

Evaluating the Role of Stormwater Utility Districts in the Implementation of Low Impact Development

Partners for the Connecticut Low Impact Development and Stormwater General Permit Evaluation Connecticut

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1 Background and Purpose

Stormwater utility districts are used to establish a dedicated revenue stream and alleviate the need to compete for general taxation revenues with other municipal programs. A dedicated funding source, such as a utility district, can provide an important advantage for communities that are attempting to routinely maintain and upgrade their stormwater infrastructure.

Stormwater utilities provide another key advantage. Utilities allow regional (e.g., municipal, county, watershed, etc.) management of stormwater on an ongoing basis. This is an area of limitation for low impact development (LID), which provides management on a site-by-site basis. Utilities may fill an important stormwater management role in that they overcome the limitations of site-by-site management and may help to implement watershed-based planning.

This summary is the first step in providing an evaluation of the benefits and disadvantages of utilities. There has already been some work done in Connecticut involving the assessment of stormwater utility feasibility. This summary incorporates information from those efforts. This along with examples of successful stormwater utilities elsewhere in the country form the basis of our assessment of whether stormwater utility districts currently make sense in Connecticut and if not, whether they could become viable in the future.

2 The Nature of Stormwater Utilities

2.1 What is a Stormwater Utility District?

In 2004, the Connecticut Office of Legal Research (OLR) was asked to determine whether or not “changes in state law [would be] needed to create a stormwater utility” (Frisman, 2004, p.1) (see *Appendix A* for OLR report). A necessary part of such a determination was to define a stormwater utility. In their determination, OLR defined a stormwater utility as “a special assessment district that imposes a user fee to fund stormwater management” (Frisman, 2004, p. 1).

At their legal base stormwater utility districts are just as OLR defined them; however, in practice their role can be quite a bit broader. In addition to revenue generation, they may provide all the functions of a fully realized stormwater management program such as:

- Infrastructure operation and maintenance
- Capital improvements (e.g., retrofits)
- Watershed management (e.g., TMDL implementation and management of sensitive (receptors))
- Design review
- Phase 2 implementation
- Technical assistance for the regulated community

- Technology demonstrations
- Public education and outreach
- Flood protection and management

The principal difference between a stormwater utility district and a typical municipally run stormwater management program is that a utility district has the authority to charge a user fee, which becomes a dedicated source of funding for its operations. This means that the utility district can act independently of the municipal politics and administration associated with the general fund and general taxation process.

2.2 What Might Stormwater Utilities do in Connecticut?

2.2.1 Connecticut's Current Status

Currently no stormwater utility districts operate in Connecticut (Frisman, 2004); however, in June 2007, Governor Jodi Rell signed into law Public Act 7-154, also known as the Municipal Stormwater Authority Pilot Program. This law allowed for grants for up to four communities interested in examining stormwater utility districts. It also allowed for the formation of such districts by participating communities within their municipal boundaries if stormwater utility districts were desired upon completion of the grant studies.

Three communities opted to participate in this program—New Haven, Norwalk, and New London. Based on review of an interim draft report (January 2009), each community has considered a utility district to assist with implementation of Phase 2 Stormwater and other stormwater management issues such as flooding and upgrade of aging infrastructure. Of the three, New Haven is the only community that has expressed a clear interest in forming a district; however, New Haven also indicates that such a district is not fiscally practical without regionalization. As described on page 5 of the *Stormwater Pilot Program Interim Report*:

The preliminary findings indicate that it is advantageous for the City [of New Haven] to move forward with establishing a user fee system for stormwater management under one or more of the available organizational structures. The user fee system provides an opportunity to equitably allocate costs to users, establish accountability, provide focused management for the stormwater program, develop and implement a better capital improvement program, facilitate public education and participation, and improve level of service and environmental compliance. The City, however, recognizes that the ability to provide a fiscally-responsible means to balance the goals of stormwater management and a cleaner Long Island Sound is predicated in large part on regional cooperation and participation. Management of the stormwater issues impacting the City and the Long-Island Sound is best accomplished on a water-shed basis that does not recognize municipal authority boundaries. Moreover, without participation of the upstream entities, the impact to the receiving waters may be offset by the continued introduction of contaminants from upstream regions. Thus, the issue of watershed-based authorities should be given careful consideration in order to provide maximum impact to the receiving waters.

The City is proceeding with additional analysis and stakeholder meetings to identify the best organizational structure and user fee implementation program to address the City's anticipated stormwater management program needs.

(Malcolm Pirnie (Interim Draft), 2009)

2.2.2 Implementation in Other States

Since no stormwater utility districts currently operate in Connecticut and it is uncertain how they might work in this state, this report looks outside Connecticut to examine stormwater utilities in other parts of the country. Some examples of activities carried out by stormwater utility districts in other parts of the country include:

- Operation and maintenance of stormwater infrastructure.
- Retrofit of stormwater infrastructure.
- Watershed management related to stormwater issues, including total maximum daily load (TMDL) implementation.
- Drainage design review for permitting purposes.
- General permit (i.e., Phase 2 Stormwater) implementation.
- Technical assistance programs for drainage design and stormwater management enhancement.

The following table was compiled based on a search of web-available information on stormwater utility districts in other states. The table shows some common uses for stormwater utility districts and the implementation focus of seven communities in seven states.

Table 1
Features of Seven Stormwater Utility Districts

	Operation & Maintenance	Capital Improvement (e.g., Retrofits)	Watershed Management & TMDLs	Design Review	Phase 2 Implementation	Technical Assistance	Demonstration Projects	Public Education	Flood Management
Alexandria, VA	•	•	•	•	•			•	•
Northeast, OH	•	•	•		•	•	•	•	•
Volusia County, FL	•	•		•					•
Peachtree City, GA	•	•							
Symrna, TN		•	•		•			•	•
Newton, MA	•	•						•	•
S. Burlington, VT	•	•		•	•	•			•

2.2.3 The Concept and Potential Benefits of Regionalization

Regionalization refers to the implementation of a single stormwater management program or stormwater utility district in a group of municipalities (e.g., county level, watershed level, etc.). Such an approach may be excluded under current Connecticut state law. However, from an efficiency and environmental standpoint, capacity to regionalize represents a key element of the stormwater utility district concept. Regionalization realizes economies of scales in program implementation and allows watershed-based implementation. Why are economies of scale and watershed-based management important?

- *Importance of economies of scale*
Municipalities currently struggle to set aside funding for stormwater management. This is largely due to the competition for scarce tax dollars available in the general economy. While a user fee system such as a stormwater utility district eliminates this competition, it does not make the pool of funding in the general economy any less scarce. Simply put, expanding stormwater management services will increase cost and that burden will be transferred to entities in the utility service area. However, this cost burden may be reduced—or perhaps even eliminated—by improving the efficiency of the existing institutional structure under which services are provided. Regionalization is one tool for improving institutional efficiency because it allows for more efficient use of labor, equipment and capital resources.
- *Importance of watersheds as a unit of management*
Because the surface water features and stormwater runoff within a watershed ultimately drain to other bodies of water, it is essential to consider these downstream impacts when developing and implementing water quality protection and restoration programs such as stormwater utility districts. Regionalizing stormwater management using watershed as the basis for identifying the service area facilitates watershed-based programs.

2.3 How Might Stormwater Utility Districts Help to Implement Low Impact Development?

LID represents a shift in the existing paradigm of stormwater management. To make this shift effectively will require that developers and other on-the-ground implementers receive significant support. Such support may need to be both technical and financial in nature.

- *Subsidies for LID demonstration*
Initial attempts to use LID may be sidelined by the market demand for inexpensive stormwater management. However, initial costs likely reflect a learning curve rather than the real cost of using LID. A utility, set up to provide the public good of effective

stormwater management, could subsidize LID demonstrations and help to overcome the learning curve. Could this same subsidy happen through general taxation revenues? Of course it could, but such a subsidy is much less likely to occur in a financial climate that pits it against other general municipal needs (e.g., education).

- *Operation and maintenance*
A frequent objection to the use of LID is the concern of how to maintain LID practices. Municipal public works departments often struggle to find the resources needed to maintain conventional infrastructure. Newer approaches like LID present the hurdle of learning to deal with something new and different. Stormwater utility districts, which specialize in stormwater management, could fund LID operation and maintenance training to DPWs or could fund maintenance services. Also the design review process could be used to ensure appropriate design and adequate access for LID operation and maintenance. For example, in some areas where LID has been implemented, LID integrated management practices (i.e., structural best management practices (BMPs) such as bioretention) must be installed in common spaces to facilitate access.
- *Technical assistance in designing and installing LID*
Because stormwater utilities specialize in stormwater, they could afford to fund specialty services in LID. These services could include assistance in effective LID design and installation.
- *Retrofits for water quality improvement*
Recent focus on stormwater as a source of impairment to waters of the state has created a burgeoning need for enhanced stormwater pollution abatement. LID is an increasingly important tool for retrofitting storm drain systems that lack effective treatment practices. Because stormwater utility districts exist to manage stormwater, they are ideally suited for efficiently implementing LID retrofits.

2.4 What are the Disadvantages of Stormwater Utility Districts?

Along with their advantages, stormwater utility districts bring a number of significant disadvantages. These disadvantages may be of particular importance for established communities such as those in many areas of Southern New England where residents have become accustomed to a particular way of life and cost of living. As of 2008, the US Environmental Protection Agency found that 800 stormwater utility districts had been implemented countrywide. In New England, five such districts exist:

- Chicopee, Massachusetts
- Lewiston, Maine
- Newton, Massachusetts
- Reading, Massachusetts
- South Burlington, Vermont

(EPA, 2008)

Each of these districts formed in response to a significant environmental concern. In many cases stormwater utility districts are unable to gain political traction without the presence of an urgent water quality concern. For example:

- Chicopee, Massachusetts formed a stormwater utility district following enforcement action by EPA. EPA suggested that the city form a district to ensure revenues needed to address stormwater issues.
- Lewiston, Maine formed a stormwater utility district to address impairment to Hart Brook.
- Newton, Massachusetts formed a stormwater utility district to address impairment to the Charles River.
- Reading, Massachusetts formed a stormwater utility district to address impairment to Ipswich River, which dries out each summer as a result hydrologic impacts due to development.
- South Burlington, Vermont formed a stormwater utility district to address nutrient impairments to Lake Champlain.

Commonly cited perceptions regarding disadvantages of stormwater utility districts include the following:

- *Increased bureaucracy*
Stormwater utilities represent new and additional government. Government presents inherent inefficiencies. If utility districts are given development review authority such reviews will add to permit review times and will add uncertainty to the land development process.
- *New fees perceived as taxes*
Although a fee-for-service is not a tax, utility district fees are often viewed as new taxes. Those in opposition may refer to a utility district fee as a “rain tax.” This concern is understandable. Implementation of a utility district fee is not typically accompanied by a commensurate decrease in general tax and thus represents an increase in the cost of landownership.
- *Basis for fees can be controversial*
A common approach for establishing stormwater utility district rates is to base them on area of impervious surface; however the general public often has difficulty understanding the concept of impervious surface and grasping the link between it and stormwater management.
- *Utilities are politically untenable*
Whether or not deserved, the perception of utilities as increasing bureaucracy and tax burden creates a natural opposition to them in the voting public. Overcoming such opposition may be politically infeasible in many communities. Elected officials are well

aware of the political risk around stormwater utilities and many times won't even entertain sponsoring or supporting them.

- *May require a significant public campaign to generate support*
Since the concepts of stormwater management are often viewed by the general public as complex and esoteric; and since the new fees associated with a utility district are generally unpopular, establishing a stormwater utility district typically requires a public education campaign and significant patience on the part of utility district proponents.

3 When Should Stormwater Utilities be Considered?

3.1 To a Large Extent, Financing Follows Function

The multifaceted nature of most stormwater management programs may call for a diversified funding approach including grants, loans, and a revenue stream such as general taxation proceeds or revenues from a fee-for-service such as a utility district. Typical categories of stormwater management program function include:

- General administration such as clerical and personnel support functions.
- Finance management such as debt service, revenue management and accounting functions.
- Planning, which include program planning, special infrastructure studies and water quality management planning.
- Engineering including functions such as infrastructure project management, drafting and design work.
- General operations such as routine maintenance.
- Regulation including permitting and enforcement.
- Capital improvement including planning for system expansion and major retrofit initiatives.

The functions of a stormwater program determine which funding approaches make sense. For example, while grants may make sense for financing special projects, they are inappropriate for funding operation and maintenance programs or as the sole source for infrastructure improvement due to their limited and uncertain availability. Bonds make an excellent financing option for infrastructure improvement, but are typically not acceptable for staff and routine operation costs. Service fees and special taxes present strong funding mechanisms for predictable costs such as operations and labor, but work less well for funding or unanticipated costs associated with special projects.

3.2 More Than One Approach May Work

A wide variety of options exist to fund stormwater management. Treadway (2000) breaks these down into two categories—primary and secondary—which refers to the flexibility of their potential application. The methods are summarized in *Table 2*, below.



Table 2
Categories of Stormwater Financing Methods

Category	Financing Method	Typical Use
Primary—Characterized by maximal application flexibility	General fund Utility funds/fees for service	General operations, administration and finance management
Secondary—Characterized by use restrictions and conditions	Impact fees Development review fees Permitting fees In-lieu-of fees	Offset for externalities of development
	Grants Bonds Special assessments	Capital improvements and special projects

Source: Adapted from Treadway (2000).

Municipalities currently use a variety of specially designated fees to offset the municipal costs associated with reviewing development projects and their long-term impacts. The subdivision review process is a good example.

Many municipalities also access grants, bonds and may establish special assessments on an as-needed basis to fund capital improvement and special projects. Good examples of sources of funding for special projects include DEP's Nonpoint Source Management Program and the State Revolving Fund.

Connecticut communities rely heavily on general revenues to fund stormwater management operations. General funds provide a clear advantage over utilities districts and fees-for-service as the mechanisms to acquire these revenues already exist and enjoy well-established public acceptance. Notwithstanding, reliance on general funds presents a significant disadvantage in that their user-programs must compete to gain access. Funding competition typically results in constrained and somewhat unreliable budgets and can hamper compliance with regulatory requirements such as those under Phase 2.

Stormwater utility districts can be used to established a dedicated revenue stream and alleviate the need to compete for funding with other municipal programs, but does a district make practical sense? *Table 3* provides a comparison of the advantages and disadvantages of financing through general revenues and utilities.



**Table 3
Practical Considerations Related to
General Taxation and Utility Fees as Sources of Revenue for
Stormwater Management**

	General Fund Revenues	Stormwater Utility
Political Acceptance	Many competing programs for a resource limited by the will of the elected officials to impose taxes	Required community support and the political will to create a new funding source based on fees
Equity or Cost/Benefit	Impacts only those who pay general fund revenue sources, and is not related to the cost of services	Fee for services received and imposed on all those who contribute to need for services.
Feasibility	Political will is needed to ensure consistent funding. Funding may be subject to political cycles	Requires mechanism for billing fees and administering utility. Statutory authority plays a critical role
Administration	System must be in place to dedicate proceeds from the general fund and to ensure funding integrity	Once rate base and billing file is created, relatively easy to maintain
Legal Structure	Typically allowed and functioning already	Need to verify that authority exists, and if not, authority must be obtained
Funding Level	Must compete with other priorities of the organization for operating and capital expenditures	Dedicated source of funds for program, allowing the use of fees for debt payment, operating costs, and capital improvements

Source: Adapted from Treadway (2000).

3.3 Adequacy of Potential Funding

If the cost of managing stormwater exceeds the funding realistically available from the general fund, municipalities may need to default to the implementation of a user fee.

Studies conducted on municipal stormwater programs indicate a wide range of potential cost. USEPA's "Funding Stormwater Programs" fact sheet indicates costs from about \$8.00 per single-family property per year to about \$160.00 with an average cost of \$44.00 depending on programmatic make-up (USEPA, 2009). This fact sheet also gives a general context for stormwater management fees in the New England area. In 2008, Newton, Massachusetts single-family homeowners are charged \$25.00 per year. In Burlington, Vermont single-family homeowners are charged \$56.00.

How should a municipality estimate the overall cost of managing a future stormwater management system? There are many methods. Some include estimation based on model programs, surveying other community programs, and applying cost algorithms. *Table 4* provides

an alternative method of estimating stormwater management costs based on acres served by the stormwater management program.

**Table 4
Typical per Acre Costs of Stormwater Management Programs
Based on Level of Implementation**

Program Level	Program Cost per Acre Served per Year ^b	Typical Program Features
Incidental	\$20 - \$40	Reactive incidental maintenance, and regulation as part of other programs
Minimum	\$40 - \$80	ADD ^a : right-of-way maintenance, better regulation and inspection, more staff, and erosion control
Moderate	\$80 - \$120	ADD: additional maintenance programs and levels of service, better regulation and inspection, some planning, minor capital programs, and general upgrade of capabilities
Advanced	\$120 - \$200	ADD: maintenance (of some sort) of the whole system, master planning, regional treatment, some water quality, data collection, multi-objective planning, strong control of development and other programs, and utility funding
Highly Advanced	Over \$200	ADD: Stormwater quality, advanced flood control, advanced levels of service for maintenance, aesthetics become more important, and public programs

Notes:

a “ADD” means to add on this stormwater management feature to the features shown in the above column cells.

b Adjusted from original to 2009 dollars assuming 3% per year cost increase.

Source: Adapted from Treadway (2000).

Regardless of the method used, municipalities should carefully consider that these approaches provide rough cost estimates. Though they provide a good starting point, actual costs may vary substantially from these estimates.

4 What Authority Exists in Connecticut to Implement Stormwater Utility Districts?

Although Public Act 7-154 provides the authority for three Connecticut municipalities to form stormwater utility districts, the general authority of municipalities to implement stormwater utility districts is unclear. In 2004, the question of whether such authority existed was posed to OLR. An excerpt from their response to this question is provided below:

State law does not now explicitly authorize the creation of municipal stormwater districts, although the law does authorize towns to operate and maintain sewer and drainage systems, and to regulate the flow of surface water in some circumstances (CGS §7-148(c)(6)(B)). The law also permits municipalities to establish WPCAs, which also may regulate the flow of stormwater in certain instances (CGS § 7-247).

To eliminate any doubt about municipal authority to create such a district, the legislature might wish to specifically authorize the formation of such a district. The legislature could authorize creation of independent stormwater utilities or permit existing municipal boards, such as WPCAs [Water Pollution Control Authorities] (CGS § 7-245 *et seq.*) and Municipal Flood and Erosion Control Boards (CGS § 25-84 *et seq.*) to assume the duties of a stormwater utility. It may also wish to consider authorizing several municipalities to join in a regional stormwater utility district.

(Frisman, 2004, p. 2)

As discussed above in Section 2.1, the essence of a stormwater utility district rests in its ability to assess a fee-for-service for the full cost of operating a storm sewer system, allowing financial independence from municipal general funds. The State of Connecticut currently allows WPCAs to make assessments of benefits for:

A proportionate share of the cost of any part of the sewerage system, including the cost of preliminary studies and surveys, detailed working plans and specifications, acquiring necessary land or property or any interest therein, damage awards, construction costs, interest charges during construction, legal and other fees, or any other expense incidental to the completion of the work.

(CGS § 7-249)

This does not explicitly include administration or operation and maintenance. In fact, it would appear to focus on costs associated with initial system installation only. At a minimum, a specific legal opinion should be sought to clarify OLR's findings. Ideally, local authority to establish utility districts should be clarified in the Connecticut General Statutes.

5 References

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Appendix A

ORL Research Report Stormwater Utilities

