and input from the Town. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs. Table 2 below presents the total costs for stormwater activities as well as the additional costs identified by the Town to be able to fully address stormwater needs.

Table 2: Stormwater Costs and Cost per Capita

	Total Stormwater Costs	Per Capita Cost
Existing	\$397,600	\$26
Town Perceived Gap	\$512,800	\$33

With extensive, nationwide experience evaluating stormwater utility programs, CDM Smith has compiled a database of costs of MS4 programs for non-CSO communities in California, Florida, Kansas, North Carolina, Texas, and Virginia and compared the relative costs to their compliance. The data indicate a good correlation between the cost of compliance and the municipal population; that is, the level of compliance is related to the budget spent per capita. The data can be used to help

benchmark the performance of the Town’s program in comparison to current resource expenditures. Table 3 provides a summary of the cost per capita, and the compliance level based on CDM Smith’s benchmarking data. The low and high values are also shown.

Table 3: Total Stormwater MS4 Costs by Compliance and Cost per Capita

Compliance Status	Minimum	Average	Maximum
Pro-active	\$59	\$61	\$63
Average	\$27	\$44	\$60
Below Average	\$17	\$31	\$40
Poor	\$12	\$21	\$28

At a current estimated cost of \$397,600 and a census population of 15,413, Ledyard’s estimated cost per capita is approximately \$26. This value would place Ledyard at the “Below Average” compliance level based on CDM Smith’s national cost correlation.

Summary

The Town of Ledyard is considered to have the following:

Regulatory Compliance	Average
O&M	Average to Proactive
CIP Program	Average
Program Management	Average

To meet the anticipated needs identified by the Town, Ledyard will need to increase their annual spending on stormwater activities by \$115,199, increasing the total costs to \$512,800. This would increase the per capita spending from \$26 per capita to \$33 per capita, putting Ledyard at the higher end of “Below Average” or the lower end of the “Average” cost per capita compliance level.

Attachments:

Attachment 1: MS4 Permit Compliance Summary

Attachment 2: Estimated Costs Summary

**Attachement 1 - Stormwater MS4 Permit Compliance Summary
Town of Ledyard**

	2017		2018		2019		2020		2021	
	Year 1		Year 2		Year 3		Year 4		Year 5	
	SMP	Done								
MCM 1 - Public Education										
BMP 1-1 Implement a Public Education Program	x	√	x	√	x	√	x	√	x	√
BMP 1-2 Address Education/Outreach for Pollutants of Concern	x	√	x	√	x	√	x	√	x	√
MCM 2 - Public Participation										
BMP 2-1 Final Stormwater Management Plan Publically Available	x	?	x	√	x	√	x	√	x	√
BMP 2-2 Comply with Public Notice Requirements for the SMP and Annual Reports	x	√	x	√	x	√	x	√	x	√
MCM 3 - IDDE										
BMP 3-1 Develop a Written IDDE Program	x	?	x	?	x	?	x	√	x	√
BMP 3-2 Develop a List and Maps of All MS4 Stormwater Outfalls in Priority Areas	x	√	x	√	x	√	x	√	x	√
BMP 3-3 Develop Citizen Reporting Program	x	?	x	?	x	?	x	√	x	√
BMP 3-4 Establish Legal Authority to Prohibit Illicit Discharges	x	?	x	√	x	√	x	√	x	√
BMP 3-5 Develop Record Keeping System for IDDE Tracking	x	?	x	?	x	?	x	√	x	√
BMP 3-6 Address IDDE Areas with Pollutants of Concern	x	?	x	?	x	?	x	?	x	?
BMP 3-7 Detailed MS4 Infrastructure Mapping	x									
BMP 3-8 Complete List and Maps of all MS4 Stormwater Outfalls Throughout Municipality	x									
MCM 4 - Construction Controls										
BMP 4-1 Implement, Upgrade, and Enforce Land Use Regs to Meeting MS4 Permit Requirements	x	?	x	?	x	?	x	√	x	√
BMP 4-2 Develop/Implement Plan for Interdepartmental Coordination in Site Plan Review and Approval	x	√	x	√	x	√	x	√	x	√
BMP 4-3 Review Site Plans for Stormwater Quality Concerns	x	√	x	√	x	√	x	√	x	√
BMP 4-4 Conduct Site Inspections	x	√	x	√	x	√	x	√	x	√
BMP4-5 Implement Procedure to Allow Public Comment on Site Development	x	√	x	√	x	√	x	√	x	√
BMP 4-6 Implement Procedure to Notify Developers about DEEP Construction Stormwater Permit	x	√	x	√	x	√	x	√	x	√
MCM 5 - Post-Construction										
BMP 5-1 Establish or Update Legal Authority and Guidelines Regarding LID and Runoff Reduction in Site Development Planning	x	?	x	?	x	?	x	?	x	?
BMP 5-2 Enforce LID/Runoff Reduction Requirements for Development and Redevelopment Projects	x	?	x	?	x	?	x	?	x	?
BMP 5-3 Identify Retention and Detention Ponds in Priority Areas	x	?	x	?	x	?	x	?	x	√
BMP 5-4 Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures	x	?	x	?	x	?	x	?	x	?
BMP 5-5 Complete DCIA Mapping	x	?	x	?	x	?	x	?	x	√
Control measure 6 - Good Housekeeping										
BMP 6-1 Develop/Implement Formal Employee Training Program	x	?	x	√	x	√	x	√	x	√
BMP 6-2 Implement MS4 Property and Operations Maintenance	x	?	x	√	x	√	x	√	x	√
BMP 6-3 Implement Coordination with Interconnected MS4s	x	?	x	?	x	?	x	?	x	?
BMP 6-4 Develop/Implement Program to Control Other Sources of Pollutants to MS4	x	No								
BMP 6-5 Evaluate Additional Measures for Discharges to Impaired Waters	x	No								
BMP 6-6 Track Projects that Disconnect DCIA	x	No	x	√	x	√	x	√	x	√
BMP 6-7 Develop/Implement Infrastructure Repair/Rehab Program	x	No	x	?	x	?	x	?	x	√
BMP 6-8 Develop/Implement Plan to Identify/Prioritize Retrofit Projects	x	No	x	No	x	No	x	No	x	?
BMP 6-9 Implement Retrofit Projects to Disconnect 2% of DCIA	x	No	x	No	x	No	x	No	x	?
BMP 6-10 Develop/Implement Street Sweeping Program	x	√	x	√	x	√	x	√	x	√
BMP 6-11 Develop/Implement Catch Basin Cleaning Program	x	?	x	√	x	√	x	√	x	√
BMP 6-12 Develop/Implement Snow Management Practices	x	?	x	?	x	?	x	√	x	√

Key:

x	Requirement in the 2017 SMP	?	Not completed per SMP, but something was done
x	Omitted or changed as part of Annual Report	No	Not in compliance with the SMP
x	Added as part of the Annual Report	√	Completed per SMP or Annual Report

SCCOG Stormwater Management Feasibility Study
Attachment 2 - Estimate of Stormwater Costs - Town of Ledyard

10/13/2022

Salaries	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Supervisors	\$71,478	20%	\$14,296
9 PW Employees (Highway)	\$740,563	20%	\$148,113
Stormwater Consultant	\$50,000	100%	\$50,000
Planning (pre-dedicated)	\$10,000	100%	\$10,000
DPW Director	\$122,141	15%	\$18,321
Overhead & Benefits		@ 40%	\$96,292
		Total	\$337,021

Materials/O&M	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Training	\$1,800	20%	\$360
Contract Maintenance/Leases	\$3,000	10%	\$300
Gasoline/Oil	\$33,000	20%	\$6,600
Diesel Fuel	\$44,000	20%	\$8,800
Vehicle/Equip Parts	\$135,000	10%	\$13,500
Gravel	\$3,000	100%	\$3,000
Drainage Improvement	\$3,000	100%	\$3,000
Salt and Sand	\$125,000	20%	\$25,000
		Total	\$60,560

CIP	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Stormwater CIP	\$0	pre-determined	\$0
		Total	\$0

Gap	Value	Percent Stormwater	Stormwater Value
2 PW Employees (Highway)	\$164,570	50%	\$82,285
Overhead & Benefits		@ 40%	\$32,914
		Total	\$115,199

Purpose	Current Stormwater Budget Value	Future Stormwater Budget Value
Salaries	\$337,021	\$337,021
Materials/O&M	\$60,560	\$60,560
CIP	\$0	\$0
Gap	n/a	\$115,199
Total	\$397,600	\$512,800
Percapita Total	\$26	\$33



Memorandum

To: Preston CT

From: CDM Smith

Date: October 13, 2022

Subject: Municipal Stormwater Authority Feasibility Study
Existing Conditions Analysis

In conjunction with the Southeastern Connecticut Council of Governments (SCCOG), CDM Smith has been contracted to study the feasibility of establishing a municipal stormwater authority for four member municipalities: the Towns of Ledyard, Preston, Stonington and Waterford. The first task in this study is the evaluation of the existing stormwater management programs with respect to: regulatory compliance, operations and maintenance (O&M), stormwater capital improvements projects (CIP) program and program management.

PROGRAM MANAGEMENT	REGULATORY COMPLIANCE
<ul style="list-style-type: none">• Master planning• Complaint response• Development review	<ul style="list-style-type: none">• MS4 Permit requirements (6 minimum control measures)• TMDL compliance
OPERATIONS AND MAINTENANCE	CAPITAL IMPROVEMENT PROJECTS
<ul style="list-style-type: none">• Street sweeping• Catchbasin and pipe cleaning	<ul style="list-style-type: none">• System upgrades & replacement• Stormwater Flooding Studies

Upon completion of the existing conditions analysis, CDM Smith will evaluate two scenarios: one that focuses on meeting the regulatory compliance requirements, and one that focuses on a more proactive stormwater management program. Using these two scenarios, CDM Smith will then perform a feasibility assessment that includes: fee structures, billing system requirements, implementation requirements and stormwater ordinances. Once all three activities are completed, CDM Smith will prepare a Feasibility Study Report that summarizes the results of the evaluations.



For the Town of Preston, CDM Smith completed a stormwater checklist and conducted an interview with key staff in order to gain a comprehensive understanding of Preston’s existing stormwater management program. The Town of Preston does not fall under the Connecticut Department of Energy and Environmental Protection (CT DEEP) Municipal Separate Storm Sewer System (MS4) permit, so the following summarizes the results of the evaluation of stormwater operations and maintenance (O&M), capital improvements projects (CIP) program and program management.

Four categories were used to rate the Town’s compliance with the various stormwater initiatives. Below is a summary of the compliance evaluation categories that was used:

“Proactive”	activities performed exceed industry standard compared to similar municipalities
“Average”	performing the majority of industry standard stormwater activities compared to similar municipalities
“Below Average”	performing some of the industry standard stormwater activities
“Poor”	minimal effort or not performing stormwater activities

Stormwater O&M Summary

During the interview, the Town discussed their stormwater infrastructure repair program and cleaning operations. It appears that they are very responsive with respect to stormwater system repairs and do maintain a list of stormwater repair needs that are not addressed immediately. They also clean approximately ½ of their catch basins annually and all their streets have been swept at least once in the last 2 years. For a Town that is not part of the MS4 permit, Preston is performing O&M operations in line with other Connecticut municipalities.

Rating: Average

Stormwater CIP Summary

During our interview with Preston, the Town does not have a list of stormwater improvements or a stormwater CIP program. They do not currently have flood studies or any current flooding improvements identified, do not have a list of prioritizations for upgrades or replacement of the Town’s stormwater infrastructure, and the Town lacks dedicated funding for a stormwater CIP program.

Rating: Below Average

Program Management

During the interview and as presented on the Stormwater Checklist, the Town does well with development review activities, does not have a separate funding for stormwater program management, and is reactive with respect to complaints related to stormwater infrastructure.

Rating: Average

Future MS4 Permit Requirements

The CT DEEP Small MS4 General Permit was effective July 1, 2017 and expires June 30, 2022. Based on the previous time between permits (approximately 8 years), it is anticipated that Preston may

be incorporated into the MS4 permit in the future. As part of the MS4 Permit requirements, municipalities were required to develop a Stormwater Management Plan (SMP) that identified best management practices (BMPs) that were planned to be implemented to meet the permit requirements. The following summarizes typical BMPs for the current permit based on the six minimum control measures (MCMs).

MCM 1 – Public Education and Outreach

- Implement a public education and outreach program
- Address education/outreach for pollutants of concern
- Regularly update Town Website
- Continue catch basin stenciling program
- Hold household hazardous waste collection days

MCM 2 – Public Participation and Involvement

- Comply with public notice requirements for the SMP and Annual Reports
- Reach out for community group engagement
- Hold interagency meetings

MCM 3 – Illicit Discharge Detection and Elimination (IDDE)

- Develop a written IDDE program
- Develop a list and maps of all MS4 stormwater outfalls in priority areas
- Develop a citizen reporting program
- Establish legal authority to prohibit illicit discharges
- Develop a record keeping system for IDDE tracking
- Address IDDE in areas with pollutants of concern
- Map MS4 system in priority areas

MCM 4 – Construction Site Stormwater Runoff Control

- Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit
- Develop/Implement plan for interdepartmental coordination in site plan review/approval
- Review site plans for stormwater quality concerns
- Conduct site inspections
- Implement procedure to allow public comment on site development
- Implement procedure to notify developers about DEEP construction stormwater general permit

MCM 5 – Post Construction Stormwater Management

- Establish and/or update legal authority and guidelines regarding Low Impact Development (LID) and runoff reduction in site development planning
- Enforce LID/runoff reduction requirements for development and redevelopment projects
- Identify retention and detention ponds in priority areas
- Implement long-term maintenance plan for stormwater basins and treatment structures
- Directly connected imperious area (DCIA) mapping
- Address post-construction issues in areas with pollutants of concern

MCM 6 – Pollution Prevention/Good Housekeeping

- Develop/implement formal employee training program
- Implement MS4 property and operations maintenance
- Implement coordination with interconnected MS4s
- Develop/implement program to control other sources of pollutants to the MS4
- Evaluate additional measures for discharges to impaired waters
- Track projects that disconnect DICA
- Develop/Implement infrastructure repair/rehab program
- Develop/implement plan to identify/prioritize retrofit projects
- Implement retrofit projects to disconnect 2% of DCIA
- Develop/implement street sweeping, catch basin cleaning and snow management programs

Outfall Monitoring

To satisfy the Outfall Monitoring requirements of the MS4 program, permitted municipalities are required to perform annual wet weather sampling and dry weather screening.

Existing Cost Comparison

CDM Smith evaluated the costs associated with the Town's stormwater activities including stormwater O&M, CIP and program management activities. Attachment 1 contains cost calculations for these activities based on the 2022 Adopted Budget and input from the Town. These costs are presented as annual current costs. Table 1 on the following page presents the following:

- Existing Stormwater Costs include costs for stormwater activities based on the interview and recent coordination with Town staff
- Future Costs with Town Identified Gap includes the existing stormwater costs as well as the estimated costs for staff and equipment identified by the Town during the interview
- Future with MS4 Permit Requirements includes the Town identified gap costs and an estimate for future MS4 permit requirements based on costs from similar municipalities

Table 1: Stormwater Costs and Cost per Capita

	Total Stormwater Costs	Per Capita Cost
Existing Stormwater Costs	\$197,200	\$41
Future Costs with Town Identified Gap	\$372,600	\$78
Future with MS4 Permit Requirements	\$422,600	\$88

CDM Smith has compiled costs of MS4 programs for non-CSO communities in California, Florida, Kansas, North Carolina, Texas, and Virginia and compared the relative costs to their compliance. The data indicate a good correlation between the cost of compliance and the municipal population; that is, the level of compliance is related to the budget spent per capita. Table 2 below provides a summary of the cost per capita, and the compliance level based on data obtained from CDM Smith. The low and high values are also shown.

Table 2: Total Stormwater MS4 Costs by Compliance and Cost per Capita

Compliance Status	Minimum	Average	Maximum
Proactive	\$59	\$61	\$63
Average	\$27	\$44	\$60
Below Average	\$17	\$31	\$40
Poor	\$12	\$21	\$28

At a current estimated cost of \$197,200 and a census population of 4,788, Preston’s estimated cost per capita is approximately \$41. This value would place Preston in the “Average” compliance level based on CDM Smith’s national cost correlation. With the additional perceived gap of \$175,400, the cost per capita increases to \$78, putting Preston in the “Proactive” compliance level.

Summary

The Town of Preston is considered to have the following:

O&M	Average
CIP Program	Below Average
Program Management	Average

To meet the perceived gap identified by the Town, Preston will need to increase their annual spending on stormwater activities by \$175,400, increasing the total costs to \$372,600. This would increase the per capita spending from \$41 per capita to \$78 per capita, bringing the Town up to a “proactive” category for rating. With an additional \$50,000 to cover future MS4 permit requirements, the Town increase the per capita cost to \$89 and they would remain at the “proactive” category for rating.

SCCOG Stormwater Management Feasibility Study
Attachment 1 - Estimated Stormwater Costs - Town of Preston

10/13/2022

Salaries	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Road Foreman	\$71,050	10%	\$7,105
5 CDL Drivers/Laborers	\$192,524	10%	\$19,252
DPW Manager (Jim)	\$80,000	15%	\$12,000
P.W. Director (Consultant)	\$3,900	40%	\$1,560
Overhead and Benfits		@ 44%	\$17,564
Overtime	\$17,668	25%	\$4,417
		Total	\$61,898

Materials/O&M	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Catch Basin Cleaning	\$85,000	100%	\$85,000
HG: Repairs and Maintenance	\$85,000	30%	\$25,500
Highway - Equipment Repairs	\$42,500	30%	\$12,750
HG: Sand & Salt	\$50,000	10%	\$5,000
Gas & Diesel	\$31,000	20%	\$6,200
Highway - Equipment (Replacement)	\$6,000	10%	\$600
Highway (Emergency/Unforseen)	\$3,500	5%	\$175
		Total	\$135,225

CIP	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Stormwater CIP	\$0	0%	\$0
		Total	\$0

Town Perceived Gap	Value	Percent Stormwater	Stormwater Value
3 P.W. Employees	\$210,000	58%	\$121,800
Overhead and Benfits		@ 44%	\$53,592
		Total	\$175,400

Purpose	Current Stormwater Budget Value	Future Stormwater Budget Value	Future with MS4 Permit Requirements
Salaries	\$61,898	\$61,898	\$61,898
Materials/O&M	\$135,225	\$135,225	\$135,225
CIP	\$0	\$0	\$0
Gap	-	\$175,400	\$175,400
Future MS4 Permit Costs	-	-	\$50,000
Total	\$197,200	\$372,600	\$422,600
Percapita Total	\$41	\$78	\$88



Memorandum

To: *Stonington CT*

From: *CDM Smith*

Date: *October 12, 2022*

Subject: *Municipal Stormwater Authority Feasibility Study
Existing Conditions Analysis*

In conjunction with the Southeastern Connecticut Council of Governments (SCCOG), CDM Smith has been contracted to study the feasibility of establishing a municipal stormwater authority for four member municipalities: the Towns of Ledyard, Preston, Stonington and Waterford. The first task in this study is the evaluation of the existing stormwater management programs with respect to: regulatory compliance, operations and maintenance (O&M), stormwater capital improvements projects (CIP) program and program management.

PROGRAM MANAGEMENT	REGULATORY COMPLIANCE
<ul style="list-style-type: none">• Master planning• Complaint response• Development review	<ul style="list-style-type: none">• MS4 Permit requirements (6 minimum control measures)• TMDL compliance
OPERATIONS AND MAINTENANCE	CAPITAL IMPROVEMENT PROJECTS
<ul style="list-style-type: none">• Street sweeping• Catchbasin and pipe cleaning	<ul style="list-style-type: none">• System upgrades & replacement• Stormwater Flooding Studies

Upon completion of the existing conditions analysis, CDM Smith will evaluate two scenarios: one that focuses on meeting the regulatory compliance requirements and one that focuses on a more proactive stormwater management program. Using these two scenarios, CDM Smith will then perform a feasibility assessment that includes: fee structures, billing system requirements, implementation requirements and stormwater ordinances. Once all three activities are completed, CDM Smith will prepare a Feasibility Study Report that summarizes the results of the evaluations.



For the Town of Stonington, CDM Smith evaluated the Town’s regulatory compliance, completed a stormwater checklist, and conducted an interview with key staff in order to gain a comprehensive understanding of Stonington’s existing stormwater management program. The following summarizes the results of these evaluation activities with respect to regulatory compliance, O&M, CIP and program management.

Regulatory Compliance

The Connecticut Department of Energy and Environmental Protection (CT DEEP) released the Small Municipal Separate Storm Sewer Systems (MS4) General Permit effective July 1, 2017. Small MS4’s were required to submit a Stormwater Management Plan (SMP) on April 1, 2017 and implement the SMP over the five year permit term.

This memorandum includes an evaluation of the Town of Stonington’s existing permit requirements, their level of compliance with the MS4 permit, and an estimate of their current stormwater program costs. It also includes an estimate of the Town’s perceived gap in meeting stormwater compliance and an estimate of additional costs associated with bridging that gap.

In order to review compliance with the Town’s MS4 permit, CDM Smith reviewed the following documents:

- Stonington Stormwater Management Plan
- Stonington Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
- Stonington 2022-2023 Adopted Budget

Existing MS4 Permit Requirements

The Town of Stonington implements the current MS4 general permit through the six minimum control measures (MCM’s), each containing multiple best management practices (BMP’s). Each BMP is defined in the SMP and includes measurable goals designed to provide milestones for each BMP. Below is a summary of each of the Town of Stonington’s MCM’s and their compliance with each of the BMPs. The compliance evaluation uses:

“Proactive”	performing all MCM requirements
“Average”	performing the majority of the MCM requirements (typically miss 1-2 requirements)
“Below Average”	performing some of the MCM requirements (typically miss 3-4 requirements)
“Poor”	minimal effort or not performing any BMPs in the respective MCM

MCM 1 – Public Education and Outreach

To satisfy the Public Education and Outreach requirements in MCM 1, the Town of Stonington agreed to perform the following BMPs

- Implement a public education and outreach program
- Address education/outreach for pollutants of concern

The Town of Stonington implements this MCM, both BMPs have been maintained by the Town.

Rating: Average

MCM 2 – Public Participation and Involvement

To satisfy the Public Participation and Involvement requirements in MCM 2, the Town of Stonington agreed to perform the following BMPs:

- Make final SMP publicly available
- Comply with public notice requirements for Annual Reports
- Establish a Stormwater Task Force

The Town of Stonington fully implements this MCM and performs all BMPs.

Rating: Average

MCM 3 – Illicit Discharge Detection and Elimination

To satisfy the Illicit Discharge Detection and Elimination (IDDE) requirements in MCM 3, the Town of Stonington agreed to perform the following BMPs:

- Develop a written IDDE program
- Develop a list and maps of all MS4 stormwater outfalls in priority areas
- Implement a citizen reporting program
- Establish legal authority to prohibit illicit discharges
- Develop a record keeping system for IDDE tracking
- Address IDDE in areas with pollutants of concern
- Assess and prepare a ranking of catchments
- Consolidate IDDE tracking spreadsheets

The Town of Stonington implements the majority of this MCM, with many being either ongoing or complete. One BMP, “Address IDDE in areas with pollutants of concern” is still in progress with a projected completion in Summer 2022.

Rating: Average

MCM 4 – Construction Site Stormwater Runoff Control

To satisfy the Construction Site Stormwater Runoff Control requirements in MCM 4, the Town of Stonington agreed to perform the following BMPs:

- Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit

- Develop and Implement plan for interdepartmental coordination in site plan review and approval
- Review site plans for stormwater quality concerns
- Conduct site inspections
- Implement procedure to allow public comment on site development
- Implement procedure to notify developers about DEEP construction stormwater general permit

The Town of Stonington implements the majority of this MCM and performed almost all BMPs. Legal authority is being reviewed and had a projected completion date of July 1, 2021; however, there are no further updates.

Rating: Average

MCM 5 – Post Construction Stormwater Management

To satisfy the Post Construction Stormwater Management requirements in MCM 5, the Town of Stonington agreed to perform the following BMPs:

- Establish and/or update legal authority and guidelines regarding Low Impact Development (LID) and runoff reduction in site development planning
- Enforce LID/runoff reduction requirements for development and redevelopment projects
- Identify retention and detention ponds in priority areas
- Implement long-term maintenance plan for stormwater basins and treatment structures
- Directly Connected Impervious Area (DCIA) mapping
- Address post-construction issues in areas with pollutants of concern

The Town of Stonington partially implements this MCM. Some BMPs have been completed or are ongoing, however, legal authority and enforcing LID/Runoff are both in progress with projected completion dates of July 1, 2023. Resources have not been available to fully implement the post construction issues in areas of concern.

Rating: Below Average

MCM 6 – Pollution Prevention/Good Housekeeping

To satisfy the Pollution Prevention and Good Housekeeping requirements in MCM 6, the Town of Stonington agreed to perform the following BMPs:

- Develop/implement formal employee training program
- Implement MS4 property and operations maintenance
- Implement coordination with interconnected MS4s
- Develop/implement program to control other sources of pollutants to the MS4

- Evaluate additional measures for discharges to impaired waters
- Track projects that disconnect DICA
- Implement infrastructure repair/rehab program
- Develop/implement plan to identify/prioritize retrofit projects
- Implement retrofit projects to disconnect 2% of DCIA
- Develop/implement street sweeping program
- Develop/implement catch basin cleaning program
- Develop/implement snow management practices

The Town of Stonington partially implements this control measure and performs some BMPs. Some coordination has been implemented between connected MS4s. Tracking of projects that disconnect DCIA is also in progress. However, evaluation of discharges to impaired waters, development/implementation of a plan to identify/prioritize retrofit projects, and implementation of retrofit projects to disconnect 2% of DCIA have not begun. A plan for identifying retrofit projects is projected to be completed about 2 years after the due date.

Rating: Average

Outfall Monitoring

To satisfy the Outfall Monitoring requirements, the Town of Stonington hired a consultant to complete dry weather outfall screening/sampling and wet weather impaired waters sampling. Dry weather screening is 98% complete while wet weather sampling is over 50% complete and priority outfalls have been identified for annual monitoring.

Rating: Average

Regulatory Compliance Summary

In general, the Town of Stonington follows most of the MS4 permit requirements and is considered to have an “Average” level of compliance. Table 1 on the following page provides an overall summary of their compliance with their MS4 permit. Attachment 1 contains a more detailed compliance table and Attachment 2 contains cost calculations based on the 2022-2023 Council Budget. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs.

Table 1: Existing MS4 Permit Compliance - Stonington

Control Measure	Compliance
1 - Public Education and Outreach	Average
2 - Public Participation and Involvement	Average
3 - Illicit Discharge Detection and Elimination	Average
4 - Construction Site Stormwater Runoff Control	Average
5 - Post Construction Stormwater Management	Below Average
6 - Pollution Prevention/Good Housekeeping	Average
Outfall Monitoring	Average
Summary/Total	Average

Stormwater O&M Summary

During the interview, the Town provided information relative to their O&M activities. Based on this information, the results of the Stormwater Checklist, and review of the Town’s Annual Budget, it appears that Stonington is proactive with respect to stormwater O&M activities.

Rating: Proactive

Stormwater CIP Summary

During our interview with Stonington, it was stated that the Town has a drainage program that identifies and prioritizes stormwater improvements. It was also noted that the Town’s annual budget includes a line item for drainage materials as well as one for stormwater CIP. Based on discussions with the Town, they appear to have a very good stormwater CIP program.

Rating: Proactive

Program Management

During the interview and as presented on the Stormwater Checklist, the Town does well with development review activities, addressing flooding locations within the Town, and planning for stormwater improvements town wide. The Town appears to be reactive with respect to complaints related to stormwater infrastructure.

Rating: Average

Existing Cost Comparison

CDM Smith evaluated the costs associated with the Town’s stormwater activities including MS4 requirements, stormwater O&M and administrative activities. Attachment 2 contains cost calculations based on the 2022 Council Budget and input from the Town. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs. Table 2 on the following page presents the total costs for stormwater activities as well as estimated costs for

the staff and equipment identified by the Town during the interviews as necessary to be able to fully address the Town’s stormwater needs.

Table 2: Stormwater Costs and Cost per Capita

	Total Stormwater Costs	Per Capita Cost
Existing	\$774,621	\$42
Future Costs with Town Identified Gap	\$921,271	\$50

With extensive, nationwide experience evaluating stormwater utility programs, CDM Smith has compiled a database of costs of MS4 programs for non-CSO communities in California, Florida, Kansas, North Carolina, Texas, and Virginia and compared the relative costs to their compliance. The data indicate a good correlation between the cost of compliance and the municipal population; that is, the level of compliance is related to the budget spent per capita. The data can be used to help benchmark the performance of the Town’s program in comparison to current resource expenditures. Table 3 provides a summary of the cost per capita, and the compliance level based on CDM Smith’s benchmarking data. The low and high values are also shown.

Table 3: Total Stormwater MS4 Costs by Compliance and Cost per Capita

Compliance Status	Minimum	Average	Maximum
Pro-active	\$59	\$61	\$63
Average	\$27	\$44	\$60
Below Average	\$17	\$31	\$40
Poor	\$12	\$21	\$28

Note: Costs above have been increased to include 3% annual inflation per year from 2016 to 2022.

At a current estimated cost of \$774,621 and a census population of 18,335, Stonington’s estimated cost per capita is approximately \$42. This value is within the “Average” compliance category based on CDM Smith’s national cost correlation.

Summary

The Town of Stonington is considered to have the following:

Regulatory Compliance	Average
O&M	Proactive
CIP Program	Proactive
Program Management	Average

To meet the anticipated needs identified by the Town, Stonington would need to increase their annual spending on stormwater activities by \$146,650, increasing the total costs to \$921,271. This would increase the per capita spending from \$42 per capita to \$50 per capita.

Attachments: Attachment 1: MS4 Permit Tracking Spreadsheet
Attachment 2: Estimated Costs Summary Spreadsheet

Attachment 1 Stormwater MS4 Permit Compliance Summary Town of Stonington	2017		2018		2019		2020		2021	
	Year 1		Year 2		Year 3		Year 4		Year 5	
	SMP	Done	SMP	Done	SMP	Done	SMP	Done	SMP	Done
MCM 1 - Public Education										
BMP 1-1 Implement Public Education and Outreach	x	√	x	√	x	√	x	√	x	√
BMP 1-2 Address Education/Outreach for Pollutants of Concern	x	No	x	√	x	√	x	√	x	√
MCM 2 - Public Participation										
BMP 2-1 Comply with Public Notice Requirements for the SMP	x	√	x	√	x	√	x	√	x	√
BMP 2-2 Comply with Public Notice Requirements for Annual Reports	x	√	x	√	x	√	x	√	x	√
BMP 2-3 Establish Water Quality Task Force	x	?	x	√	x	√	x	√	x	√
MCM 3 - IDDE										
BMP 3-1 Develop Written IDDE Program	x	?	x	√	x	√	x	√	x	√
BMP 3-2 Develop List and Maps of MS4 Stormwater Outfalls in Priority Areas	x	No	x	√	x	√	x	√	x	√
BMP 3-3 Implement Citizen Reporting Program	x	√	x	√	x	√	x	√	x	√
BMP 3-4 Establish Legal Authority to Prohibit Illicit Discharges	x	?	x	√	x	√	x	√	x	√
BMP 3-5 Develop Record Keeping System for IDDE Tracking	x	No	x	√	x	√	x	√	x	√
BMP 3-6 Address IDDE in Areas with Pollutants of Concern	x	No	x	?	x	?	x	?	x	?
BMP 3-7 Assess and Prepare a Priority Ranking of Catchments	x	No	x	√	x	√	x	√	x	√
BMP 3-8 Consolidate IDDE Tracking Spreadsheets	x	No	x	No	x	√	x	√	x	√
MCM 4 - Construction Controls										
or Other Legal Authority To Meet Requirements of MS4 General Permit	x	No	x	No	x	?	x	?	x	?
BMP 4-2 Develop/Implement Plan for Coordination in Site Plan Review & Approval	x	√	x	√	x	√	x	√	x	√
BMP 4-3 and 4-4 Review Site Plans for Stormwater Quality Concerns	x	√	x	√	x	√	x	√	x	√
BMP 4-4 Conduct Site Inspections	x	√	x	√	x	√	x	√	x	√
BMP 4-5 Implement Procedure to Allow Public Comment on Site Development	x	√	x	√	x	√	x	√	x	√
BMP 4-6 Implement Procedure to Notify Developers about DEEP Permit	x	√	x	√	x	√	x	√	x	√
MCM 5 - Post-Construction										
Guidelines Regarding LID and Runoff Reduction in Site Development Planning	x	?	x	?	x	√	x	√	x	√
BMP 5-2 Enforce LID/Runoff Reduction Requirements for Development and Redevelopment Projects	x	?	x	?	x	√	x	√	x	√
BMP 5-3 Identify Retention and Detention Ponds in Priority Areas	x	√	x	√	x	√	x	√	x	√
BMP 5-4 Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures	x	√	x	√	x	√	x	√	x	√
BMP 5-5 DCIA Mapping	x	No	x	?	x	√	x	√	x	√
BMP 5-6 Address Post-Construction Issues in Areas with Pollutants of Concern	x	√	x	?	x	No	x	No	x	No
MCM 6 - Good Housekeeping										
BMP 6-1 Develop/Implement Formal Employee Training Program	x	√	x	√	x	√	x	√	x	√
BMP 6-2 Implement MS4 Property and Operations Maintenance	x	√	x	√	x	√	x	√	x	√
BMP 6-3 Implement Coordination with Interconnected MS4s	x	No	x	No	x	?	x	√	x	√
BMP 6-4 Develop/Implement Program to Control Other Sources of Pollutants to th MS4s	x	No	x	No	x	?	x	√	x	√
BMP 6-5 Evaluate Additional Measures for Discharges to Impaired Waters	x	No	x	No	x	No	x	No	x	No
BMP 6-6 Track Projects that Disconnect DCIA	x	No	x	No	x	?	x	√	x	√
BMP 6-7 Develop/Implement an Infrastructure Repair/Rehab Program	x	No	x	√	x	√	x	√	x	√
BMP 6-8 Develop/Implement Plan to Identify/Prioritize Retrofit Projects	x	No	x	No	x	No	x	?	x	√
BMP 6-9 Implement Retrofit Projects to Disconnect 2% of DICA	x	No	x	No	x	No	x	No	x	?
BMP 6-10 Develop/Implement Street Sweeping Program	x	√	x	√	x	√	x	√	x	√
BMP 6-11 Develop/Implement Catch Basin Cleaning Program	x	√	x	√	x	√	x	√	x	√
BMP 6-12 Develop/Implement Snow Management Practices	x	√	x	√	x	√	x	√	x	√

Key:	<input type="checkbox"/> x	Requirement in the 2017 SMP	<input type="checkbox"/> ?	Not completed per SMP, but something was done
	<input type="checkbox"/> x	Omitted or changed as part of Annual Report	<input type="checkbox"/> No	Not in compliance with the SMP
	<input type="checkbox"/> x	Added as part of the Annual Report	<input type="checkbox"/> √	Completed per SMP or Annual Report

SCCOG Stormwater Management Feasibility Study
Estimate of Stormwater Costs - Town of Stonington

10/12/2022

Salaries	Budgeted Value (22-23 Budget)	Percent Stormwater	Stormwater Budget Value
Administrative	\$453,986	20%	\$90,797
DPW Highway Maintenance	\$662,871	25%	\$165,718
Overhead & Benefits		40%	\$102,606
Stormwater Consultant	\$40,000	100%	\$40,000
MS4 Consultant	\$10,000	100%	\$10,000
Total			\$409,121

Materials/O&M	Budgeted Value (22-23 Budget)	Percent Stormwater	Stormwater Budget Value
Catch Basin Cleaning	\$50,000	100%	\$50,000
Equipment Repairs	\$225,000	10%	\$22,500
DPW Highway Equipment	\$210,000	25%	\$52,500
Highway Fuel	\$65,000	10%	\$6,500
Drainage Contractor Services	\$200,000	50%	\$100,000
Highway Materials	\$34,000	100%	\$34,000
Total			\$265,500

Stormwater CIP	Budgeted Value (22-23 Budget)	Percent Stormwater	Stormwater Budget Value
Annual Stormwater CIP Funding	\$100,000	100%	\$100,000
Total			\$100,000

Town Percieved Gap	Value	Percent Stormwater	Stormwater Value
GIS Consultant	\$100,000	25.00%	\$25,000
1 Truck Driver	\$50,000	50.00%	\$25,000
1 Sr Equipment Operator	\$80,000	50.00%	\$40,000
Administration	\$59,000	25.00%	\$14,750
Overhead and Benefits		40.00%	\$41,900
Total			\$146,650

Purpose	Current Stormwater	Future Stormwater
Salaries	\$409,121	\$409,121
Materials/O&M	\$265,500	\$265,500
CIP	\$100,000	\$100,000
Town Perceived Gap	-	\$146,650
Total	\$774,621	\$921,271
Per capita Total	\$42	\$50



Memorandum

To: Waterford CT
From: CDM Smith
Date: September 15, 2022
Subject: Municipal Stormwater Authority Feasibility Study
Existing Conditions Analysis

In conjunction with the Southeastern Connecticut Council of Governments (SCCOG), CDM Smith has been contracted to study the feasibility of establishing a municipal stormwater authority for four member municipalities: the Towns of Ledyard, Preston, Stonington and Waterford. The first task in this study is the evaluation of the existing stormwater management programs with respect to: regulatory compliance, operations and maintenance (O&M), stormwater capital improvements projects (CIP) program and program management.

PROGRAM MANAGEMENT	REGULATORY COMPLIANCE
<ul style="list-style-type: none">• Master planning• Complaint response• Development review	<ul style="list-style-type: none">• MS4 Permit requirements (6 minimum control measures)• TMDL compliance
OPERATIONS AND MAINTENANCE	CAPITAL IMPROVEMENT PROJECTS
<ul style="list-style-type: none">• Street sweeping• Catchbasin and pipe cleaning	<ul style="list-style-type: none">• System upgrades & replacement• Stormwater Flooding Studies

Upon completion of the existing conditions analysis, CDM Smith will evaluate two scenarios: one that focuses on meeting the regulatory compliance requirements, second to have a proactive stormwater program. Using these two scenarios, CDM Smith will then perform a feasibility assessment that includes: an assessment of fee structures, billing system requirements, implementation requirements and stormwater ordinances. Once all three activities are completed, CDM Smith will prepare a Feasibility Study Report that summarizes the results of the evaluations.



For the Town of Waterford, CDM Smith evaluated the Town’s regulatory compliance, completed a stormwater checklist, and conducted an interview with key staff in order to gain a comprehensive understanding of Waterford’s stormwater management program. The following summarizes the results of these activities with respect to regulatory compliance, operations and maintenance (O&M), stormwater capital improvements projects (CIP) program and program management.

Regulatory Compliance

The Connecticut Department of Energy and Environmental Protection (CT DEEP) released the Small Municipal Separate Storm Sewer Systems (MS4) General Permit effective July 1, 2017. Small MS4’s were required to submit a Stormwater Management Plan (SMP) on April 1, 2017 and implement the SMP over the five year permit term.

This memorandum includes an evaluation of the Town of Waterford’s existing permit requirements, their level of compliance with the MS4 permit, and an estimation of program costs. It also includes an estimate of the Town’s gap in meeting stormwater compliance and an estimate of additional costs associated with bridging the gap.

CDM Smith reviewed the following documents in performing this evaluation:

- Waterford Stormwater Management Plan
- Waterford Annual Reports, Years dated 2017, 2018, 2019, 2020, and 2021
- Waterford 2021-2022 Adopted Budget

Existing MS4 Permit Requirements

The Town of Waterford implements the current MS4 general permit through the six minimum control measures (MCM’s), each containing multiple best management practices (BMP’s). Each BMP is defined in the SMP and includes measurable goals designed to provide milestones for each BMP. Below is a summary of each of the Town of Waterford’s MCM’s and their compliance with each of the BMPs. The compliance evaluation uses

“Proactive”	performing all MCM requirements
“Average”	performing the majority of the MCM requirements (typically miss 1-2 requirements)
“Below Average”	performing some of the MCM requirements (typically miss 3-4 requirements)
“Poor”	minimal effort or not performing any BMPs in the respective MCM

MCM 1 – Public Education and Outreach

To satisfy the Public Education and Outreach requirements in MCM 1, the Town of Waterford agreed to perform the following BMPs

- Implement a public education and outreach program
- Address education/outreach for pollutants of concern

- Regularly update Town Website
- Continue catch basin stenciling program
- Hold household hazardous waste collection days

The Town of Waterford implements this MCM, all BMPs have been maintained by the Town.

Rating: Average

MCM 2 – Public Participation and Involvement

To satisfy the Public Participation and Involvement requirements in MCM 2, the Town of Waterford agreed to perform the following BMPs

- Comply with public notice requirements for the SMP and Annual Reports
- Reach out for community group engagement
- Hold interagency meetings

The Town of Waterford fully implements this MCM and performs all BMPs.

Rating: Proactive

MCM 3 – Illicit Discharge Detection and Elimination

To satisfy the Illicit Discharge Detection and Elimination (IDDE) requirements in MCM 3, the Town of Waterford agreed to perform the following BMPs

- Develop a written IDDE program
- Develop a list and maps of all MS4 stormwater outfalls in priority areas
- Develop a citizen reporting program
- Establish legal authority to prohibit illicit discharges
- Develop a record keeping system for IDDE tracking
- Address IDDE in areas with pollutants of concern
- Map MS4 system in priority areas

The Town of Waterford implements most of this MCM. Work is ongoing as needed or complete for many of the BMPs, and for all others work is at least in progress, no BMPs remain with work not yet started.

Rating: Below Average

MCM 4 – Construction Site Stormwater Runoff Control

To satisfy the Construction Site Stormwater Runoff Control requirements in MCM 4, the Town of Waterford agreed to perform the following BMPs

- Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit
- Develop/Implement plan for interdepartmental coordination in site plan review and approval
- Review site plans for stormwater quality concerns
- Conduct site inspections
- Implement procedure to allow public comment on site development
- Implement procedure to notify developers about DEEP construction stormwater general permit

The Town of Waterford implements this MCM and performed all BMPs, some of which are ongoing as needed.

Rating: Average

MCM 5 – Post Construction Stormwater Management

To satisfy the Post Construction Stormwater Management requirements in MCM 5, the Town of Waterford agreed to perform the following BMPs

- Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning
- Enforce LID/runoff reduction requirements for development and redevelopment projects
- Identify retention and detention ponds in priority areas
- Implement long-term maintenance plan for stormwater basins and treatment structures
- DCIA mapping
- Address post-construction issues in areas with pollutants of concern

The Town of Waterford partially implements this MCM. Most BMPs have been completed or are ongoing, however, nothing has been done to address post construction issues in areas of concern.

Rating: Average

MCM 6 – Pollution Prevention/Good Housekeeping

To satisfy the Pollution Prevention and Good Housekeeping requirements in MCM 6, the Town of Waterford performs the following BMPs.

- Develop/implement formal employee training program
- Implement MS4 property and operations maintenance
- Implement coordination with interconnected MS4s

- Develop/implement program to control other sources of pollutants to the MS4
- Evaluate additional measures for discharges to impaired waters
- Track projects that disconnect DICA
- Develop/Implement infrastructure repair/rehab program
- Develop/implement plan to identify/prioritize retrofit projects
- Implement retrofit projects to disconnect 2% of DCIA
- Develop/implement street sweeping program
- Develop/implement catch basin cleaning program
- Develop/implement snow management practices

The Town of Waterford implements this MCM and performs some BMPs. Some coordination has been implemented between connected MS4s, evaluation of discharges to impaired waters and development/implementation of an infrastructure repair/rehab program have not begun. Retrofit projects are in progress but are not on track to meet due dates.

Rating: Below Average

Outfall Monitoring

To satisfy the Outfall Monitoring requirements, the Town of Waterford performed annual wet weather sampling at twelve designated MS4 stormwater monitoring points that discharge to priority areas and submitted the results to CT DEEP. Dry weather sampling of outfalls was also completed according to permit requirements. Annual wet weather sampling of the six highest contributors is not being done.

Rating: Below Average

Compliance Summary

In general, the Town of Waterford follows most of the requirements in their MS4 permit and is considered to have an “Average” level of compliance. Table 1 on the following page is an overall summary of their compliance based on their 2021 Annual Report. Attachment 1 contains a more detailed compliance table and Attachment 2 contains cost calculations based on the 2022 Council Budget. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs.

Table 1: Existing MS4 Permit Compliance - Waterford

Control Measure	Compliance
1 - Public Education and Outreach	Average
2 - Public Participation and Involvement	Proactive
3 - Illicit Discharge Detection and Elimination	Below Average
4 - Construction Site Stormwater Runoff Control	Average
5 - Post Construction Stormwater Management	Average
6 - Pollution Prevention/Good Housekeeping	Below Average
Outfall Monitoring	Below Average
Summary/Total	Average

Stormwater O&M Summary

During the interview, the Town discussed their stormwater infrastructure repair program and cleaning operations. It appears that they are reactive with respect to stormwater system repairs and good with stormwater system cleaning.

Rating: Average

Stormwater CIP Summary

During our interview with Waterford, the Town does not have a stormwater CIP program, does not currently have flood studies or any current flooding improvements identified, does not have a list of prioritizations for upgrades or replacement of the Town’s stormwater infrastructure, and lacks dedicated funding for a stormwater CIP program.

Rating: Below Average

Program Management

During the interview and as presented on the Stormwater Checklist, the Town does well with development review activities, does not have a separate funding for stormwater program management, and is reactive with respect to complaints related to stormwater infrastructure.

Rating: Below Average

Existing Cost Comparison

CDM Smith evaluated the costs associated with the Town’s stormwater activities including MS4 requirements, stormwater operations and maintenance and administrative activities. Attachment 2 contains cost calculations based on the 2022 Adopted Budget and input from the Town. These costs are presented as annual current costs and do not account for BMPs which were completed or discontinued in earlier years to allow for easy comparison between current and estimated future costs. Table 2 on the following page presents the total costs for stormwater activities as well as the additional costs identified by the Town to be able to fully address stormwater needs.

Table 2: Stormwater Costs and Cost per Capita

	Total Stormwater Costs	Per Capita Cost
Existing	\$752,600	\$38
Future Gap	\$886,700	\$45

CDM Smith has compiled costs of MS4 programs for 36 non-CSO communities in California, Florida, Kansas, North Carolina, Texas, and Virginia and compared the relative costs to their compliance. The data indicate a good correlation between the cost of compliance and the municipal population; that is, the level of compliance is related to the budget spent per capita. Table 3 below provides a summary of the cost per capita, and the compliance level based on data obtained from CDM Smith. The low and high values are also shown.

Table 3: Total Stormwater MS4 Costs by Compliance and Cost per Capita

Compliance Status	Minimum	Average	Maximum
Pro-active	\$59	\$61	\$63
Average	\$27	\$44	\$60
Below Average	\$17	\$31	\$40
Poor	\$12	\$21	\$28

At a current estimated cost of \$339,000 and a census population of 19,571, Waterford’s estimated cost per capita is approximately \$38. This value would place Waterford in either the high end of “Below Average” compliance level or the low end of the “Average” compliance level based on CDM Smith’s national cost correlation.

Summary

The Town of Waterford is considered to have the following:

Regulatory Compliance	Average
O&M	Average
CIP Program	Below Average
Program Management	Below Average

To meet the anticipated needs identified by the Town, Waterford will need to increase their annual spending on stormwater activities by \$50,100, increasing the total costs to \$389,100. This would increase the per capita spending from \$38 per capita to \$45 per capita, raising the Town to the “Average” category for rating.

Attachments:

Attachment 1: MS4 Permit Tracking Spreadsheet

Attachment 2: Estimated Costs Summary Spreadsheet

**Attachment 1 - Stormwater MS4 Permit Compliance Summary
Town of Waterford**

	2017		2018		2019		2020		2021	
	Year 1		Year 2		Year 3		Year 4		Year 5	
	SMP	Done								
MCM 1 - Public Education										
BMP 1-1 Implement Public Education Program	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 1-2 Address Education/Outreach for Pollutants of Concern	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 1-3 Town Website	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 1-4 Catch Basin Stenciling	X	?	X	?	X	✓	X	✓	X	✓
BMP 1-5 Household Hazardous Waste Collection Days	X	✓	X	✓	X	✓	X	✓	X	✓
MCM 2 - Public Participation										
BMP 2-1 Comply with Public Notice Requirements for the SMP and Annual Reports	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 2-2 Community Group Engagement	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 2-3 Interagency Meetings	X	✓	X	✓	X	✓	X	✓	X	✓
MCM 3 - IDDE										
BMP 3-1 Develop Written IDDE Program	X	?	X	?	X	?	X	✓	X	✓
BMP 3-2 Develop List and Maps of MS4 Stormwater Outfalls in Priority Areas	X	?	X	?	X	?	X	?	X	✓
BMP 3-3 Develop Citizen Reporting Program	X	?	X	?	X	?	X	?	X	?
BMP 3-4 Establish Legal Authority to Prohibit Illicit Discharges	X	?	X	?	X	?	X	✓	X	✓
BMP 3-5 Develop Record Keeping System for IDDE Tracking	X	?	X	?	X	?	X	✓	X	✓
BMP 3-6 Address IDDE in Areas with Pollutants of Concern	X	?	X	?	X	?	X	?	X	?
BMP 3-7 Map MS4 System in Priority Areas	X	?	X	?	X	?	X	?	X	?
Control Measure 4 - Construction Controls										
BMP 4-1 Implement, Upgrade, and Enforce Land Use Regs or Other Legal Authority	X	?	X	✓	X	✓	X	✓	X	✓
BMP 4-2 Develop/Implement Plan for Coordination in Site Plan Review & Approval	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 4-3 and 4-4 Review Site Plans/Conduct Site Inspections for Stormwater Quality Concerns	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 4-5 Implement Procedure to Allow Public Comment on Site Development	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 4-6 Notify Developers about DEEP Construction Stormwater General Permit	X	?	X	?	X	✓	X	✓	X	✓
MCM 5 - Post-Construction										
BMP 5-1 Establish and/or Update Legal Authority and Guidelines Regarding LID in Site Development Planning	X	?	X	✓	X	✓	X	✓	X	✓
BMP 5-2 Enforce LID/Runoff Reduction Requirements for Development and Redevelopment	X	?	X	✓	X	✓	X	✓	X	✓
BMP 5-3 Identify Retention & Detention Ponds in Priority Areas	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 5-4 Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 5-5 DCIA Mapping	X	?	X	?	X	?	X	✓	X	✓
BMP 5-6 Address Post-Construction Issues in Areas with Pollutants of Concern	X	No								
MCM 6 - Good Housekeeping										
BMP 6-1 Develop/Implement Formal Employee Training Program	X	?	X	?	X	?	X	✓	X	✓
BMP 6-2 Implement MS4 Property and Operations Maintenance	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 6-3 Implement Coordination with Interconnected MS4s	X	?	X	?	X	?	X	?	X	?
BMP 6-4 Develop/Implement Program to Control Other Sources of Pollutants to the MS4s	X	?	X	No	X	?	X	?	X	✓
BMP 6-5 Evaluate Additional Measures for Discharges to Impaired Waters	X	No								
BMP 6-6 Track Projects that Disconnect DCIA	X	No	X	?	X	?	X	?	X	?
BMP 6-7 Develop/Implement an Infrastructure Repair/Rehab Program	X	No								
BMP 6-8 Develop/Implement Plan to Identify/Prioritize Retrofit Projects	X	No	X	No	X	?	X	?	X	?
BMP 6-9 Implement Retrofit Projects to Disconnect 2% of DCIA	X	No	X	No	X	?	X	?	X	?
BMP 6-10 Develop/Implement Street Sweeping Program	X	✓	X	✓	X	✓	X	✓	X	✓
BMP 6-11 Develop/Implement Catch Basin Cleaning Program	X	?	X	?	X	?	X	✓	X	✓
BMP 6-12 Develop/Implement Snow Management Practices	X	✓	X	✓	X	✓	X	✓	X	✓

Key:

X	Requirement in the 2017 SMP	?	Not completed per SMP, but something was done
X	Omitted or changed as part of Annual Report	No	Not in compliance with the SMP
X	Added as part of the Annual Report	✓	Completed per SMP or Annual Report

**SCCOG Stormwater Management Feasibility Study
Estimate of Stormwater Costs - Town of Waterford**

9/15/2022

Salaries	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Administration	\$320,501	15%	\$48,075
Equipment Maintenance	\$358,379	25%	\$89,595
Highway Maintenance	\$1,038,247	25%	\$259,562
Overhead and Benfits		40%	\$158,893
		Total	\$556,124

Materials/O&M	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
MS4 Consultant	\$54,000	100%	\$54,000
CB Cleaning by Contractor	\$23,000	100%	\$23,000
Operational Supplies	\$17,000	20%	\$3,400
Automotive Repairs	\$150,000	10%	\$15,000
Fuels & Lubricants	\$180,000	10%	\$18,000
Highway Materials	\$225,000	20%	\$45,000
Town Aid Roads-Improved	\$320,698	10%	\$32,070
		Total	\$190,470

CIP	Budgeted Value (2022 Council Budget)	Percent Stormwater	Stormwater Budget Value
Stormwater CIP	\$6,000	pre-determined	\$6,000
		Total	\$6,000

Gap	Value	Percent Stormwater	Stormwater Value
Maintainer IV	\$71,490	50%	\$35,745
Engineer - Environmental Permit	\$60,000	100%	\$60,000
Overhead and Benfits		@ 40%	\$38,298
		Total	\$134,100

Purpose	Current Stormwater Budget Value	Future Stormwater Budget Value
Salaries	\$556,124	\$556,124
Materials/O&M	\$190,470	\$190,470
CIP	\$6,000	\$6,000
Gap	n/a	\$134,100
Total	\$752,600	\$886,700
Percapita Total	\$38	\$45

Appendix D

Sample Utility Ordinances

Purpose.

To provide for the protection of the environment against pollution from storm water runoff; to provide flood control and adequate drainage within the MUNICIPALITY; to prevent pollution within the MUNICIPALITY; to provide for the implementation of a storm water management program in the city; to provide design and construction criteria for storm water management systems; to provide administration and enforcement of this article; to recommend to the MUNICIPALITY council the imposition of a utility levy or fee from property owners in the MUNICIPALITY.

This utility is created pursuant to the authorization and requirements of Connecticut Public Act No. 21-115.

Administration.

This article shall be administered by the [INSERT AGENCY RESPONSIBLE FOR STORMWATER] of the MUNICIPALITY (hereinafter the "DESIGNATED AGENCY") in accordance with the charter of the MUNICIPALITY and all ordinances of the MUNICIPALITY effecting the DESIGNATED AGENCY and all policies statements of the MUNICIPALITY relative to the DESIGNATED AGENCY. The [INSERT APPROPRIATE BODY] is hereby designated as the stormwater authority for the MUNICIPALITY pursuant to Section 1 of Connecticut Public Act No. 21-115.

Service fees.

- (a) There is hereby established a municipal storm water fund.
- (b) The DESIGNATED AGENCY, acting for the MUNICIPALITY, shall collect a storm water service fee from owners of each property and each condominium and each homeowners association and each service connections for water and sewer not included above, located within the MUNICIPALITY.
- (c) Initially a fee shall be imposed in the amounts set forth on Schedule A attached to this Ord. No. XX-XX-XX and made a part hereof. The initial fund shall be used to: map the entire subsurface drain pipes and all outfalls; implement a public outreach program to educate the citizens of MUNICIPALITY on impacts of storm water runoff and steps that can be taken to reduce it; implement and enforce an ordinance to prohibit unauthorized non-storm water discharges; assess and rank catch basins based on criteria to be developed into categories for the MUNICIPALITY to determine problem areas; outfall screening requirements and regular testing; to maintain the existing stormwater system; to develop short and long term maintenance and capital plans with schedules to ensure performance; to retain and hire experts to advise the MUNICIPALITY in the administration of the storm water management plan; and to prepare reports for the state and federal governments.
- (d) Thereafter, subject to the approval of the MUNICIPALITY council, fees may be adjusted to reflect changes in anticipated costs, to accumulate balances to fund capital improvements, and to fund reserves to ensure financial solvency. Future fees may be based on any method consistent with the requirements of Connecticut Public Act No. 21-115.
- (e) The DESIGNATED AGENCY shall develop and implement an appeal process to enable parcel owners to seek adjustments to the billed fee based on any incorrect or disputed information used in the calculation of the fee for a specific property. The designated MUNICIPALITY stormwater authority shall hear and rule on any appeals that are not resolved as the utility management level.
- (f) The DESIGNATED AGENCY may propose credits to compensate parcel owners that [mitigates the impact of stormwater run-off from their parcel on the municipal stormwater water infrastructure]. All such credits shall be approved by the GOVERNING BOARD.

- (g) The fees stated above shall be collected in the same manner [TO BE INSERTED WHEN MUNICIPALITY HAS DETERMINED HOW FEES WILL BE BILLED AND COLLECTED]. Any unpaid fee or portion thereof shall be a lien upon the real property for which it is imposed and shall have the same priority as a lien imposed for non-payment of real estate taxes.

SCHEDULE A
QUARTERLY STORMWATER FEE

To BE CREATED WHEN MUNICIPALITY DETERMINES ITS RATE STRUCTURE

Sec. 23-136. - Designation as the stormwater authority.

- (a) The board of water commissioners is hereby designated as the stormwater authority for the City of New Britain pursuant to section 1 of Connecticut Public Act No. 21-115.
- (b) The purposes of the stormwater authority shall be to: (1) Develop a stormwater management program, including, but not limited to, (A) a program for construction and post-construction site stormwater runoff control, including control detention and prevention of stormwater runoff from development sites; or (B) a program for control and abatement of stormwater pollution from existing land uses, and the detection and elimination of connections to the stormwater system that threaten the public health, welfare or the environment; (2) provide public education and outreach in the City of New Britain relating to stormwater management activities and to establish procedures for public participation; (3) provide for the administration of the stormwater management program; and (4) recommend to the common council of the imposition of a clean water fee upon the interests in real property to be known as the clean water fund, subject to the fifteen percent limitation on, or alternative election to exempt, properties owned by hospitals described in subdivision (3) of subsection (c) of this section, the revenues from which shall be used in carrying out any of the powers herein. In accomplishing the purposes of this section, the stormwater authority may plan, layout, acquire, construct, reconstruct, repair, maintain, supervise and manage stormwater control systems.
- (c) (1) The stormwater authority may levy fees approved by the common council to be deposited in the clean water fund in accordance with the provisions of subdivision (3) of this subsection, on property owners of the municipality, except as specified in subdivision (2) of this subsection, for the purposes described in subsection (b) of this section. In establishing fees for properties, the stormwater authority shall consider criteria, including, but not limited to, the following: The area of the property containing impervious surfaces from which stormwater runoff is generated, land use types that result in higher or lower concentrations of stormwater pollution and the grand list valuation of the property. In establishing fees for property, the stormwater authority shall offer partial fee reduction, in the form of a credit for any property owner who has installed and is operating and maintaining current stormwater best management practices that reduce, retain, or treat stormwater onsite and that are approved by the stormwater authority.
- (2) In the case of land classified as, and consisting of, farm, forest or open space land, or property owned by the state government, or any of its political subdivisions or respective agencies, the stormwater authority may only levee such fees on areas of such land that contain impervious surfaces from which stormwater discharges to a municipal separate storm sewer system.
- (3) The City of New Britain is under the provisions of DEEP MS4 Permits and has created a storm

water management plan, conducted annual sampling of selected storm water pipes and submitted annual reports on the progress of the city's program to DEEP.

- (4) The stormwater authority shall present its budget annually to the common council for approval. Such budget shall include the specific programs the authority proposes to undertake during the fiscal year for which the budget is presented, the projected expenditures for such programs for the fiscal year and the amount of the fee or fees the authority proposes to levy to pay for such expenditures. In no event shall the aggregate amount of the fee proposed for the fiscal year. The fees for hospitals shall be calculated pursuant to Public Act No. 21-115. As an alternative to imposing the fee on properties located in the City of New Britain that are owned by hospitals that are parties to such settlement agreement described in this subdivision, the common council may approve exemption of such properties from the fee until July 1, 2026. The common council may approve fee amounts that are less than the amounts proposed by the authority but in no event shall the common council approve fee amounts that are greater than the amounts proposed by the authority.
- (d) Any person aggrieved by the action of a stormwater authority under this section shall have the same rights and remedies for appeal and relief as are provided in the general statutes for taxpayers claiming to be aggrieved by the doings of the assessors or board of assessment appeals.
- (e) The stormwater authority may adopt municipal regulations to implement the stormwater management program.
- (f) Any charge due to the City of New Britain Stormwater Authority and any fee levied pursuant to section 22a-498 [of the Connecticut General Statutes], as amended by Public Act No. 21-115, and not paid in full on or before thirty days after the due date shall thereupon be delinquent and shall bear interest from the due date at such rates and in such manner as provided for delinquent property taxes under section 12-146 of the Connecticut General Statutes. Any such unpaid charge or fee, or portion thereof, shall constitute a lien upon the property against which such charge or fee was levied from the date it become delinquent. Each such lien may be continued, recorded and released in the manner provided by the general statutes for continuing, recording and releasing property tax liens.
- (g) The common council authorizes the City of New Britain to establish an enterprise fund known as the clean water fund.

(Res. No. 35679-2, 3-15-22)

ORDINANCE NUMBER 06-18-18-2

AN ORDINANCE OF THE CITY OF NEW LONDON, CONNECTICUT, PROVIDING FOR THE ESTABLISHMENT OF A MUNICIPAL STORM WATER MANAGEMENT AUTHORITY.

WHEREAS, General Statute §22a-497 allowed and provided grants for certain municipalities to participate in a municipal stormwater authority pilot program; and

WHEREAS, per said statute §22a-497, the Commissioner of Energy and Environmental Protection selected the City of New London to participate in such pilot program; and

WHEREAS, General Statute §22a-498 authorizes municipalities selected by the Commissioner of Energy and Environmental Protection pursuant to §22a-497 to create a municipal storm water authority that may levy fees from property owners of the municipality; and

WHEREAS, General Statute §22a-498a (P.A. No. 13-222) grants additional powers to a municipal storm water authority created pursuant to §22a-498 if such storm water authority is located in a distressed municipality having a population of not more than 28,000; and

WHEREAS, the City of New London (hereinafter "City") is a distressed municipality and has a population of not more than 28,000; and

WHEREAS, said statute §22a-498a permits a municipal storm water authority to be a body politic and corporate entity with the following powers: (1) To sue and be sued; (2) to acquire, hold and convey any estate, real or personal; (3) to contract; (4) to borrow money, including by the issuance of bonds, provided the issuance of such bonds is approved by the legislative body of the municipality in which such authority district is located; (5) to recommend to the legislative body of such municipality the imposition of a levy upon the taxable interests in real property within such authority district, the revenues from which may be used in carrying out any of the powers of such authority; (6) to deposit and expend funds; and (7) to enter property to make surveys, soundings, borings and examinations to accomplish the purposes of section 22a-498; and

WHEREAS, the City of New London has a separate storm water facility from its sewage treatment facilities, consisting of underground pipes and catch basins that receives storm water and ground water from roads and sidewalks that flow into the City's catch basins for ultimate discharge into the Thames River, Long Island Sound and Alewife Cove; and

WHEREAS, the City of New London has been covered by the DEEP MS4 permits since 2004; the City has created a storm water management plan, conducted annual sampling of selected storm water pipes, and submitted annual reports on the progress of the City's program to DEEP; and

WHEREAS, the federal and state governments beginning in 2017 will require the City of New London over the next five years to continue to perform all current activities and implement new activities for the treatment of storm water discharge from the City's storm water system.

such other fees. Any unpaid fee or portion thereof shall be a lien upon the real property for which it is imposed and shall have the same priority as a lien imposed for non-payment of real estate taxes.

(d) Definitions

- i. "Storm Water" means water resulting from precipitation, including without limitation rain, snow, and snow melt.
- ii. "Storm Water Management System" means any structure, feature or appurtenance subject to this ordinance, or a rule promulgated pursuant to this ordinance, that is designed to collect, detain, retain, treat, or convey storm water or storm water runoff, including without limitation buffer strips, swales, gutters, catch basins, closed conduits, detention systems, pretreatment systems, wetlands, pavement, unpaved surfaces, structures, water courses, or surface waters.
- iii. "Developed property" shall include property with any impervious surfaces located thereon.

Section 2.

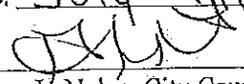
A. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.

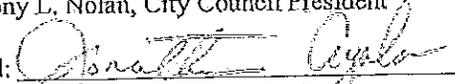
B. If any provision of this ordinance or the application thereof to any person or circumstances is held to be invalid, such invalidity shall not affect other provisions or applications of any other part of this ordinance that can be given effect without the invalid provisions or applications; and to this end, the provisions of this ordinance and the various applications thereof are declared to be severable.

C. This ordinance shall become effective after its passage as set forth in Section 27 of the City of New London Charter.

Date Approved by City Council: June 18, 2018

Effective Date: July 19, 2018

Signed: 
Anthony L. Nolan, City Council President

Countersigned: 
Jonathan Ayala, City Clerk

SCHEDULE A

QUARTERLY STORMWATER FEE

RESIDENTIAL, UP TO 1000 S.F.	\$7.50
RESIDENTIAL, 1,001 S.F. TO 2,000 S.F.	\$15.00
RESIDENTIAL, 2,001 S.F. TO 3,000 S.F.	\$22.50
RESIDENTIAL, 3,001 S.F. AND GREATER.	\$37.50
THE FOLLOWING CATEGORIES ARE BILLED IN INCREMENTS OF 100 S.F. I.C. (0.1 REU) WITH A MINIMUM QUARTERLY CHARGE OF 1000 S.F. I.C. (1 REU).	
RESIDENTIAL, 4 UNITS AND GREATER.	\$.75/1000 S.F. I.C.
COMMERCIAL.	\$.75/1000 S.F. I.C.
TAX EXEMPT.	\$.75/1000 S.F. I.C.
INDUSTRIAL.	\$.75/1000 S.F. I.C.
MUNICIPAL.	\$.75/1000 S.F. I.C.
ALL OTHER CATEGORIES.	\$.75/1000 S.F. I.C.

- 1 RESIDENTIAL EQUIVALENT UNIT (REU) = 1000 SQUARE FEET OF IMPERVIOUS COVER
- MINIMUM QUARTERLY FEE IS EQUAL TO 1 REU OR 1000 S.F.
- IMPERVIOUS COVER (I.C.)
- SQUARE FEET (S.F.)

City of Fall River, MA
Wednesday, November 16, 2022

Chapter 74. Utilities

ARTICLE II. Sewer System

DIVISION 5. Rates and Charges; Billing; Stormwater Management

§ 74-140. Stormwater fee.

[Added 8-12-2008 by Ord. No. 2008-41; amended 6-29-2010 by Ord. No. 2010-22]

A. Findings and purpose.

- (1) The City is implementing a combined sewer overflow program that is requiring a significant investment by the City and the existing stormwater management system is deteriorating and may be inadequate to meet existing and future needs, and flooding concerns may arise. The United States Environmental Protection Agency (EPA) demands a comprehensive approach to municipal stormwater management.
- (2) In order to establish, operate, and maintain the stormwater infrastructure of the City, ensure the future usefulness of the existing system through additions and improvements, and provide other services associated with stormwater management, sufficient and stable funding is required for the operation, maintenance and improvement of the stormwater management programs, services, systems, and facilities of the City; and to equitably fund the CSO abatement program. A stormwater utility service fee based on impervious surface area consistent with the Massachusetts General Laws is the most appropriate and equitable method of allocating the cost of stormwater management programs and CSO abatement programs among residents and businesses in the City.

B. Authority and jurisdiction.

- (1) Under the authority of MGL c. 83, § 16, the City hereby establishes the City impervious fee or stormwater fee to pay the costs of the City's stormwater management and combined sewer overflow abatement program.
- (2) The utility or its designee is authorized to assess and collect service fees from all persons owning land within the municipality that benefit from the City's stormwater management and CSO abatement programs.
- (3) The fee will fund services provided through the Sewer Commission for stormwater management and CSO abatement programs.

C. Definitions. As used in this section, the following terms shall have the meanings indicated:

CITY UTILITY

The Fall River Sewer Commission.

CREDIT

- (1) A conditional reduction in the amount of the stormwater service fee to an individual property based on the provision and continuing presence of an effectively maintained and operational on-site stormwater system or facility or other service or activity that reduces the stormwater management utility's cost of providing services.
- (2) Credits can be applied as follows at the discretion of the Sewer Commission: Credits shall not be eligible below the base ERU, meaning that any property that is subject to this fee shall be required to pay at least the cost of one ERU per quarter. As residential properties (single- through eight-family) pay the lowest possible cost, credits are not available.
- (3) The purpose of the credit process is to enable nonresidential parcel owners to seek reduction in stormwater charges, if specific value-added on-site stormwater control that significantly reduces the volume of stormwater run-off to the City's stormwater or combined sewer facilities. Said facilities must be beyond those facilities required by law and/or required as a condition of site development.
- (4) Credit shall not exceed 25% of the total charge.
- (5) Credit requests filed after June 30 of any year shall not be applicable to the previous fiscal year(s).

CUSTOMERS OF THE STORMWATER UTILITY

Include all persons, properties, and entities served by and/or benefiting from the utility's acquisition, management, maintenance, extension, and improvement of the public stormwater management systems and facilities and regulation of public and private stormwater systems, facilities, and activities related thereto, and persons, properties, and entities which will ultimately be served or benefited as a result of the stormwater management program.

DEVELOPED LAND

Property altered from its natural state by removal of vegetation, construction, or installation of improvements such as buildings, structures, or other impervious surfaces, or by other alteration of the property that results in a meaningful change in the hydrology of the property during and following rainfall events (agricultural and forestry operations that do not create impervious surface area excepted).

EQUIVALENT RESIDENTIAL UNIT (ERU)

- (1) A measure used to standardize the utility service fees for residential properties, or classes of residential properties, and based on the average amount of impervious area of a base residential parcel. The ERU shall also be used as the basis for standardizing and determining the equivalent size of nonresidential properties and other developed lands.
- (2) The ERU is defined as the average amount of impervious area on residential parcels in land use classes 101, 104, 105, and 111. These classes are defined by the Assessor's Department as: 101, single-family residential; 104, two-family residential; 105, three-family residential; 111, four- to eight-family residential.
- (3) The ERU is a method for standardization for measurement and billing purposes. Stormwater runoff from pervious surfaces on a developed lot is not a reason for exemption.

EXEMPTION

- (1) Not applying to, or removing the application of the stormwater management utility service fee from, a property. No permanent exemption shall be granted based on taxable or nontaxable status or economic status of the property owner.
- (2) Exemptions are granted to those properties that do not contribute stormwater to any City facility of any kind.

- (3) Exemptions shall not be applied to properties that contribute directly or indirectly to City facilities. "Indirectly" includes stormwater flow from a property that moves overland, impacting the watershed flow to a City stormwater facility.
- (4) Exemption requests filed after June 30 of any year shall not be applicable to the previous fiscal year(s).

IMPERVIOUS SURFACES

Those areas that prevent or impede the infiltration of stormwater into the soil as it entered in natural conditions prior to development. Impervious areas include, but are not limited to, rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage areas, compacted gravel surfaces, awnings and other fabric or plastic coverings, and other surfaces that prevent or impede the natural infiltration of stormwater runoff which existed prior to development.

OPT-OUT PROVISION

Properties that can completely eliminate stormwater discharge from their property, thus not utilizing any City stormwater facilities, can be exempt from the fee. Said exemption must be certified by an engineering report that clearly delineates that stormwater is collected on site and held on site for reuse for all levels of storms. Groundwater injection that impacts stormwater disposal facilities may be cause for denial.

OTHER DEVELOPED LANDS

Shall mean, but not be limited to, mobile home parks, apartment buildings with more than eight dwelling units, residential condominium developments, mixed-use buildings, commercial and office buildings, public buildings and structures, industrial and manufacturing buildings, storage buildings and storage areas covered with impervious surfaces, parking lots, parks, recreation properties, public and private schools and universities, governmental facilities, colleges, research facilities and stations, hospitals and convalescent centers, airports, agricultural uses covered by impervious surfaces and lands in other uses which alter the hydrology of the property from that which would exist in a natural state.

PERVIOUS SURFACES

Those areas that enhance the infiltration of stormwater into the soil. Pervious areas include, but are not limited to, lawns, wooded areas, meadows, gravel parking areas and other surfaces that enhance the natural infiltration of stormwater runoff into the soil. Stormwater runoff is expected to occur from pervious surfaces; however, it is significantly less than impervious surfaces.

RESIDENTIAL PROPERTY

Developed land assigned land use code 101, 104, 105, or 111 by the City's Office of the Assessor (101, single-family residential; 104, two-family residential; 105, three-family residential; 111, four- to eight-family residential).

STORMWATER FACILITY

Includes combined sewers, catch basins, storm drains, drainage pipes, culverts, streams, swales, wetlands, detention ponds, and ponds that have control structures such as dams and gatehouses.

STORMWATER SERVICE FEES

The periodic service fee imposed pursuant to this article for the purpose of funding costs related to stormwater management programs, services, systems, facilities, debt, operations, maintenance, capital improvements, and any related costs.

UNDEVELOPED LAND

Land in its unaltered natural state or which has been modified to such minimal degree as to have a hydrologic response comparable to land in an unaltered natural state shall be deemed undeveloped. Undeveloped land shall have no pavement, asphalt, or compacted dirt or gravel surfaces or structures which create an impervious surface that would prevent infiltration of

stormwater or cause stormwater to collect, concentrate, or flow in a manner materially different than that which would occur naturally.

D. Establishment of the stormwater fund.

- (1) The City shall establish a dedicated stormwater fund in the City budget and an accounting system for the purpose of managing all funds collected for the purposes and responsibilities of the utility. All revenues and receipts of the utility shall be placed in the stormwater fund, which shall be separate from all other funds, and only the expenses of stormwater management programs, services, systems, facilities, and CSO abatement of the City shall be paid by the fund.
- (2) The utility and the stormwater fund may also accept loans, state, federal and private grants, and allocations of funds from the City's general fund or special purpose funds.
- (3) Stormwater service fees will be set at a rate that covers the costs necessary to carry out the stormwater management programs, services, systems and facilities approved by the City as necessary to carry out the functions of the utility. Expenditure of funds from the stormwater fund is limited to the following:
 - (a) Operating expenses;
 - (b) Nonoperating expenses, such as equipment and supplies;
 - (c) Payment on principal and interest on debt obligations, including those for combined sewer overflow abatement facilities;
 - (d) Capital investments, including stormwater best management practices (BMPs) and components (e.g., purchase of plants and other amenities to support stormwater management alternatives utilizing vegetation);
 - (e) Reserve expenses; and
 - (f) Other costs as deemed necessary by the Sewer Commission.

E. Service area. The service area of the utility will include all areas within the municipal boundaries of the City of Fall River.

F. Stormwater utility service fees.

- (1) The City may determine and modify from time to time the service fees of the utility in order that the funds generated correspond to the cost of stormwater management programs, services, systems, and facilities of the City. In general, funding for the stormwater utility shall be equitably derived based on methods that establish a link between the fees and degree of impact imposed on the stormwater management system and facilities.
- (2) Rate studies may be conducted periodically by the utility to determine all changes and future updates to the stormwater utility use fee schedule. Any revision to the stormwater service fee schedule will be approved by the City Council prior to implementation.

G. Enforcement.

- (1) The Administrator of Community Utilities, or his authorized designee, is the enforcement authority who shall administer, implement, and enforce the provisions of this section.
- (2) The City has the right to utilize the lien processes to enforce provisions of this section and for nonpayment of stormwater fees.
- (3) Delinquent fees. The City has the right to use all legal means as authorized within Chapter 74 of this Code and any other legal processes under local, state, and federal regulations.

H. Severability. Each subsection of this section is severable from all other sections. If any part of this section is deemed invalid by a court of competent jurisdiction, remaining portions of the section

shall not be affected and shall continue in full force. Whenever this section conflicts with any other ordinance of the City, Commonwealth of Massachusetts, or federal government, the stricter standard shall apply, except as limited by state or federal law.

- I. Applicability. This section and the fees, obligations and requirements identified herein shall apply to all use of and benefit from the City's stormwater management systems and facilities occurring on or after July 1, 2008. All persons owning land within the municipality that benefit from the services provided by the utility shall be subject to service fees for their use of the stormwater management systems and facilities occurring on or after July 1, 2008. Property with less than 100 square feet of impervious area will be exempted from the fee.

[1] *Editor's Note: See the rates established in Ch. **A110**, Fee Schedule, of the City Code.*

Chapter 74

UTILITIES*

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Sec. 74-86. Existing systems--Use and abandonment.

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Sec. 74-88. Installation to be made apart from other utilities, exception.

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Sec. 74-102. Authorization to adopt policy.

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Sec. 74-202. Definitions.

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Sec. 74-204. Responsibility for administration.

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- Sec. 74-303. Definitions.
- Sec. 74-304. Establishment of stormwater fund.
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- Sec. 74-307. Service area.
- Sec. 74-308. Stormwater utility service fees.
- Sec. 74-309. Credits and exemptions.
- Sec. 74-310. Fee collection schedule.
- Sec. 74-311. Right to enforcement and violations.
- Sec. 74-312. Limitation of liability.
- Sec. 74-313. Severability.
- Sec. 74-314. Applicability.

***Cross references:** Buildings and building regulations, ch. 18; streets and sidewalks, ch. 66; zoning and land use, app. A.

UTILITIES

ARTICLE I. IN GENERAL

Secs. 74-1--74-25. Reserved.

ARTICLE II. SEWERS AND DRAINS*

***State law references:** Generally, 23 M.R.S.A. § 651 et seq., 30-A M.R.S.A. § 3401 et seq.

DIVISION 1. GENERALLY

Sec. 74-26. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Applicant or *owner* means any person requesting approval to discharge domestic or industrial wastewaters into facilities of the city.

Authority means the Lewiston-Auburn water pollution control authority or its duly authorized representative.

Biochemical oxygen demand (BOD) means the quantity of oxygen utilized in the biochemical oxidation of wastewater under standard laboratory procedure in five days at 20 degrees Celsius, expressed in milligrams per liter.

Combined sewer means a sewer receiving both wastewater and stormwater.

Director means the director of public works of the city or his authorized deputy, agent or representative.

Domestic sewer means a sewer which carries domestic wastewater and to which stormwaters, surface waters and groundwaters are not intentionally admitted.

Domestic wastewater means the wastewater derived principally from dwellings, business buildings, institutions, and the like. It may or may not contain groundwater, surface water or stormwater.

E.P.A. means the Environmental Protection Agency of the United States government.

Excessive means amounts or concentrations of a constituent of a wastewater which in the judgment of the city will cause damage to any sewerage facility, which will be harmful to a wastewater treatment process, which cannot be removed in the wastewater treatment works of the authority to the degree required to meet the limiting stream classification standards of the Androscoggin River, which can otherwise endanger life, limb or public property, and/or which can constitute a nuisance.

Facilities means and includes structures and conduits for the purpose of collecting, treating, neutralizing, stabilizing or disposing of domestic wastewater and/or industrial or other wastewaters as are disposed of by means of such structures and conduits, including treatment and disposal works, necessary intercepting, outfall and outlet sewers, and pumping stations integral to such facilities with sewers, equipment, furnishing thereof and other appurtenances connected

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therewith.

Garbage means the animal and vegetable wastes resulting from the handling, preparation, cooking and serving of food. It is composed largely of putrescible organic matter and its natural moisture content.

Industrial wastewater means the wastewater in which the liquid wastes from industrial manufacturing processes, laboratory, trade or business predominates as distinct from domestic wastewater.

Industry means an establishment with facilities for mechanical, testing, trade or manufacturing purposes.

pH means the reciprocal of the logarithm of the hydrogen ion concentration in grams per liter of solution.

Properly shredded garbage means garbage that has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers with no particle greater than one-half inch (1.27 cm) in any dimension.

Public sewer means a sewer in which all owners of abutting properties have equal rights, and is owned, maintained and controlled by public authority (the city).

Receiving waters means any watercourse, river, pond, ditch, lake, aquifer or other body of surface water or groundwater receiving discharge of wastewaters.

Sewer means a pipe or conduit for carrying wastewater.

Slug means any discharge of water or wastewater which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than 15 minutes more than five times the average 24-hour concentration or flow during normal operation.

Spill means the release, accidental or otherwise, of any material not normally released to the facilities, which by virtue of its volume, concentration or physical or chemical characteristics creates a hazard to the facilities, their operation or their personnel. Such characteristics shall include, but are not limited to, volatile, explosive, toxic or otherwise unacceptable materials.

Storm drain means a pipe or conduit for conveying rainwater, groundwater, subsurface water, condensate, cooling water or other similar discharge to a storm drain or combined sewer.

Suspended solids means solids that either float on the surface of, or are in suspension in, water, wastewater or other liquids, and which are removable by laboratory filtering, and are referred to as nonfilterable residue in the laboratory test prescribed in Standard Methods for the Examination of Water and Wastewater, as published by the American Public Health Association, American Water Works Association and Water Environment Federation.

Wastes means substances in liquid, solid or gaseous form that can be carried in water.

Wastewater means the spent water of a community and may be a combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with any groundwater, surface water and stormwater that may be present.

Wastewater treatment works means any arrangement of devices and structures used for treating wastewater.

Wastewater works means all structures, equipment and processes for collecting, pumping,

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treating and disposing of wastewater.

(Code 1982, § 23-1)

Cross references: Definitions generally, § 1-2.

Sec. 74-27. Drainage plan approval required prior to issuance of building permit.

Prior to the issuance of any building permits for a lot or lots which are not serviced by a drainage plan approved by the director of public works, such plan shall be submitted by the developer of the lot or lots and shall be considered for approval by the director. The drainage plan shall show both sanitary and storm sewerage and, when requested by the director, water mains.

(Code 1982, § 23-2)

Sec. 74-28. Alteration of drainage areas regulated.

(a) For the purpose of this section, the following definitions shall apply:

Alteration or to alter means to dam, to ditch, to pipe, to dredge, to fill, to deposit material or to change the contours of the earth.

Drainageway means a stream or system of streams as well as the area needed to contain the runoff of and to such streams, as well as outfalls of culverts crossing roadways, driveways, walkways and railways.

Stream means any freely flowing water, whether permanent or intermittent.

- (b) No person shall alter the contours of any stream or drainageway, in any zone, without first obtaining an alteration permit from the building inspector, except when such alteration is conducted in accordance with an approved subdivision plan.
- (c) Alteration permits shall be issued by the building inspector, upon recommendation of the director of public works, when it is found that such alterations will not cause water to intrude upon adjacent parcels, that the flood-carrying capacity within the altered or relocated portion of the watercourse will be maintained, and that the alteration will not otherwise endanger the health, safety and welfare of the public. Permits for temporary alterations may be granted for a period not to exceed six months provided that no permanent alteration of the stream or drainageway shall occur.
- (d) The application to the building inspector for an alteration permit shall be supported by a plan detailing the following information:
- (1) Name and address of applicant.
 - (2) Name and address of the owner of the property on which the alteration is to take place.
 - (3) The exact location on the property of the proposed alteration.
 - (4) Reason for the proposed alteration.
 - (5) Description of work to be undertaken.
- (e) In granting an alteration permit, the building inspector shall impose reasonable conditions

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regarding the length of time required to complete the project, the area to be serviced, and any other conditions he finds to be necessary to protect the interest of the public, abutting owners or the city.

- (f) It will be the responsibility of the building inspector to determine if a violation has occurred, to notify the violator and owner, and to ensure that the violation is corrected.
- (g) The fee for an alteration permit, covering three visits by the building inspector, shall be \$5.00. If additional inspections are necessary, a surcharge of \$2.00 per extra visit will be charged.
- (h) Violation of this section shall be an offense.
- (i) The state bureau of civil emergency preparedness and the Federal Insurance Administration shall be notified in writing of all applications to alter or relocate a stream. In riverine situations, potentially affected adjacent communities shall also be notified.

(Code 1982, § 23-3)

Secs. 74-29--74-40. Reserved.

DIVISION 2. PUBLIC SYSTEMS

Sec. 74-41. Intent and purpose.

This division regulates the use of the public sewerage and drainage systems and the discharge of waters and wastes into the systems and provides for sewerage system use charges and for penalties for violations of this division.

(Code 1982, § 23-16)

Sec. 74-42. Use of public sewer required.

- (a) The owner of all houses, buildings or properties used for human occupancy, employment, recreation or other purposes situated within the city and abutting on any street, alley or right-of-way in which there is now located a public domestic or combined sewer of the city is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this division, within 90 days after date of official notice to do so, provided that such public sewer is within 100 feet of the property line.
- (b) The provisions of subsection (a) of this section shall not be applicable to an accessory structure located on the same lot as a principal building containing sanitary facilities which are available at all times to users or occupants of the accessory structure. If food is sold, served, prepared, processed, packaged or repackaged in or from the accessory structure, the provisions of this subsection do not apply.

(Code 1982, § 23-17)

Sec. 74-43. Permit required to connect to public sewer.

No private drain or sewer shall be entered into a public sewer or storm drain or any

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appurtenances thereof without a permit from the director of public works.

(Code 1982, § 23-18)

State law references: Authority to require sewer connection, 30-A M.R.S.A. § 3405.

Sec. 74-44. Application for permit; agreement required.

- (a) Applications for permits to connect or disconnect with any public sewer or drain must be made to the director of public works on a form prescribed and furnished by him at his office. It must be accompanied by a certificate from the plumbing inspector after the system of plumbing is approved by him. The application must be signed by the owner of the premises to be connected, or his attorney, and must state the location of premises and the name of the licensed plumber to be employed. All applications must be made prior to the commencement of any work thereon and be accompanied by a fee set by policy to cover the cost of processing the application and issuing the permit and inspecting the connection or disconnection with a public sewer or drain, such funds to be deposited directly into the sewer or drain account and used for sewer or drain purposes only. This fee shall be in addition to the system use charges and impact fee.
- (b) Each application under this division must include an agreement on the part of the owner to abide by all the provisions of this chapter and all the rules and regulations established by the director of public works and to waive any claim for damages in case of revocation as provided in section 74-54.
- (c) All applicants for permits for sewer connections involving industrial wastewater, in addition to compliance to subsections (a) and (b) of this section, shall also file application for a permit to discharge wastes to the facilities of the Lewiston-Auburn water pollution control authority. Such application shall be made directly to such authority, on forms provided by the authority, with a copy to the city.

(Code 1982, § 23-19)

Sec. 74-45. Notification before connection to public sewer.

The applicant for a building sewer permit shall notify the director of public works when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the director of public works or his representative.

(Code 1982, § 23-20)

Sec. 74-46. Responsibility for connection costs.

All present or future costs and expenses incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the city from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

(Code 1982, § 23-21)

Sec. 74-47. Independent building sewers required.

A separate and independent building sewer shall be provided for every building; except

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where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

(Code 1982, § 23-22)

Sec. 74-48. Excavations to be guarded; restoration of public property.

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the city.

(Code 1982, § 23-23)

Sec. 74-49. Regulation of connection to public sewer generally.

The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other rules and regulations of the director of public works. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the director of public works before installation.

(Code 1982, § 23-24)

Sec. 74-50. Abandonment of service.

No person shall dismantle or move any building in this city having a service entrance into a public sewer without first having sealed the area of the entrance of the service into such building with a masonry plug. If, upon examination by the plumbing inspector, the sewer service is found to be unserviceable, the owner shall remove such service and seal the opening at the main. No such work shall be undertaken until a permit, as described in section 74-44, is obtained.

(Code 1982, § 23-25)

Sec. 74-51. Drain elevation.

Whenever possible, the building sewer shall be brought from the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, wastewater carried by such building drain shall be lifted by an approved means so that it may be discharged to the public sewer.

(Code 1982, § 23-26)

Sec. 74-52. Use of old building sewers.

Old building sewers may be used in connection with new buildings only when they can be shown by the applicant to meet all requirements of this division.

(Code 1982, § 23-27)

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Sec. 74-53. Construction methods and materials.

The size, slope, alignment and materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall all conform to the requirements of the building and plumbing codes or other rules and regulations of the director of public works.

(Code 1982, § 23-28)

Sec. 74-54. Revocation of permits to connect.

Permits to connect with a sewer may at any time be revoked and annulled by the director of public works or by the plumbing inspector for violation of section 74-44, and all parties in interest shall be held to have waived the right to claim damages on account of such revocation, provided that such revocation shall be annulled on compliance with the provisions in this chapter and the rules and regulations of the city council and director of public works.

(Code 1982, § 23-29)

Sec. 74-55. Disposal of unpolluted wastes.

- (a) No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, cooling water or unpolluted industrial process water to any domestic sewer. Existing plumbing systems not meeting this requirement will be allowed until such time as repairs or renovations of the existing plumbing system make separation feasible.
- (b) Stormwater and all other unpolluted drainage shall be discharged to storm drains or to a natural outlet approved by the director of public works and the health officer. Industrial cooling water or unpolluted process water may be discharged upon approval of the director of public works to storm drains or natural outlets.
- (c) In areas where the sewer system consists of combined sewers or where connections of downspouts, surface drains, and other connections of unpolluted water to the wastewater system have been allowed, the city:
 - (1) Shall permit no new construction of combined wastewater and stormwater drainage systems on real properties. New wastewater and stormwater drainage service connections shall be kept separated;
 - (2) Wherever feasible, shall reduce or eliminate storm drain connections that permit the discharge into existing wastewater works of waters not containing domestic or industrial wastewaters;
 - (3) Shall require that joints and openings of all domestic wastewater systems shall be made watertight to prevent excess infiltration or exfiltration;
 - (4) Where circumstances make compliance with subsections (a) and (b) of this section impractical according to the judgment of the director of public works, then the director may approve a plan for discharge of such waters listed in subsections (a) and (b) of this section in an alternate manner, taking into consideration the existing sewer system, the effect of the plan on the environment of the area and on the sewer system for the city.

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(Code 1982, § 23-30)

Sec. 74-56. Harmful wastes prohibited.

- (a) No person shall discharge or cause or allow to be discharged into any sewer under the control of the city the following described substances, materials, waters or wastes if in the opinion of the authority or city council on recommendation of the director of public works such substances, materials, waters or wastes are in excessive amounts or concentrations.
- (b) Unless allowed under section 74-57, wastewaters and wastes considered to contain excessive constituents or characteristics as determined by the authority and the city, and therefore prohibited, include:
- (1) Any wastewaters containing toxic or poisonous liquids, bases or solids in excessive quantity, either singly or by interaction with other wastes.
 - (2) Any wastewater, liquid or vapor having a temperature higher than 150 degrees Fahrenheit.
 - (3) Any wastewaters containing caustic alkalinity, calculated as CaCO₃ (calcium carbonate) in excess of 100 mg/l, or in volumes which may be excessive.
 - (4) Any wastewaters having a pH lower than 5.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to sewers, structures, equipment, processes or personnel at the wastewater works.
 - (5) Any wastewaters containing fats, wax, grease or oils, whether emulsified or not, in excess of 100 mg/l or containing substances which may solidify or become viscous at temperatures between 32 degrees Fahrenheit and 150 degrees Fahrenheit.
 - (6) Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
 - (7) Any solid or viscous substances in such quantities or of such size as to be capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the wastewater works, such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair, fleshings, entrails, paper dishes, cups, milk containers, etc., either whole or ground by garbage grinders.
 - (8) Any garbage that has not been properly shredded.
 - (9) Any wastewaters containing excessive amounts of iron, chromium, copper, zinc, mercury, mineral acid and similar objectionable or toxic substances.
 - (10) Any wastewaters containing phenols or other taste- or odor-producing substances in excessive amounts.
 - (11) Any radioactive wastes or isotopes in excessive amounts or of such halflife or concentration as may exceed limits established in applicable state or federal regulations or by the authority or city.

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- (12) Any wastewaters containing:
- a. An average concentration of suspended solids in excess of 400 mg/l or an average concentration of excessive dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate) of 600 mg/l.
 - b. Materials which cause excessive discoloration, such as, but not limited to, dye wastes and vegetable tanning solutions.
 - c. An average concentration of BOD in excess of 500 mg/l, or material which causes unusual chemical oxygen demand, or chlorine requirements.
 - d. Materials in such concentration as to constitute slugs.
 - e. Materials which are not amenable to treatment or reduction by the wastewater treatment process employed, or are amenable to treatment only to such a limited degree that the wastewater treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.
 - f. Septic tank solids except under specific license from the authority and at locations designated by the authority.
- (c) Persons who desire to discharge industrial wastewaters into facilities of the city shall make their formal application to the authority, with a copy to the city. In forming an opinion as to the limitations on acceptability of any wastes, the city and the authority will give consideration to such factors as the quantities of subject wastes in relation to flow and velocities in the sewers, materials of construction of the sewers, nature of the wastewater treatment process, capacity of the wastewater treatment plant, degree of treatability of wastes in the wastewater treatment plant, and other pertinent factors.
- (d) Any person discharging industrial wastewaters directly or indirectly into facilities of the city that do not comply with this division may be subject to action by the city or authority, which action may include, but not be limited to, the withdrawal of permission to discharge wastewaters into facilities of the city.
- (e) Limits of acceptable amounts and concentrations of the constituents of wastewater to be discharged to facilities of the city shall be the same as are established by the authority.
- (f) Any spill as defined in section 74-26 shall be reported immediately to the authority.
- (g) Any damages experienced by the facility as the result of a spill are considered a violation of this division and costs for repair, replacement or other associated costs are recoverable under section 74-63.

(Code 1982, § 23-31)

Sec. 74-57. Control of wastewater, waste strength.

If any wastewaters or wastes are discharged or are proposed to be discharged to the public sewers, containing excessive substances or possessing excessive characteristics, as enumerated in section 74-56, the city may:

- (1) Reject the wastewaters or the wastes;

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- (2) Require that pretreatment of wastewaters or wastes be provided to modify them to an acceptable condition for discharge to the public sewers;
- (3) Require control over the quantities and rates of discharge of the wastewaters or the wastes; and/or
- (4) Require payment to cover the added costs of handling and treating the wastes not covered by sewerage use charges under the provisions of sections 74-67 and 74-68.

(Code 1982, § 23-32)

Sec. 74-58. Grease, oil and sand interceptors; maintenance of preliminary treatment and flow-equalizing facilities.

- (a) Grease, oil and sand interceptors shall be provided when, in the opinion of the director of public works or the authority, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the director of public works and the authority, and shall be located as to be readily and easily accessible for cleaning and inspection.
- (b) When preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

(Code 1982, § 23-33)

Sec. 74-59. Control structures and flow-measuring devices.

When required by the director of public works or the authority, the owner of any property served by a public sewer carrying industrial wastes shall install a suitable control structure and wastewater flow-measuring and monitoring device in the building sewer to facilitate observation, sampling and measurement of the wastes. Such structures and measuring devices, when required, shall be accessible and safely located and shall be constructed in accordance with the plans approved by the director of public works and the authority. The structure and flow-measuring device shall be installed by the owner at his own expense and shall be maintained by him so as to meet the standards set by the director of public works and the authority at all times.

(Code 1982, § 23-34)

Sec. 74-60. Preliminary treatment facilities generally.

The applicant shall provide such works for the preliminary treatment of the wastewater, drainage, substances or wastes as may be required to carry out the purpose of this division by the city and the authority, and the applicant will permit duly authorized representatives of the city or the authority to enter the premises of the industry to sample and measure wastewaters, as needed to check characteristics of the wastewaters, when so directed by the authority. Applications for pretreatment facilities are to be accompanied by plans, specifications and other pertinent information relating to these facilities; along with data showing essential characteristics of all wastewater outlets, analyses of existing wastewater (see section 74-66), and statements as to

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existing and expected average and maximum wastewater flows. All of this information must be submitted to and approved by the city and the authority prior to initiating discharge into facilities of the authority or the city. Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and efficient operation by the owner at his expense.

(Code 1982, § 23-35)

Sec. 74-61. Standard tests.

All measurements, tests and analyses of the characteristics of the waters and wastes to which reference is made in section 74-66 shall be determined in accordance with the Standard Methods for the Examination of Water and Sewage and shall be determined at the control structure provided for in section 74-59, or upon suitable samples taken at the control structure. If no special structure has been required, a control structure shall be considered to be the nearest downstream manhole to the public sewer from the point at which the building sewer is connected.

(Code 1982, § 23-36)

Sec. 74-62. Notice and cessation of violations.

Any person found to be violating or in violation of any provision of this division shall be served by the city council, on recommendation of the director of public works, with a written notice stating the nature of the violation and providing a reasonable time limit, as determined by the director, for the satisfactory correction thereof. The offender shall, within the period of time stated in the notice, permanently cease all such violations.

(Code 1982, § 23-37)

Sec. 74-63. Liability of violator.

Any person violating any of the provisions of this division shall become liable to the city for any expense, loss or damage occasioned by the city by reason of such violation.

(Code 1982, § 23-38)

Sec. 74-64. Reports of industrial wastewater discharges; applicant to collect, analyze wastewater.

- (a) If deemed necessary by the director of public works, each applicant shall submit an annual report on July 1 each year, or such other time as designated by the authority, to the authority, with a copy to the city, containing information as to the minimum, average and peak flows of industrial wastewater discharges during the previous year and at such time or times designated by the authority, accompanied by designated analyses of wastewater samplings taken in an acceptable manner at approved times during the flow measuring periods.
- (b) Each applicant will be responsible, at his own expense, to collect and analyze wastewater from his property in a manner prescribed by the city.

(Code 1982, § 23-39)

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Sec. 74-65. Special agreement to treat industrial waste.

No statement contained in this division shall be construed as preventing any special agreement or arrangement between the city and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the city for treatment, subject to payment therefor by the industrial concern.

(Code 1982, § 23-40)

Sec. 74-66. Measurements and analyses of industrial wastes.

Measurement and analyses of industrial wastes are to include, but not necessarily be limited to, items from the following list where applicable. The analyses are to be conducted in accordance with the methods prescribed in the latest edition of Standard Methods for the Examination of Water and Waste Water, as published by the American Public Health Association, American Water Works Association and Water Environment Federation. If any item is not applicable, it shall be so stated on the report of the measurements and the reason for deletion stated.

(1) *Physical parameters:*

Flow

pH

Temperature

Color

Specific conductance

(2) *Chemical parameters:*

Total solids

Total volatile solids

Total suspended solids

Total dissolved solids

Acidity

Alkalinity

Five-day BOD

COD

Oil and grease

Chloride

Sulfate

Sulfide

Phenols

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NH₃ (as N)

NO₃ (as N)

NO₂ (as N)

Kjeldahl organic nitrogen (as N)

Ortho-phosphorous (as P)

Total phosphorous

Cr, Cu, Fe, Cd, Pb, Mn, Zn, F, As, Hg

(Code 1982, § 23-41)

Sec. 74-67. Sewerage system use charges.

- (a) From time to time, the city council upon recommendation from the director of public works and city administrator shall, after public notice and hearing, establish a schedule of rates for sewerage system use charges. The rate schedule shall include a minimum rate and a surcharge for high concentration wastewater.
- (b) The quantity of wastewater shall be the actual quantity of water supplied as determined from the water meter readings made by the water division of the department of public works, except that the director of public works upon approval of the city administrator shall adjust the amount of wastewater where it can be determined that the amount of wastewater is greater than or less than the amount of water supplied by the water division.
- (c) Where domestic wastewater is discharged by a person to a public sewer and water is supplied from sources other than the water department, the quantity of wastewater discharged shall be determined as the average quantity of wastewater discharged by five similar persons. Upon request by the person, the sewer department of the department of public works will install a water meter in the water supply system of the person for the purpose of determining the quantity of wastewater discharged.
- (d) The surcharge for high concentration wastewater shall be determined as provided for in section 74-68.
- (e) Billing for sewerage system use charges may be made quarterly.
- (f) Where sewerage system use charges are not paid within a reasonable time, the lien provisions of 30-A M.R.S.A. § 3406 shall become applicable to the unpaid balance.
- (g) The sewerage system use charges established in this division shall be collected from the owners, occupants and users of the premises within the city at the owner's cost.

(Code 1982, § 23-42)

Sec. 74-68. Surcharge limits defined.

- (a) Where the strength or characteristics of wastewater accepted into the public sewers exceeds the standards set forth in this section, and subject to the conditions set forth in section 74-57, a surcharge shall be added to the normal sewerage use charge. For the

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purpose of fixing surcharge rates, the characteristics indicating surchargeable wastewater strength are:

Suspended solids in excess of 300 mg/l.

Biochemical oxygen demand in excess of 250 mg/l.

- (b) The city may adjust these surchargeable characteristics and the surcharge levels whenever necessary.
- (c) This section does not interfere with the right of an industry to make a special agreement or arrangement with the city (section 74-65).

(Code 1982, § 23-43)

Secs. 74-69--74-80. Reserved.

DIVISION 3. PRIVATE FACILITIES

Sec. 74-81. Minimum standards; disclaimer of liability.

The provisions of this division are to be considered minimal, and compliance therewith shall not constitute or be construed to be grounds for any action against or liability on the part of the city or any of its employees for any subsequent failure of any part or of the whole of any sewage disposal system except as may be provided for by law.

(Code 1982, § 23-61)

Sec. 74-82. Violator's liability.

Any person violating any of the provisions of this division shall become liable to the city for any expense, loss or damage occasioned to the city by reason of such violation.

(Code 1982, § 23-62)

Sec. 74-83. Notice of violation.

Any person found to be violating or in violation of any provision of this division shall be served by the city, by its health officer, with a written notice stating the nature of the violation and providing a reasonable time limit, as determined by the plumbing inspector, for the satisfactory correction thereof. The offender shall, within the period of time stated in the notice, permanently cease all such violations.

(Code 1982, § 23-63)

Sec. 74-84. Sanitary facilities required.

- (a) Every building intended for human habitation, use or occupancy shall have sanitary facilities for disposing of human excreta and liquid conveyed material, including bathroom, kitchen and laundry wastes, approved by the plumbing inspector as provided for in this division.
- (b) The provisions of subsection (a) of this section shall not be applicable to an accessory

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structure located on the same lot as a principal building containing sanitary facilities which are available at all times to users or occupants of the accessory structure. If food is sold, served, prepared, processed, packaged or repackaged in or from the accessory structure, the provisions of this subsection do not apply.

(Code 1982, § 23-64)

Sec. 74-85. Independent system for each building; exception.

- (a) The sewer or drain and plumbing system of each new building and of new work installed in an existing building shall be separate from and independent of that of any other building except as provided for in this division; and every building shall have an independent connection with a public or community sewerage system when available, or a private sewage disposal system.
- (b) When one building stands or is to be constructed in the rear of another building on an interior lot and no sewer or drain is available or can be constructed to the rear building, the sewer or drain of the front building may be extended to the rear building and the whole will be considered as an independent connection.

(Code 1982, § 23-65)

Sec. 74-86. Existing systems--Use and abandonment.

The sewer or drain of a new building may be connected to an existing sewer or drain or sewage disposal system if, on examination and test, the existing sewer or drain or sewage disposal system is found to be adequate and in suitable condition for further use as provided for in this division. Any sewer or drain or sewage disposal system found not adequate or suitable shall be altered to meet the requirements of this division or shall be abandoned. Every abandoned sewer or drain shall be plugged with concrete for at least one foot of its length or, if the sewer or drain extends into a building, it shall be stopped by capping the sewer or drain with a cap properly leaded in place. Every abandoned septic tank or cesspool shall be drained and then filled with gravel or earth or other suitable material.

(Code 1982, § 23-76)

Sec. 74-87. Same--Inspection and permits.

The determination of the adequacy and condition of any existing sewer or drain connected to a public or community sewerage system shall be made by the director of public works and he shall issue a permit to make use of such existing sewer or drain only when the provisions of this division have been complied with. If such existing sewer or drain or sewage disposal system is private, the determination of its adequacy and condition shall be made by the plumbing inspector and he shall issue a permit to make use of such existing sewer or drain or sewage disposal system only when the provisions of this division have been complied with.

(Code 1982, § 23-77)

Sec. 74-88. Installation to be made apart from other utilities, exception.

The sewer or drain shall be installed in a trench not used in common with any other

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utility except that when the sewer or drain is installed in a trench excavated through bedrock, the director of public works may, at his discretion, permit joint use of the trench with other utilities in accordance with such rules and regulations as he may prescribe.

(Code 1982, § 23-78)

Sec. 74-89. Connection to public or community system.

If a public or community sewage disposal system is extended to the point where it becomes feasible to connect a sewer or drain already connected to a private sewage disposal system, such sewer or drain shall be connected without delay to the public or community system if the health officer declares that the operation or failure of the private sewage disposal system constitutes a nuisance or health hazard. The owner of the private sewage disposal system shall, at his own expense, connect his sewer or drain to the public or community system. No effluent from any septic tank or cesspool shall be allowed to enter a public or community sewage disposal system without prior approval from the director of public works.

(Code 1982, § 23-79)

Secs. 74-90--74-100. Reserved.**DIVISION 4. SEWER ASSESSMENTS****Sec. 74-101. Purpose.**

The purpose of this division is to provide a means for property abutters to pay a sewer assessment on a term basis whenever a sanitary sewer project is undertaken. The abutter may choose to pay the assessment on a lump sum basis or on a term basis.

(Code 1982, § 23-101)

Sec. 74-102. Authorization to adopt policy.

The city council shall adopt a sanitary sewer assessment policy to carry out the purpose of this division, pursuant to 30-A M.R.S.A. § 3442.

(Code 1982, § 23-102)

Sec. 74-103. Payment on term basis.

The abutter opting for payment under this division on a term basis shall comply with the policy prescribed by the city council, and further execute an agreement to be recorded in the county registry of deeds.

(Code 1982, § 23-103)

Sec. 74-104. Payment due, interest rate.

The city council shall annually file with the collector a list of installment payments due the city, which shall be collected at the rate determined by the city council.

(Code 1982, § 23-104)

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Secs. 74-105--74-115. Reserved.

DIVISION 5. SEWER IMPACT FEES*

*State law references: Authority to establish schedule of charges for sewage disposal, 30-A M.R.S.A. § 3406.

Sec. 74-116. Purpose.

The purpose of this division is to provide a means for sanitary sewer users to pay a fee to offset the effect additional sewer connections and use will have on the existing sanitary sewer system and a means for sanitary sewer users to pay their fair share of the existing sewer system and improvements thereto, including sewer mains, pumping stations and the wastewater treatment plant. The fees shall be used to offset the effect of new or changed connections to the existing sanitary sewer system as may be provided by the capital improvement program, section 6.05 of the Charter. Such fees shall be paid prior to the issuance of a building permit and/or a sewer connection permit. Such fees may be applicable to both new structures and/or uses and existing structures and/or uses.

(Code 1982, § 23-125)

Sec. 74-117. Authorization to adopt policy.

The city council shall adopt a sewer impact fee policy to carry out the purpose of this division.

(Code 1982, § 23-126)

Secs. 74-118--74-199. Reserved.

ARTICLE III. NON-STORM WATER DISCHARGE**Sec. 74-200. Purpose.**

The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the City of Lewiston through the regulation of non-storm water discharges to the municipality's storm drainage system as required by federal and state law. This article establishes methods for controlling the introduction of pollutants into the city's storm drainage system in order to comply with requirements of the Federal Clean Water Act and state law.

(Ord. No. 05-14, 9-8-05)

Sec. 74-201. Objectives.

The objectives of this article are:

- (1) To prohibit unpermitted or unallowed non-storm water discharges to the storm drainage system; and
- (2) To set forth the legal authority and procedures to carry out all inspection, monitoring and enforcement activities necessary to ensure compliance with this

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article.

(Ord. No. 05-14, 9-8-05)

Sec. 74-202. Definitions.

For the purposes of this article, the following shall mean:

Clean Water Act. The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq., also known as the "Clean Water Act"), and any subsequent amendments thereto.

Discharge. "Discharge" means any spilling, leaking, pumping, pouring, emptying, dumping, disposing or other addition of pollutants to "waters of the state", "direct discharge" or "point source" means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Enforcement authority. The person(s) or department authorized under section 74-204 of this article shall administer and enforce this article.

Exempt person or discharge. Means any person who is subject to a multi-sector general permit for industrial activities, a general permit for construction activity, a general permit for the discharge of stormwater from the Maine Department of Transportation and the Maine Turnpike Authority Municipal Separate Storm Sewer Systems, or a general permit for the discharge of stormwater from state or federally owned authority municipal separate storm sewer system facilities; and any non-storm water discharge permitted under a NPDES permit, waiver, or waste discharge license or order issued to the discharger and administered under the authority of the U.S. Environmental Protection Agency ("EPA") or the Maine Department of Environmental Protection ("DEP").

Illicit discharge. Any direct or indirect discharge to the municipal storm drain system that is not composed entirely of stormwater, except as exempted in this article. The term does not include a discharge in compliance with an NPDES storm water discharge permit or a surface water discharge permit, or resulting from fire fighting activities exempted pursuant to this article.

Industrial activity. Activity or activities subject to NPDES industrial permits as defined in 40 CFR, Section 122.26 (b)(14).

Municipality. The City of Lewiston, Maine.

Municipal separate storm sewer system, or MS4. "Municipal separate storm sewer system" or "MS4" means conveyances for storm water, including, but not limited to, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels or storm drains (other than publicly owned treatment works and combined sewers) owned or operated by any municipality, sewer or sewage district, fire district, state agency or federal agency or other public entity that discharges directly to surface waters of the state.

National pollutant discharge elimination system (NPDES) storm water discharge permit. This means a permit issued by the EPA or by the DEP that authorizes the

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discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-storm water discharge. Means any discharge to an MS4 that is not composed entirely of storm water.

Person. Means any individual, firm, corporation, municipality, quasi-municipal corporation, state agency or federal agency or other legal entity which creates, initiates, originates or maintains a discharge of storm water or a non-storm water discharge.

Pollutant. Means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or by-products, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Premises. Means any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips, located within the municipality from which discharges into the storm drainage system are or may be created, initiated, originated or maintained.

Regulated small MS4. "Regulated small MS4" means any small MS4 regulated by the State of Maine "General permit for the discharge of stormwater from small municipal separate storm sewer systems", dated June 3, 2003 ("general permit"), including all those located partially or entirely within an urbanized area (UA) and those additional small MS4s located outside a UA that as of the issuance of the general permit have been designated by the DEP as regulated small MS4s.

Small municipal separate storm sewer system, or small MS4, means any MS4 that is not already covered by the Phase I MS4 stormwater program including municipally owned or operated storm sewer systems, state or federally-owned systems, such as colleges, universities, prisons, Maine Department of Transportation and Maine Turnpike Authority road systems and facilities, and military bases and facilities.

Storm drainage system. The municipality's regulated small MS4 and areas outside the UA that drain into the regulated MS4 and all premises.

Storm water. Any storm water runoff, snowmelt runoff, and surface runoff and drainage; "Stormwater" has the same meaning as "storm water".

Urbanized area ("UA"). "Urbanized area" or "UA" means the areas of the State of Maine so defined by the latest decennial census by the U.S. Bureau of the Census.

(Ord. No. 05-14, 9-8-05)

Sec. 74-203. Applicability.

This article shall apply to all persons discharging storm water and/or non-storm water discharges from any premises into the storm drainage system.

(Ord. No. 05-14, 9-8-05)

Sec. 74-204. Responsibility for administration.

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The city administrator or his/her designee is the enforcement authority who shall administer, implement, and enforce the provisions of this article.

(Ord. No. 05-14, 9-8-05)

Sec. 74-205. Prohibition of non-storm water discharges.

- (a) *General prohibition.* Except as allowed or exempted herein, no person shall create, initiate, originate or maintain a non-storm water discharge to the storm drainage system. Such non-storm water discharges are prohibited notwithstanding the fact that the municipality may have approved the connections, drains or conveyances by which a person discharges un-allowed non-storm water discharges to the storm drainage system.
- (b) *Allowed non-storm water discharges.* The creation, initiation, origination or maintenance of the following non-storm water discharges to the storm drainage system is allowed:
 - (1) Landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)); uncontaminated pumped ground water; uncontaminated flows from foundation drains; air conditioning and compressor condensate; irrigation water; flows from uncontaminated springs; uncontaminated water from crawl space pumps; uncontaminated flows from footing drains; lawn watering runoff; flows from riparian habitats and wetlands; residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used); hydrant flushing and fire fighting activity runoff; water line flushing and discharges from potable water sources; and individual residential car washing;
 - (2) Discharges specified in writing by the enforcement authority as being necessary to protect public health and safety; and
 - (3) Dye testing, with verbal notification to the enforcement authority prior to the time of the test.
- (c) *Exempt person or discharge.* This article shall not apply to an exempt person or discharge, except that the enforcement authority may request from exempt persons and persons with exempt discharges copies of permits, notices of intent, licenses and orders from the EPA or DEP that authorize the discharge(s).

(Ord. No. 05-14, 9-8-05)

Sec. 74-206. Suspension of access to the municipality's small MS4.

The enforcement authority may, without prior notice, physically suspend discharge access to the storm drainage system to a person when such suspension is necessary to stop an actual or threatened non-storm water discharge(s) to the storm drainage system which present or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the storm drainage system, or which may cause the municipality to violate the terms of its environmental permits. Such suspension may include, but is not limited to, blocking pipes, constructing dams or taking other measures, on public ways or public property, to physically block the discharge to prevent or minimize non-storm water discharges to the storm drainage system. If the person fails to comply with a suspension order issued in an emergency,

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the enforcement authority may take such steps as deemed necessary to prevent or minimize damage to the storm drainage system, or to minimize danger to persons, provided, however, that in taking such steps the enforcement authority may only enter upon the premises that is the source of the actual or threatened non-storm water discharge to the storm drainage system with the consent of the premises' owner, occupant or agent. (Ord. No. 05-14, 9-8-05)

Sec. 74-207. Monitoring of discharges.

In order to determine compliance with this article, the enforcement authority may enter upon and inspect premises subject to this article at reasonable hours with the consent of the premises' owner, occupant or agent; to inspect the premises and connections thereon to the storm drainage system; and to conduct monitoring sampling and testing of the discharge to the storm drainage system.

(Ord. No. 05-14, 9-8-05)

Sec. 74-208. Enforcement.

It shall be unlawful for any person to violate any provision of or to fail to comply with any of the requirements of this article. Whenever the enforcement authority believes that a person has violated this article, the enforcement authority may enforce this article in accordance with 30-A M.R.S.A. § 4452.

- (1) *Notice of violation.* Whenever the enforcement authority believes that a person has violated this article, the enforcement authority may order compliance with this article by written notice of violation to that person indicating the nature of the violation and ordering the action necessary to correct it, including, without limitation:
 - a. The elimination of non-storm water discharges to the storm drainage system;
 - b. The cessation of discharges, practices, or operations in violation of this article;
 - c. At the person's expense, the abatement or remediation (in accordance with best management practices in DEP rules and regulations) of non-storm water discharges to the storm drainage system and the restoration of any affected property; and/or
 - d. The payment of fines, of the municipality's remediation costs and of the municipality's reasonable administrative costs and attorneys' fees and costs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such abatement or restoration must be completed.
- (2) *Penalties/fines/injunctive relief.* Any person who violates this article shall be subject to fines, penalties and orders for injunctive relief and shall be responsible for the municipality's attorney's fees and costs, all in accordance with 30-A M.R.S.A. § 4452. Each day such violations continues shall constitute a separate

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violation. Moreover, any person who violates this article also shall be responsible for any and all fines, penalties, damages and costs, including, but not limited to attorneys' fees and costs, incurred by the municipality for violation of federal and state environmental laws and regulations caused by or related to that person's violation of this article; this responsibility shall be in addition to any penalties, fines or injunctive relief imposed under this section.

- (3) *Consent agreement.* The enforcement authority may, with the approval of the municipal officers, enter into a written consent agreement with the violator to address timely abatement of the violation(s) of this article for the purposes of eliminating violations of this article and of recovering fines, costs and fees without court action.
- (4) *Appeal of notice of violation.* Any person receiving a notice of violation or suspension notice may appeal the determination of the enforcement authority to the board of appeals in accordance with the City's Code of Ordinances. The notice of appeal must be received within 30 days from the date of the notice of violation. The board of appeals shall hold a de novo hearing on the appeal within 30 days from the date of receipt of the notice of appeal. The board of appeals may affirm, reverse or modify the decision of the enforcement authority. A suspension under section 74-206 of this article remains in place unless or until lifted by the board of appeals or by a reviewing court. A party aggrieved by the decision of the board of appeals may appeal that decision to the Maine Superior Court within 45 days of the date of the board of appeals decision pursuant to Rule 80B of the Maine Rules of Civil Procedure.
- (5) *Enforcement measures.* If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within 45 days of the decision of the municipal board of appeals upholding the decision of the enforcement authority, then the enforcement authority may recommend to the municipal officers that the town attorney file an enforcement action in a Maine court of competent jurisdiction under Rule 80K of the Maine Rules of Civil Procedure.
- (6) *Ultimate responsibility of discharger.* The standards set forth herein are minimum standards; therefore this article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into waters of the U.S. caused by said person. This article shall not create liability on the part of the municipality, or any agent or employee thereof for any damages that result from any person's reliance on this article or any administrative decision lawfully made hereunder.

(Ord. No. 05-14, 9-8-05)

Sec. 74-209. Severability.

The provisions of this article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions, clauses, sentences, or paragraphs or application of this article.

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(Ord. No. 05-14, 9-8-05)

Sec. 74-210. Basis.

The City of Lewiston enacts this article pursuant to 30-A M.R.S.A. § 3001 (Municipal Home Rule Ordinance Authority), 38 M.R.S.A. § 413 (the "Wastewater Discharge Law"), 33 U.S.C. § 1251 et seq. (the "Clean Water Act"), and 40 CFR Part 122 (U.S. Environmental Protection Agency's regulations governing the National Pollutant Discharge Elimination System ("NPDES")). The Maine Department of Environmental Protection, through its promulgation of the "general permit for the discharge of stormwater from small municipal separate storm sewer systems", dated June 3, 2003, has listed the City of Lewiston as having a regulated small municipal separate storm sewer system ("small MS4"); under this general permit, listing as a regulated small MS4 necessitates enactment of this article as part of the municipality's storm water management program.

(Ord. No. 05-14, 9-8-05)

Secs. 74-211--74-299. Reserved.**ARTICLE IV. STORMWATER UTILITY****Sec. 74-300. Findings.**

Whereas the city council finds that water quality in the watersheds within and surrounding the city, including but not limited to watersheds associated with the Androscoggin River, No Name Pond, Garcelon Bog, Jepson Brook, Hart Brook, No Name Brook, Stetson Brook, Gully Brook, Goff Brook, Moody Brook and Salmon Brook, along with their tributaries are potentially threatened by pollutants associated with existing land use and future development; and

Whereas the city council finds that poor water quality in the watershed can threaten public health, safety, and welfare; and

Whereas the existing stormwater management system is deteriorating and may be inadequate to meet existing and future needs, and flooding concerns may arise; and

Whereas requirements of the U.S. Environmental Protection Agency ("EPA") demand a comprehensive approach to municipal stormwater management, and the city wishes to take a proactive approach to these requirements; and

The city council makes the following additional findings:

- The stormwater management needs of the city have been identified in a needs analysis entitled (Stormwater/CSO Utility Feasibility Study Preliminary Results) dated April 11, 2002, by Camp Dresser and McKee, Inc. and an analysis entitled "Clean Water Act Master Plan" dated December 12, 2000, by Metcalf & Eddy ("stormwater studies") that indicate more effective stormwater management in the city would contribute to the health, safety and welfare of the residents. Further, this analysis reveals that stormwater facilities and activities associated with stormwater management provide services and benefits to all properties, property owners, residents and citizens of the city.

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- Given the scope of stormwater management needs identified by the stormwater studies, it is appropriate and necessary to authorize the formation of a stormwater utility unit, as a program comprised of personnel from the city's department of public services and department of public works and with dedicated funding components, charged with the responsibility to establish, operate, maintain, control, and enhance the stormwater management programs, services, systems, and facilities of the city.
- In order to establish, operate, and maintain the stormwater infrastructure of the city, ensure the future usefulness of the existing system through additions and improvements, and provide other services associated with stormwater and watershed management, sufficient and stable funding is required for the operation, maintenance and improvement of the stormwater management programs, services, systems, and facilities of the city.
- A stormwater utility service fee schedule that efficiently takes into account impervious surface area, and uses intensity and nature of land use as the most appropriate and equitable method of allocating the cost of stormwater management programs, services, systems, and facilities of the city and between and among rural and urbanized areas of the city and residential dwelling units, non-residential properties and other developed lands for governing assessments and collections of the utility.

(Ord. No. 06-10, 7-27-06)

Sec. 74-301. Purpose.

Stormwater runoff is one (1) of the largest contributors to water quality violations in urban and urbanizing areas of Maine. According to the US EPA, polluted stormwater runoff is a leading cause of impairment to the nearly forty (40) percent of surveyed U.S. water bodies which do not meet water quality standards (U.S. EPA, 1995). When polluted stormwater runoff is discharged directly into surface water bodies, several adverse effects can occur: public health can be threatened from contaminated drinking water sources, food sources, and recreational waters; aquatic habitats can be damaged or destroyed; and aesthetic values of waterways can decline. Management of stormwater is critical to ensuring the integrity of valuable surface water resources. An effective approach to managing stormwater and related impacts is creation of a utility that delivers stormwater management services to a community.

Therefore, the city hereby establishes a stormwater management utility for the following purposes:

- To determine the necessary level of municipal stormwater management services for the city;
- To maintain and improve the drainage facilities of the city, to ensure that they perform to design capacity while using best management practices to meet local, state, and federal water quality standards;
- To mitigate the damaging effects of uncontrolled and unmanaged stormwater runoff;
- To support and promote sound stormwater management practices that mitigate non-point source pollution, reduce flooding, and enhance area drainage within the city

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and;

- To support the goals and objectives of the city ordinances addressing stormwater management in other sections of this Code of Ordinances and to comply with applicable law, including the Maine Department of Environmental Protection Stormwater Management Regulations.

(Ord. No. 06-10, 7-27-06)

Sec. 74-302. Authority and jurisdiction.

- Under the authority of the Maine Constitution, Article VIII, and Title 30-A M.R.S.A. § 3001, the city hereby establishes the Lewiston Stormwater Utility ("utility") as a program comprised of personnel of the department of public services and department of public works to provide stormwater management programs, services, systems, and facilities of the city. The city administrator will appoint a superintendent of stormwater management and a director of field operations to carry out the responsibilities of the utility.
- The utility or its designee is authorized to assess and collect service fees from all persons owning land within the municipality that benefit from the services provided by the utility, including all persons that own land from which stormwater runoff discharges directly or indirectly to the stormwater management systems and facilities managed by the utility.
- The utility will assume all responsibility for providing stormwater management programs, services, systems, and facilities of the city, including maintaining and improving stormwater infrastructure; providing engineering services for stormwater management; regulating, in accordance with local, state and federal regulations, stormwater discharges from each parcel contributing to the stormwater management systems and facilities; and collecting utility fees. The superintendent of stormwater management, or his/her designated representative, is authorized to make recommendations for stormwater management plans during any required review process for new and/or existing development.
- The boundaries and jurisdiction of the stormwater utility shall encompass all portions of the City of Lewiston.

(Ord. No. 06-10, 7-27-06)

Sec. 74-303. Definitions.

The definitions contained in Maine's Stormwater Management Law and Regulations (38 M.R.S.A. § 420D; 06-096 CMR Ch. 500 (Oct. 30, 2005)), are incorporated herein by reference. Additional terms used in this article are defined as follows:

Credit: Credit shall mean a conditional reduction in the amount of a stormwater service fee to an individual property based on the provision and continuing presence of an effectively maintained and operational on-site stormwater system or facility or other service or activity that reduces the stormwater management utility's cost of providing services.

Customers of the stormwater utility: Customers of the stormwater utility shall include all persons, properties, and entities served by and/or benefiting from the utility's

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acquisition, management, maintenance, extension, and improvement of the public stormwater management systems and facilities and regulation of public and private stormwater systems, facilities, and activities related thereto, and persons, properties, and entities which will ultimately be served or benefited as a result of the stormwater management program.

Developed land: Developed land shall mean property altered from its natural state by removal of vegetation, construction, or installation of improvements such as buildings, structures, or other impervious surfaces, or by other alteration of the property that results in a meaningful change in the hydrology of the property during and following rainfall events (agricultural and forestry operations that do not create impervious surface area excepted).

Ephemeral stream: A channel that flows only during wet weather following a precipitation event and typically flows no more than a few days after the storm.

Equivalent residential unit (ERU): A measure used to standardize the utility service fees for residential properties, or classes of residential properties, and based on the average amount of impervious area of a base residential parcel. The ERU shall also be used as the basis for standardizing and determining the equivalent size of non-residential properties and other developed lands. The staff of the utility, together with consulting engineers, shall undertake an analysis to identify the amount of square feet of impervious surface area of an ERU and this will be identified as part of the stormwater service fee schedule policy.

Exemption: Exemption shall mean not applying to, or removing the application of the stormwater management utility service fee from, a property. No permanent exemption shall be granted based on taxable or non-taxable status or economic status of the property owner.

Hydrologic response: The hydrologic response of a property is the manner whereby stormwater collects, remains, infiltrates, and is conveyed from a property.

Impervious surfaces: Impervious surfaces are those areas that prevent or impede the infiltration of stormwater into the soil as it entered in natural conditions prior to development. Impervious areas include, but are not limited to, rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage areas, compacted gravel surfaces, awnings and other fabric or plastic coverings, and other surfaces that prevent or impede the natural infiltration of stormwater runoff which existed prior to development.

Intermittent stream: A stream or river that flows during both wet and dry weather only during the wettest part of the year and exhibits no flow during dry weather during at least a portion of the year, and is depicted as a thin solid line on United States Geological Survey (USGS) quadrangle maps.

Other developed lands: Other developed lands shall mean, but not be limited to, mobile home parks, commercial and office buildings, public buildings and structures, industrial and manufacturing buildings, storage buildings and storage areas covered with impervious surfaces, parking lots, parks, recreation properties, public and private schools and universities, colleges, research facilities and stations, hospitals and convalescent centers, airports, agricultural uses covered by impervious surfaces, water and wastewater treatment plants, and lands in other uses which alter the hydrology of the property from

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that which would exist in a natural state.

Perennial stream: A stream or river that flows during both wet and dry weather throughout the year and over multiple years in duration, and that is depicted as a bold line on USGS quadrangle maps.

Pollution: The contamination or other alteration of the physical, chemical or biological properties of any natural waters of the City of Lewiston, or the discharge of any liquid, gaseous, solid or radioactive or other substance into any such waters as will or is likely to create a nuisance, or render such water harmful, detrimental, or injurious to the public health, safety and welfare or to other beneficial uses.

Residential dwelling unit: Residential dwelling unit shall mean developed land containing one or more structures and which contains one or more bedrooms, with a bathroom and kitchen facilities, designed for occupancy for dwelling purposes. Dwelling units may include single-family houses, single duplex units under common ownership, manufactured homes, condominiums, townhouses, and mobile homes located on one or more individual lots or parcels of land. Developed land may be classified as a residential dwelling unit despite the presence of incidental structures associated with residential uses such as barns, garages, carports, or small storage buildings such as tool sheds or woodsheds.

Stormwater: Precipitation as it falls to the earth, surface runoff and drainage, and paths taken by such water.

Stormwater management programs, services, systems, and facilities: Stormwater management programs, services, systems, and facilities are those administrative, engineering, operational, regulatory, and capital improvement activities and functions performed by the City of Lewiston in connection with managing the stormwater management systems and facilities of the city, plus all other activities and functions necessary to support the provision of such programs and services.

Stormwater management systems and facilities: Those natural and man-made channels, swales, ditches, swamps, rivers, streams, creeks, branches, reservoirs, ponds, drainage ways, inlets, catch basins, pipes, head walls, storm sewers, lakes, city and state roads including the Maine Turnpike and other physical works, properties, and improvements which transfer, control, convey or otherwise influence the movement of stormwater runoff and its discharge to and impact upon receiving waters.

Stormwater service fees: Stormwater service fees shall mean the periodic service fee imposed pursuant to this article for the purpose of funding costs related to stormwater management programs, services, systems, and facilities.

Stormwater service fee schedule policy: The policy approved by the city council identifying the specific fee structure and formulas upon which stormwater service fees and credits will be based.

Undeveloped land: Land in its unaltered natural state or which has been modified to such minimal degree as to have a hydrologic response comparable to land in an unaltered natural state shall be deemed undeveloped. Undeveloped land shall have no pavement, asphalt, or compacted dirt or gravel surfaces or structures which create an impervious surface that would prevent infiltration of stormwater or cause stormwater to

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collect, concentrate, or flow in a manner materially different than that which would occur naturally.

Lewiston Stormwater Utility: The program within the City of Lewiston staffed by the public services department and public works department, responsible for providing the stormwater management programs, services, systems, and facilities pursuant to this article.

(Ord. No. 06-10, 7-27-06; Ord. No. 06-14, 11-2-06)

Sec. 74-304. Establishment of stormwater fund.

- (a) The city administrator shall establish a dedicated stormwater fund in the city budget and an accounting system for the purpose of managing all funds collected for the purposes and responsibilities of the utility. All revenues and receipts of the utility shall be placed in the stormwater fund, which shall be separate from all other funds, and only the expenses of stormwater management programs, services, systems, and facilities of the city shall be paid by the fund.
- (b) The utility and the stormwater fund may also accept loans, state, federal and private grants, and allocations of funds from the city's general fund or special purpose funds.
- (c) Stormwater service fees will be set at a rate that covers the costs necessary to carry out the stormwater management programs, services, systems and facilities approved by the city as necessary to carry out the functions of the utility. Expenditure of funds from the stormwater fund is limited to the following:
 - Operating expenses;
 - Non-operating expenses, such as equipment and supplies;
 - Payment on principal and interest on debt obligations;
 - Capital investments including stormwater best management practices (BMPs) and components (e.g., purchase of plants and other amenities to support stormwater management alternatives utilizing vegetation);
 - Reserve expenses; and
 - Others costs as deemed necessary by the city council.

(Ord. No. 06-10, 7-27-06)

Sec. 74-305. Requirements for on-site stormwater management.

All property owners and developers of property within the city shall provide, manage, maintain and operate their stormwater systems to meet all requirements of the Maine Stormwater Management Law, and regulations and all other applicable stormwater management requirements now specified or later specified in this Code of Ordinances, including, but not limited to, the non-stormwater discharge ordinance (section 74-200 et seq.), the private stormwater elimination policy, and applicable development performance standards contained in the Code of Ordinances. The city council hereby adopts and incorporates the requirements of the private stormwater elimination policy, subject to revision and amendment by the council upon recommendation of the superintendent of stormwater.

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Failure to comply with these requirements shall constitute a nuisance and be subject to abatement action, in addition to the enforcement actions described in subsection 74-311(a). In the event that a public nuisance is found to exist by a court of appropriate jurisdiction, and the property owner fails to abate said nuisance within a reasonable time as allowed by the court, the city may take all legally authorized actions necessary to enforce the court's judgment, including entering upon the property and causing such work as is reasonably necessary to be performed, with the actual cost thereof assessed against the owner in the same manner as a tax levied against the property. From the date of filing such action, the city shall have lien rights that may be perfected, after judgment, by filing a notice of lien in the court of appropriate jurisdiction. The city shall have the right, pursuant to this article, for its designated officer and employees to enter upon private and public property owned by entities other than the city, upon reasonable notice to the owner thereof, to inspect the property and conduct surveys and engineering tests thereon in order to ensure compliance. Failure to comply with the standards identified herein will also subject the property owner to enforcement action, as described in section 74-311, herein.

(Ord. No. 06-10, 7-27-06)

Sec. 74-306. Services provided.

- (a) For the purposes of operating, maintaining and improving the stormwater management system and facilities, the city owns or has legal access to portions of the system that:
- Are located within public streets, easements, and rights-of-way of the jurisdiction; and/or
 - Are subject to access provisions established by city for the purpose of operating, maintaining, and/or improving stormwater systems and facilities.
- (b) Stormwater systems located on private property or on public property for which no access provisions have been made shall be considered the legal responsibility of the property owner.
- (c) The utility may provide some or all of the following services in exchange for collecting a service fee:
- Administer the stormwater management program for the city;
 - Perform necessary studies and analysis of the service area or potential service area(s);
 - Acquire, construct, operate, maintain, manage, protect, and enhance the stormwater infrastructure, including betterments and connections to the public drainage system; mapping of natural and man-made features affecting stormwater management;
 - Detect and eliminate illicit discharges to the stormwater management system;
 - Periodically inspect properties to determine contribution to municipal stormwater load;
 - Inventory stormwater management facilities;
 - Maintain an up-to-date database of residential and non-residential properties in the service area, billing class codes for each parcel, runoff contributions of each property to the stormwater system for non-residential properties, and charges and payments for each account;

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- Determine compliance with applicable local, state and federal regulations, the stormwater discharges from each parcel contributing to the stormwater system;
 - Perform inspections of stormwater management structures and facilities, both during and after development/construction;
 - Perform master planning and engineering for watershed management and capital improvements;
 - Recommend and provide advice to update and/or revise local comprehensive plans with respect to stormwater management;
 - Obtain federal and state permits necessary to conduct its duties;
 - Obtain and administer grants and loans from public and private sources as authorized by the city council;
 - Receive and track service fees collected by the city;
 - Review development plans and provide comment to the planning and code enforcement department of the city;
 - Make recommendations regarding acquisition of property, easements and rights-of-way in critical areas serving as buffers, retention or infiltrating areas, or providing means to gain access to properties to perform utility duties.
 - Educate and inform the public about the impacts of stormwater runoff and the components of a stormwater management plan; and
 - Perform any and all other necessary functions in connection with stormwater management programs, services, systems, and facilities of the city.
- (d) The utility will be responsible for addressing all applicable state and federal quantity and water quality standards for stormwater. This includes the responsibility for addressing all applicable state and federal stormwater permits required for the city, including National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer systems (MS4) permits and other Phase I and Phase II industrial stormwater permits for applicable municipal activities, and carrying out applicable actions under all local stormwater ordinances. Whereas the City of Lewiston is regulated under Phase II of the NPDES permit program, the utility will assume responsibility for meeting federal NPDES permit requirements for MS4s, including compliance with the six federally mandated minimum control measures:
- (1) Public education and outreach
 - (2) Public participation/involvement
 - (3) Illicit discharge detection and elimination
 - (4) Construction site runoff control
 - (5) Post-construction runoff control
 - (6) Pollution prevention/good housekeeping

(Ord. No. 06-10, 7-27-06)

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Sec. 74-307. Service area.

The service area of the utility will include all areas within the municipal boundaries of the City of Lewiston.

(Ord. No. 06-10, 7-27-06)

Sec. 74-308. Stormwater utility service fees.

- (a) The city may determine and modify from time to time the service fees of the utility in order that the funds generated correspond to the cost of stormwater management programs, services, systems, and facilities of the city. In general, funding for the stormwater utility shall be equitably derived based on methods that establish a link between the fees and degree of impact imposed on the stormwater management system and facilities.
- (b) To the extent that other funding methods are employed by the city to manage stormwater both within and outside the service area, stormwater service fees shall support and be consistent with plan review and inspection fees, special fees for services, fees in lieu of regulatory requirements, impacts fees, special assessments, and other fees. Fees collected to fund stormwater management activities of the utility can also be supplemented by other revenues available to the city, most notably state, federal, and private grants or loans.
- (c) After adoption of the ordinance, the utility, guided by the city administrator and with the assistance of those consultants deemed necessary by the utility and city administrator, shall undertake an analysis of the cost of stormwater management programs, services, systems, and facilities of the city for the purpose of setting an annual rate schedule for properties served by the utility. The recommendations of the utility (and/or city administrator) shall be submitted for approval by the city council. The fee schedule approved by the city council shall be designated as the stormwater service fee schedule and be made part of the city's policy manual. No bills will be issued to customers prior to city council approval of the stormwater service fee schedule.
- (d) Rate studies shall be conducted periodically by the utility to determine all changes and future updates to the stormwater utility use fee schedule policy. Any revision to the stormwater service fee schedule policy will be approved by the city council prior to implementation.

(Ord. No. 06-10, 7-27-06)

Sec. 74-309. Credits and exemptions.

- (a) Credits against service charges are an appropriate means of adjusting payments to the utility and will only be granted to those properties that go beyond the requirements of state and local laws and regulations. Credits against service charges may be granted on a sliding scale for properties providing on-site or off-site stormwater management measures that reduces the impact of the property on the cost of providing stormwater management services, provided that such systems are adequately maintained and exceed performance standards specified under Maine's Stormwater Management Law and regulations as well as any additional stormwater management performance standards

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imposed by this Code of Ordinances. A fee credit schedule and a manual for the stormwater utility shall be developed by the utility's staff and consultants specifying the necessary performance standards for stormwater systems to qualify for a credit. The scale for credits shall reflect the extent to which the subject properties reduce the peak rate of runoff from the property, or avoid other costs incurred by the stormwater management utility in the delivery of services, and shall be determined by the director, department of public services. The fee credit schedule shall be submitted to and approved by the city council as part of the stormwater service fee schedule policy and be made part of the city's policy manual.

- (b) Credits may be provided for the following:
- (1) Properties upon which a permanent and/or perpetual conservation or other protective easement has been provided may receive service fee credits, as established by the city council, provided such easement:
 - a. Reduces or compensates for the impact that the subject property, or an unrelated property, has on public or private stormwater systems or water quality of receiving waters;
 - b. Improves the function of public stormwater systems or the water quality of receiving waters; or
 - c. Provides other substantial benefits as identified by the city council.
 - (2) Creation of freshwater wetlands (assuming the created wetland is not part of a mitigation project associated with a permitted impact to a natural wetland);
 - (3) Stormwater management practices (e.g., on-site detention and retention facilities); and
 - (4) Peak flow reduction (may be same as c).
- (c) Exemptions from stormwater service fees are not allowed, except as provided in this section. Exemptions shall be allowed for:
- All city and state-owned or maintained roads and rights-of-way, including the Maine Turnpike, because these roads are part of the stormwater management systems and facilities.

(Ord. No. 06-10, 7-27-06; Ord. No. 06-14, 11-2-06)

Sec. 74-310. Fee collection schedule.

Stormwater service fees shall be collected quarterly. To minimize administrative costs, notification and collection of stormwater utility fees shall be coordinated, to the extent possible with the collection of water and sewer service charges. A customer shall have 30 days from receipt of a service fee bill to make payment. Interest, at a rate determined by the city council as part of the stormwater utility use fee schedule shall be charged on delinquent accounts after 30 days.

(Ord. No. 06-10, 7-27-06)

Sec. 74-311. Right to enforcement and violations.

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- (a) The city administrator, or his authorized designee is the enforcement authority who shall administer, implement, and enforce the provisions of this article.
- (b) It shall be unlawful for any person to violate or to fail to comply with the stormwater management requirements of section 74-305. Whenever the enforcement authority believes that a person has violated section 74-305, the enforcement authority may enforce this article in accordance with 30-A M.R.S.A. § 4452 and section 1-8 of the Code of Ordinances.
 - (1) *Notice of violation.* Whenever the enforcement authority believes that a person has violated this section 74-305, the enforcement authority may order compliance with this article by written notice of violation to that person indicating the nature of the violation and ordering the action necessary to correct it including, without limitation: the cessation of discharges, practices, or operations in violation of this article; at the person's expense, the abatement or remediation of conditions; and/or the payment of fines, of the city's remediation costs and of the city's reasonable administrative costs and attorneys' fees and costs. If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such abatement or restoration must be completed.
 - (2) *Penalties/fines/injunctive relief.* Any person who violates section 74-305 shall be subject to fines, penalties and orders for injunctive relief and shall be responsible for the city's attorneys' fees and costs, all in accordance with 30-A M.R.S.A. § 4452 and section 1-8 of the Code of Ordinances. Each day such violations continue shall constitute a separate violation. Moreover, any person who violates section 74-305 also shall be responsible for any and all fines, penalties, damages and costs, including, but not limited to attorneys' fees and costs, incurred by the city for violation of federal and state environmental laws and regulations caused by or related to that person's violation of section; this responsibility shall be in addition to any penalties, fines or injunctive relief imposed under this section.
 - (3) *Consent agreement.* The enforcement authority may enter into a written consent agreement with the violator to address timely abatement of the violation(s) of this article for the purposes of eliminating violations of section 74-305 and of recovering fines, costs and fees without court action.
 - (4) *Appeal of notice of violation.* Any person receiving a notice of violation or suspension notice may appeal the determination of the enforcement authority to the board of appeals in accordance with the City's Code of Ordinances, App. A, Art. IX. The notice of appeal must be received within 30 days from the date of the notice of violation. The board of appeals shall hold a de novo hearing on the appeal within 30 days from the date of receipt of the notice of appeal. The board of appeals may affirm, reverse or modify the decision of the enforcement authority. A party aggrieved by the decision of the board of appeals may appeal that decision to the Maine Superior Court within 45 days of the date of the board of appeals decision pursuant to Rule 80B of the Maine Rules of Civil Procedure.
 - (5) *Enforcement measures.* If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within 45 days of the decision of the board of appeals upholding the decision of the enforcement authority, then the enforcement authority may initiate an

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enforcement action in a Maine court of competent jurisdiction under Rule 80K of the Maine Rules of Civil Procedure.

- (c) Delinquent fees.
- (1) Any person that fails to pay the service fee when due shall be responsible for the amount of the unpaid service fee, interest on the unpaid amount at a rate determined by the city council as part of the stormwater utility use fee schedule, a minimum penalty of \$200.00, and attorneys' fees and other costs of collection. Delinquent amounts may be collected by a civil action against the person.
 - (2) A customer of the utility may request review of the amount of the service fee imposed on such customer by written request to the superintendent of stormwater within 30 days of the date the customer receives a service fee bill. The superintendent shall review the service fee and issue a determination, in writing, within 30 days. A customer may appeal the superintendent's decision to the city council within 30 days of the date of the superintendent's decision. Aggrieved persons may appeal a decision of the council to a court of competent jurisdiction within 30 days of the date of the council decision.

(Ord. No. 06-10, 7-27-06)

Sec. 74-312. Limitation of liability.

Floods from stormwater may occasionally occur which exceed the capacity of the storm drainage facilities constructed, operated, or maintained by funds made available under this chapter. This chapter shall not be interpreted to mean that property subject to the fees and charges established herein will always (or at any time) be free from stormwater flooding or flood damage, or that stormwater systems capable of handling all storm events can be cost-effectively constructed, operated or maintained. Therefore the following limitations on liability are set forth:

- (1) It is the express intent of the city that this stormwater utility ordinance will protect the public health, safety and welfare of properties and persons in general. However, this ordinance does not create any special duty or relationship with any individual person or specific property either within or outside the jurisdiction of the stormwater utility.
- (2) The city shall not be held liable for flood damage or assessing and removing pollution sources, and reserves the right to assert all available immunities and defenses in any action seeking monetary compensation from the city, or its officers, agents or employees for alleged damages arising from alleged failure or breach of duties or relationship as may now exist or hereafter be created.
- (3) The issuance of any permit, plan approval or inspection shall not constitute a warranty, express or implied, nor shall it afford the basis for any action seeking the imposition of monetary damages against the city or its officers, employees or agents.
- (4) Operation of stormwater systems located on private property or public property not owned by the City of Lewiston and for which there has been no public dedication of such systems and facilities for operation, maintenance and/or improvements of the system, shall be the legal responsibility of the property

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owner, except as may be affected by the laws of the State of Maine and the United States of America.

(Ord. No. 06-10, 7-27-06)

Sec. 74-313. Severability.

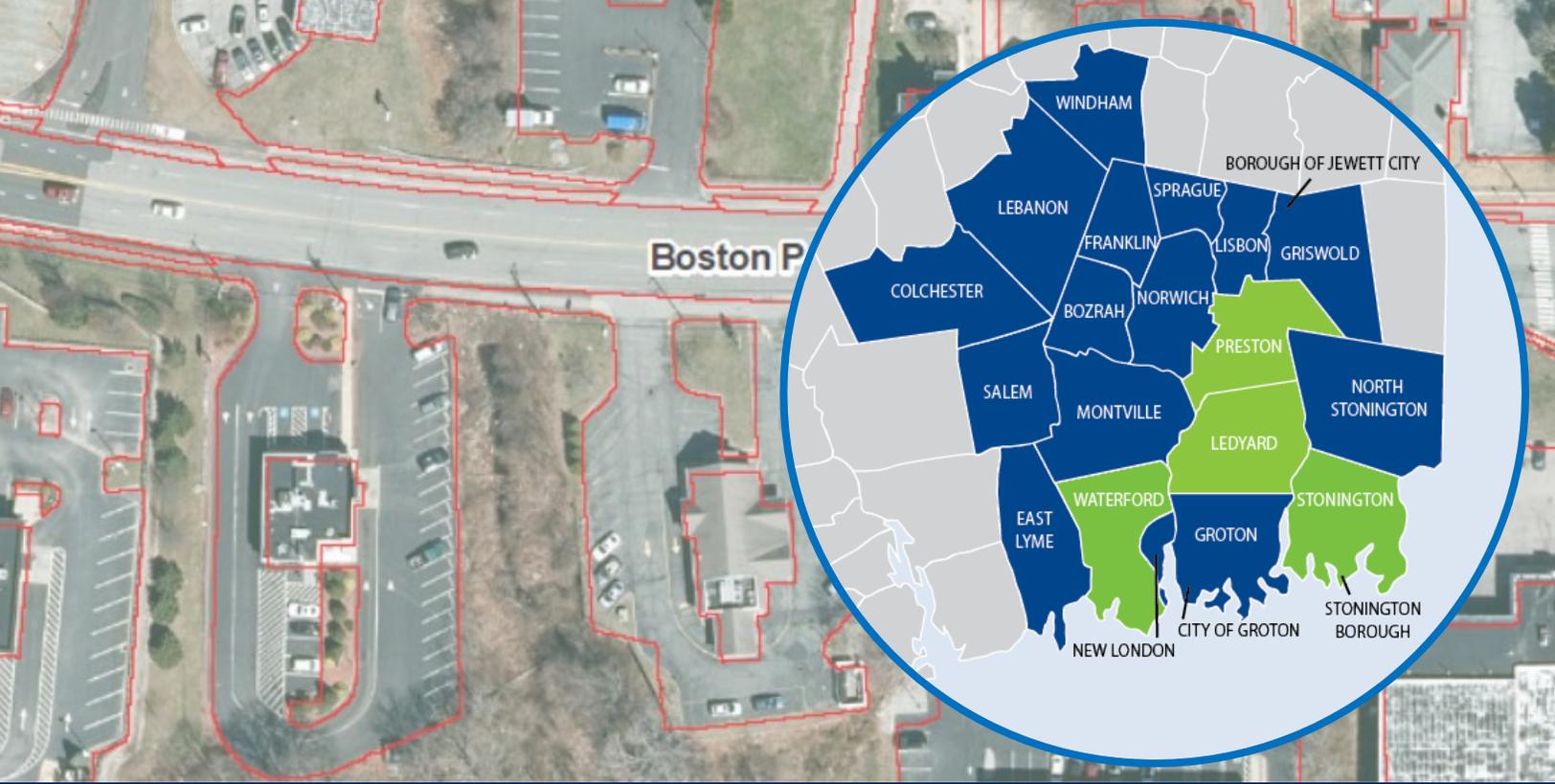
Each section of this ordinance is severable from all other sections. If any part of this ordinance is deemed invalid by a court or competent jurisdiction, remaining portions of the ordinance shall not be affected and shall continue in full force. Whenever this ordinance conflicts with any other ordinance of the city, State of Maine, or federal government, the stricter standard shall apply, except as limited by state or federal law.

(Ord. No. 06-10, 7-27-06)

Sec. 74-314. Applicability.

This ordinance and the fees, obligations and requirements identified herein shall apply to all use of and benefit from the city's stormwater management systems and facilities, occurring on or after July 1, 2006. All persons owning land within the municipality that benefit from the services provided by the utility shall be subject to service fees for their use of the stormwater management systems and facilities occurring on or after July 1, 2006.

(Ord. No. 06-10, 7-27-06)



Connecticut Institute for Resilience and Climate Adaptation

