



SPDES GENERAL PERMIT  
FOR  
STORMWATER DISCHARGES FROM  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)  
Permit No. GP-02-02

STORMWATER MANAGEMENT PROGRAM ANNUAL REPORT

***CITY OF ITHACA***  
***SPDES PERMIT #: NYR20A283***

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STORMWATER MANAGEMENT PROGRAM ANNUAL REPORT

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## 1.0 EXECUTIVE SUMMARY

As required by provisions of the Clean Water Act, small urban municipalities (10,000 - 100,000) or those located in a Total Maximum Daily Load (TMDL) 303(d) listed watershed are subject to Phase II Stormwater Regulations for municipal stormwater discharge. Since the City met both criteria, it was required to file Notice of Intent (NOI) for permit coverage to the NYS Department of Environmental Conservation (DEC) by March 10, 2003. This allowed the City to become one of ten regional small Municipal Separate Stormwater Sewer Systems (MS4s) to be authorized for stormwater discharge through the State Pollutant Discharge Elimination System (SPDES).

The permit requires the City to develop a Stormwater Management Program (SWMP); a five year project with which to implement and maintain a system of six minimum control measures using best management practices (BMPs). These measures include public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction and post-construction management for site runoff, and control over stormwater discharge in municipal operations. As part of the program's requirements, annual status reports outlining SWMP achievements are to be submitted to the DEC by each MS4. The following document details the City's efforts thus far to meet compliance with its program as it works toward a DEC mandated completion date of January 8, 2008.

The City's first began meeting its program objectives when it held an interdepartmental kickoff meeting on January 30, 2003. Items of discussion included a brief historical background on where the City was with regard to stormwater management and to concentrate on an agenda for the upcoming reporting period. It quickly became apparent that many of the City's goals were already being met through its existing public outreach campaign, general operation & maintenance (O&M), and housekeeping practices. Overall, the resounding question was how to best structure a new system around an unfunded mandate.

It was initially decided that an evaluation of existing City programs would be necessary to determine how they could easily be restructured into the DEC required format. Secondly, the City would need to focus on how best to implement new programs in areas which would require special attention since they would be part of a new or extended function to the organization.

Traditionally, responsibilities for the City's stormwater utility have been distributed between several departments. Stormwater maintenance and construction activities, including record keeping, have been handled through the Streets & Facilities (S&F) division under Public Works. To incorporate these services into the SWMP, many of the records were transferred to the GIS staff at City Water & Sewer (W&S) for digitizing and mapping of system components. In addition, the Engineering and Planning Departments have normally addressed all site plan review and inspection processes, and are currently formulating a structure with which to implement new policy and procedure within regulation guidelines. Through the City's involvement with watershed projects, City staff members have been offering education services to the community by providing lectures, literature, and hands-on demonstrations at such events as school science fairs and environmental gatherings. There are also many volunteer groups participating in water quality monitoring studies, stream cleanups, riparian buffer (those vegetative or forested areas along stream banks) restoration efforts, and general pro-active responsibilities in maintaining a healthy watershed.

Where the system seems to fall short is in the daunting task of organizing such an extensive curriculum based on limited staff and budget. To compensate for this problem, perhaps the greatest element in the development of the City's SWMP has been the continued support that occurs between the local public interest groups and many of the MS4s. The City of Ithaca has always maintained partnerships with such local stakeholders as the Water Resources Council, the Natural Areas Commission, the Intermunicipal Organization, The Fall Creek Watershed Committee, the Cayuga Lake Watershed Network (The Network) as well as close interaction with other municipalities themselves. This interface has helped foster such collaborative efforts as the Stormwater Working Group (SWG).

Formed in February 2003, the group's mission is to provide MS4s with a central resource for all SWMP related issues. Of the ten MS4s, representation from participating entities include the City of Ithaca, the TOI, the Town of Dryden (TOD), the Town of Caroline (TOC), Town of Ulysses, Village of Lansing, Village of Cayuga Heights and Tompkins County as well as delegates from local public and community interest groups including the Tompkins County Soil and Water Conservation District (SWCD), Cornell Cooperative Extension (CCE), The Network, and Cornell University (CU). The SWG meets monthly with the primary function to plan and develop regional public education outreach and involvement programs. It is also a conduit of information by helping in regional ordinance development, grants, water quality monitoring programs, media campaigns, and sponsorship in various public education workshops. The group is proud to have hosted such forums as the July 26<sup>th</sup> Stormwater Resources Fair and is slated to host a Construction Activity Workshop during the next reporting period. Involvement with the SWG will continue throughout the completion of the SWMP as is evident by the resolution in Appendix A which ordains a City cooperative effort.

As is also required by the City SPDES permit, an evaluation was made to identify solutions for area non-stormwater discharges that significantly contribute to pollutant load. Practices selected for review were all found to be satisfactory in their current state. For example, the City procedurally dechlorinates water mains prior to and during flushing operations, diffusers are affixed to a fire hydrant's orifice to combat potential scouring of the surrounding soil during flow testing, and educational literature is available to the community which emphasizes pollutant reduction through limiting fertilizer use, swimming pool discharges, car washing, and practices which reduce erosion and other related problems from site drainage areas.

In summary, it is generally expected that the City will continue to operate under the same program structure as in 2003. However, unless there are significant increases in funding and,

consequently staffing, the SWMP will most likely continue to be run in its current fashion with responsibilities stretched between departments. Project milestones will undoubtedly be delayed until they can be worked in along with other duties that warrant that type of activity.

There were no additional areas added to the MS4 program or significant changes to the overall SWMP since its inception in March 2003. In review of the City NOI, all of the BMPs selected were addressed and satisfied for this reporting period. Although none of the management practices have been fully implemented, the program's success to date can be attributed to the hard work and dedication of the members entrusted with its realization.

## 2.0 PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

### 2.1 Narrative Overview

The effects that the public outreach program will have on reducing the impacts of pollutants in stormwater discharges to waterbodies will not be evident for some time. However with the future in mind, one of the City's goals is to structure the program around educating today's youth by teaching them at an early age, the benefits of environmental and watershed awareness. The focus has been placed on fertilizer reduction, phosphorus loading from auto washing, common debris, motor oil management, and erosion control, just to name a few.

The following section details the efforts put forth by the City of Ithaca to meet BMP requirements for the Outreach segment of the SWMP.

### 2.2 Implementation of Best Management Practices and Activities for the Upcoming Year

Perhaps the greatest problem in the development of this goal has been a lack of City resources. Fortunately, the City had already arranged for a small budget to cover many of its out of pocket expenses for existing watershed grants. Although it has contributed its fair share with the SWG to help in outreach needs, efforts are consistently teetering in a balancing act of being able to meet funding requirements for budgeted items and managing the stormwater program. Earlier during the reporting period, the SWG applied for funding from the EPF to help with important projects such as the Floating Classroom, media campaigns, and GIS. Although denied, the SWG will try to obtain funds from other resources during the next reporting period.

A review of Table 1 provides an outline of BMPs that have been met for the 2003 reporting period. A narrative of those accomplishments follows.

<b>TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Plan and conduct an ongoing public education and outreach program (required)	X		<ul style="list-style-type: none"> <li>• This broad goal encompasses the specific activities described below.</li> </ul>	<ul style="list-style-type: none"> <li>• SWG will coordinate distribution of outreach materials and event notifications to all MS4s.</li> </ul>
Outreach to commercial entities	X		<ul style="list-style-type: none"> <li>• The Tompkins County Hazard Mitigation Plan addresses prevention of hazardous waste spills at commercial sites.</li> <li>• The Intermunicipal Sewer Agreement involved the County Chamber of Commerce in addressing wastewater management issues.</li> <li>• The Cayuga Lake Waterfront Revitalization Plan addresses pollution issues. A draft has been completed.</li> <li>• CCE and Network organized a workshop on “Providing Safe Drinking Water” for businesses and organization that provide well water to customers / public.</li> <li>• SWCD assists agricultural operations with emergency spill plans and environmental management.</li> <li>• CCE sponsored meetings for Turf Industry and Garden Center Managers on Integrated Pest Management, pesticide use reduction and Neighbor Notification Law (40 attendees).</li> <li>• CCE offered Basic Pesticide Training class with a focus on IPM and environmental protection for farmers, landscapers, and municipal workers. 46 attendees.</li> </ul>	<ul style="list-style-type: none"> <li>• TC Hazard Mitigation Plan will be finalized and implemented.</li> <li>• Workbooks from “Providing Safe Drinking Water” workshop will be distributed.</li> </ul>

**TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach**

TECHNIQUES	YES	NO	ACHIEVEMENTS / EXPLANATIONS	PLANS FOR NEXT YEAR AND CHANGES
Classroom education / school programs	X		<ul style="list-style-type: none"> <li>• The IO is collaborating with Network and others to develop a Floating Classroom program for Cayuga Lake. 265 young people have been out on the boat for education on water quality issues.</li> <li>• SWCD and City of Ithaca used “Enviroscape” models to deliver programs to school classes throughout the county reaching over 500 young people.” etc.</li> <li>• SWCD sponsors annual Envirothon – a hands on environmental education contest for high school students. The City provided talks on watershed awareness.</li> <li>• Network sponsored an essay contest for youth: “How the Cayuga Lake Watershed affects my life.” City spoke at Romulus School to promote the contest and to educate on watershed issues.</li> <li>• City of Ithaca and SWCD purchased water quality test kits which have been used by area schools. The City helped to train SWCD educators in the use and implementation.</li> <li>• Tompkins County Environmental Appreciation Days: Network provided lessons on non-point-source pollution and stormwater and SWCD provided lessons on erosion and sediment control. The City instructed 3 middle school classes on the impact caused by home building and various land management practices.</li> <li>• Wells College Activism Symposium – The City spoke on watershed awareness.</li> </ul>	<ul style="list-style-type: none"> <li>• With additional funding, the Floating Classroom program will continue development and offer programs for more school groups.</li> <li>• Additional funding will be required to promote and maintain City efforts toward classroom education. Staffing and budget cutbacks will reduce the amount of time available for the next reporting period.</li> </ul>

<b>TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Webpage	X		<ul style="list-style-type: none"> <li>Developed a public access web site with content including a general overview of the stormwater program and links to both the EPA, DEC and the county.</li> </ul>	<ul style="list-style-type: none"> <li>SWG members will coordinate web resources to ensure that visitors to their websites receive good stormwater information.</li> <li>Links will be added to CCE for instance to direct users to pesticide/fertilizer management materials, general housekeeping, etc.</li> </ul>
Printed material	X		<ul style="list-style-type: none"> <li>Distributed issues in the Cayuga Lake Watershed, which includes information on nonpoint source pollution prevention.</li> <li>Several regular newsletters which include stormwater information produced by: Network, SWCD, IO.</li> <li>The City distributed EPA stormwater materials at Water Week and the Stormwater Resources Fair (see events).</li> <li>Publication called "Landscaping for Erosion Control."</li> <li>Work continues to progress on the City grant sponsored iCD, an interactive watershed awareness resource. The disc is in its final draft form.</li> </ul>	<ul style="list-style-type: none"> <li>"Issues in the Cayuga Lake Watershed" is being reprinted for additional distribution.</li> <li>Network is producing "Living Wisely in Your Watershed."</li> <li>The "Protecting the Cayuga Lake Watershed" iCD will be completed and distributed through means such as WaterWeek, interest through the City web site and community events.</li> </ul>
Library of educational materials	X		<ul style="list-style-type: none"> <li>The City is developing a library of stormwater materials. Currently, the engineering and planning groups maintain this data but additional efforts will be made to offer easier access to the public. Links on the web page direct users to stormwater publications through the EPA.</li> </ul>	<ul style="list-style-type: none"> <li>SWG will work together to improve accessibility to and awareness of library materials.</li> <li>The City will work to improve on notifying the public of available stormwater materials through their web site.</li> </ul>

<b>TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Media campaign	X		<ul style="list-style-type: none"> <li>• IO organized radio public service announcements about watershed issues.</li> <li>• Through the City sponsored Riparian Buffer Restoration Grant, the Network had an Op-Ed piece in the Ithaca Journal about Six Mile Creek watershed (10/20/03)</li> <li>• City of Ithaca has written blurbs for the Network newsletter promoting events and reporting on the event's successes.</li> </ul>	<ul style="list-style-type: none"> <li>• Pending funding from EPF Assistance to Regulated MS4's, the SWG has plans for a multi-faceted media campaign, including printed materials, utility bill stuffers, radio spots, news articles, and local television.</li> <li>• CCE has an upcoming piece on Ithaca Journal's home and garden page.</li> <li>• TC Planning will provide an Op-Ed series about the County Comprehensive Plan, with reference to stormwater issues.</li> </ul>

**TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach**

TECHNIQUES	YES	NO	ACHIEVEMENTS / EXPLANATIONS	PLANS FOR NEXT YEAR AND CHANGES
Events and programs	X		<ul style="list-style-type: none"> <li>• Network has organized several trainings on LEAPE (Locally-led Education and Action for Protecting the Environment) - an educational program for local governments interested in protecting water resources in their communities.</li> <li>• Safe Drinking Water Workshop (above).</li> <li>• The Stormwater Resources Fair (7/26/03).</li> <li>• Water week. (May 2003)</li> <li>• Earth day.</li> <li>• Homeowner well education programs.</li> <li>• Farm City Day.</li> <li>• Agricultural day at the mall.</li> <li>• TC Health Dept offers Source Water Assessment Program – identifying potential sources of contamination for all drinking water systems.</li> <li>• CCE environmental resources fair.</li> <li>• Lake Fest.</li> <li>• CCE composting program (encourages use of compost in place of commercial fertilizer).</li> <li>• Network hosted the satellite conferences produced by DEC on stormwater management for MS4’s and contractors.</li> <li>• SWCD tire collection program</li> </ul>	<ul style="list-style-type: none"> <li>• More LEAPE trainings are planned.</li> <li>• TCP is conducting multiple community presentations on the County’s Draft Comprehensive Plan and stormwater information will be included.</li> <li>• Upcoming April 15<sup>th</sup> workshop on new construction requirements of Phase II for local review boards, engineers, and contractors.</li> <li>• “Creekside plantings” – Network this summer.</li> <li>• “Gardening in the watershed” – future CCE project.</li> <li>• SWCD is developing CEM Program – Community Environmental Management, which will provide municipal officials with worksheets on stormwater, septic systems, etc.</li> </ul>

<b>TABLE 1 - Implementation of Best Management Practices, #1 Public Education and Outreach</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
			<ul style="list-style-type: none"> <li>• Sixmile Creek Watershed resident survey – results will be used to further refine outreach.</li> <li>• SWCD Agricultural Chemical Clean-Sweep. (Drop off of containers).</li> </ul>	
Displays	X		<ul style="list-style-type: none"> <li>• The City of Ithaca brings portable displays to special events. Displays include hands on GIS demonstrations, stormwater posters, and the Enviroscape model. The following organizations also have portable displays: SWCD, Network, TCP, WRC, CCE, IO, Fall Creek Watershed Committee, Caroline Watershed Committee, Community Science Institute, Trout Unlimited.</li> </ul>	The City will continue to promote watershed and stormwater awareness through visual displays and demonstrations throughout the next reporting period.
Speakers to community groups	X		<ul style="list-style-type: none"> <li>• Network provided speakers to Rotary, Kiwanis and Kendall on watershed issues including phosphorus and sediment loading.</li> <li>• The City offered voluntary advice to the “Commonland” a local housing community.</li> <li>• The City has been active in speaking on topics of watershed awareness.</li> </ul>	<ul style="list-style-type: none"> <li>• This spring, CCE offered classes for Master Gardeners, general public, and Kiwanis Club on alternatives to pesticides and Neighbor Notification Law. 45 attendees.</li> <li>• With funding and staff cut short, it expected that speaking at community events will be slightly diminished over the next reporting period. Grant funding from other projects helped to provide the existing program with the strength that it needed to keep going. The future of the current system is uncertain.</li> </ul>
Other	X		<ul style="list-style-type: none"> <li>• NYS Integrated Pest Management Demo Project: City of Ithaca, Ithaca Science Center and CCE put together a proposal for a demonstration site for pesticide free plantings. The effort was not funded.</li> <li>• The City of Ithaca Div. W&amp;S partnered with the City Urban and Community Forestry, and the Ithaca ScienceCenter to obtain funding by the DEC for educational programming on structural soil and improving riparian buffer zones along Cascadilla Creek.</li> </ul>	<ul style="list-style-type: none"> <li>• Interest remains to move forward on this effort for the future.</li> <li>• Funding was awarded by the DEC for the structural soils project. Interest remains to move forward on this effort</li> </ul>

#### Classroom/Education School Programs

- The Intermunicipal Organization (IO) sponsored Floating Classroom provides the community with hands-on education of water quality issues. 255 people from schools and community groups used the boat in 2003. With the help of additional funding from either the cooperating MS4s or grants, the program can expand to include more field trips and opportunities to more of the community.
- A hands-on demonstration using an “Enviroscape” model, an urban runoff simulation that highlights the precipitation cycle, was used to educate the community at school science fairs, lectures and special events such as Envirothon, WaterWeek, Interlaken Old Home Days, etc. The model uses colored water to show how precipitation becomes runoff and demonstrates its destination from source to tributaries and stormwater systems to lakes. The model will continue to be used at similar events during the 2004 reporting period.

#### Outreach to Commercial Entities

- Tompkins County has compiled the Hazard Mitigation Plan (HMP) which addresses the prevention of hazardous waste spills at commercial sites. This will have a direct impact on pollutant reduction by helping to prevent accidents relating to bulk chemical storage, transfers and normal usage. Each MS4 has been asked to contribute material to help finalize the document for distribution. The City will be providing Chemical Bulk Storage reporting including its Spill Prevention Plan. It is hoped that all MS4s will benefit from the HMP by implementing it within their regular programming in areas of fire protection, chemical storage, utilities management, etc.
- The Ithaca Area Wastewater Treatment Facility is owned and operated conjointly by the City, the TOI, and the TOD. During the multi-municipal agreement, wastewater management issues were discussed with the County Chamber of Commerce on how best to maintain site conditions, react to chemical spills, sanitary sewer overflows, etc.

- The Cayuga Lake Waterfront Revitalization Plan is an effort involving the County and the City, among others, to address the waterfront along the Southern Basin. Areas of concern include pollution prevention and land management issues.
- Several workshops aimed at businesses and organizations were given by CCE and/or the Network. These included “Providing Safe Drinking Water” for businesses and organizations that provide well water to customers/public to addresses pollution prevention concerns, meetings for the Turf Industry and Garden Center Mangers on Integrated Pest Management to address general pesticide reduction and the Neighbor Notification Law, and a Basic Pesticide Training Class aimed at farmers, landscapers, and municipal workers.
- The SWCD helps farmers and other community businesses with developing emergency spill plans and offers general land management practice advice. The agricultural industry requires management for the pesticides and fertilizers from both an application and storage perspective.

#### Web Page

- The City has developed a stormwater web page with critical links to regulatory authorities, public information sites and general stormwater information. The page is expected to evolve to include links to the City annual report, updates on events, and stormwater news. However, it has been difficult keeping the page current due to limited staffing within the department. The page can be found on the following link: [www.cityofithaca.org](http://www.cityofithaca.org) under City Departments, Public Works, Water and Sewer, Stormwater Management.
- The Network has also developed a web site section spotlighting activities involving watershed work in the region including the City sponsored riparian buffer restoration projects. The Network’s web site can be found at [www.cayugalake.org](http://www.cayugalake.org)

#### Printed Material

- Several publications and news reports were prepared during the reporting period. These include the Network sponsored “Issues in the Cayuga Lake Watershed,”

newsletters by the Network, SWCD, and the IO, “Landscaping for Erosion Control,” etc. The Network has been working closely with the City as a subcontract on two City sponsored watershed grants. An interactive CD entitled “Protecting the Cayuga Lake Watershed,” was developed with content that includes educational information regarding watershed awareness, pollution control, as well as PDF links to Characterization Reports and other pertinent monitoring data. Distribution will occur at various functions and events throughout the next reporting period.

#### Media Campaign

- The IO arranged for radio public service announcements about events and watershed issues.
- As part of the City Riparian Buffer Restoration Grants, the Network was contracted to do an Op-Ed piece in the Ithaca Journal. A copy of this article appears in Appendix B entitled, “There’s a New Partner for Six Mile Creek.”

#### Library of Educational Materials

- The City is currently developing a library of stormwater materials which includes EPA handout literature, DEC reference on design and guidance, Fact Sheets, pollution prevention, and general housekeeping measures. In the future, it is hoped that the City web page can emphasize the content by maintaining an index for public use.

#### Events and Programs

- Several training programs and workshops were developed during the reporting period including, the Network’s LEAPE project which educates local municipalities on protecting water resources, the Safe Drinking Water Workshop, Homeowner well education, and a February 2003 Satellite teleconference with the DEC aimed at answering MS4 questions. A Stormwater Resources Fair was sponsored by the SWG on July 26<sup>th</sup> for public and MS4 interests. Highlights were guest speaker Steve Eidt who answered many lingering questions about the SWMP. The City hosted a GIS

demonstration table and gave stormwater literature handouts. The City web page link was also available.

- The County holds a periodic hazardous waste pickup day. This information will be added to the City web page when it becomes available.
- The SWCD hosts an annual tire pickup day and holds various pollution prevention events aimed at the agricultural industry.
- WaterWeek, an annual AWWA sponsored event promoting watershed awareness, gave the City an opportunity to demonstrate its Enviroscape model, GIS, and reports on pollution prevention.
- Earthday, the Environmental Resource Fair, LakeFest, Interlaken Old Home Days, were just a handful of the other events that occurred during the reporting period which promoted watershed awareness.

#### Displays

- The City has a mobile display which appears at most of the area environmental events. The display includes GIS information on mapping and land use and a general stormwater informational poster with guidance on pollution prevention.

#### Speakers to Community Groups

- The Network, CCE and SWCD contribute to the lecture circuit at community events including the Rotary, Kiwanis, and Kendall.
- The City offered voluntary advice to the “Commonland,” a local housing community concerned about localized erosion. Although problems were found to be from natural causes, consultation was offered on how to mitigate potential problems by diverting downspouts, planting to reinforce soil, etc.
- The City has been actively involved in speaking on topics of watershed awareness to several school districts, including Science Fairs, the Wells College Active Symposium, Interlaken Old Home Days, 4H, TC Environmental Appreciation Day, etc.
- About 10 local students in the Environmental Awareness Class took a tour through the City Water Filtration Plant and learned about environmental/watershed

awareness. The focus was on the importance of maintaining prime source water quality.

#### Other

- The City partnered with two demonstration projects through NYS Integrated Pest Management. The first involved a demonstration on pesticide free plantings. The garden was to be developed on City property along Cascadilla Creek with The Ithaca Science Center and CCE. Landscapers and contractors would be taken to the site for educational tours on pollution prevention. Although the project was not funded, the City remains committed to these types of partnerships. A copy of the agreement letter has been attached in Appendix C along with the funding rejection notice.
- The second demonstration involved a partnership between the City W&S group, the City Forestry Group, the Ithaca Science Center, CCE and others to develop educational programming around structural soils along Cascadilla Creek. The project is aimed at educating landscapers, contractors, etc. A copy of this agreement letter is attached in Appendix D. The campaign was recently funded and development is likely to take place during the next reporting period.

#### 2.3 Activities Planned for the Upcoming Year

Successful planning to implement public education and outreach BMPs during the next reporting period will involve a source of funding currently unavailable to the program. The City plans to continue contributions to the SWG which will include purchasing several trips on the Floating Classroom, donations toward media spots, and workshops and events. Through this, the program can continue expanding and potentially offer more opportunity to the community.

Recent City staff and budget cutbacks will likely reduce the amount of outreach opportunities available to the public for the upcoming year. At present, school programs seem to be the hardest hit and a move to cover schools through a regional perspective by hosting more community, rather than school based events, is a real possibility. Educational

programming will likely continue throughout the year at various events by providing the same level of hands-on demonstrations, literature, and displays highlighting those efforts which mitigate stormwater pollution.

Throughout the next reporting period, the City will continue to provide Tompkins County with information to update its Hazard Mitigation Plan. Also, various outreach programs to commercial entities will still be managed by local interest groups such as CCE, the Network, and SWCD.

The City will continue to develop its web page adding more links, guidance and event notices to the format. SWG members will help to coordinate many of the topic items which will promote the site. In addition, the City sponsored iCD should be completed by the summer of 2004 and will be ready for distribution soon after. The Network will remain committed in distributing awareness literature and along with CCE, will host more training workshops and community interest gatherings.

The SWG has arranged for a general workshop on April 15<sup>th</sup> to answer conflicting questions on construction permitting. Training has been designed for construction operators, engineers/planners and municipal officials and will include guest DEC speakers. The Network will also provide a fall "Creekside Plantings" workshop to educate the community in riparian buffer restoration and soil and erosion control. The workshop is tied in with City and TOC restoration grants.

### 3.0 PUBLIC INVOLVEMENT AND PARTICIPATION

#### 3.1 Narrative Overview

On April 21, 2004, a draft copy of the 2003 Annual Report was presented to the City of Ithaca Board of Public Works. A brief overview of the SWMP was given and the public was officially notified of their right to review and submit comments. A public service announcement was published in the Ithaca Journal on April 23<sup>rd</sup> and the community was given until May 7<sup>th</sup> to respond. Members of the Board as well as the SWG were also provided with copies of the report, and draft documents were distributed at the 2004 Water Week on May 7. The City addressed some minor comments from the SWG however no public comments were received. Consequently, on May 12<sup>th</sup> the Board of Public Works unanimously approved the City's SWMP Annual Report for submission to the DEC by June 1. A copy of the newspaper notice, board agendas, comments from the SWG, and final approval resolution are provided in Appendix E.

It is apparent that the City met requirements for the second measurable goal on several fronts. Its ongoing partnership with local environmental and public interest groups as well as existing inter-municipal agreements with MS4s has helped to develop specific programs which tap into the active community volunteer base. Several partnerships with local volunteer organizations help to maintain area creeks and environmentally sensitive locations. For example, the Fall Creek Watershed Committee conducts stream cleanups and is actively involved in monitoring efforts for that tributary and the local 4H through the Network has helped with programs to begin stenciling storm drains.

The City has also been intimately involved with the watershed for many years as part of its public health program to insure the best drinking water quality available. Prior to the implementation of Phase II regulations, there had been concern with controlling settleable solids in the City source water supply. The City obtains its raw water from Six-Mile Creek, one of several local tributaries to Cayuga Lake. Excessive sediment caused by natural and man-made conditions can impact the operation of the filtration plant causing such problems as higher energy consumption, elevated maintenance costs, increased chemical usage, and

difficulty in meeting standards. In 2000, the City embarked on a partnership with the TOC and the Network to mitigate and restore riparian buffers along the Six-Mile Creek corridor. Two grants were awarded from the Department of State Great Lakes Restoration Act and the United States Department of Agriculture. Earlier, the TOC had received similar project funding from the Bond Act to help restore areas of Six-Mile Creek North of the City boundary. Both programs were merged to address the common goal. Through evaluation of current problem areas, it was determined that land management practices at the City Silt Dam site could be improved by stabilizing streambanks with plantings and structures. In addition, the TOC has identified several homeowner sites along the creek that need significant attention to help mitigate a growing erosion control problem. Their efforts will include a complete stream bank restoration project and volunteer planting and monitoring campaign to control sediment laden runoff.

These and other efforts that have been achieved to date by the City and its partners emphasize the growing community involvement as outlined in the following section.

### 3.2 Implementation of Best Management Practices

A review of Table 2 identifies the BMPs that were achieved during the 2003 reporting period to meet requirements in the City SWMP. A brief narrative has been provided to detail some of the more important efforts to date.

#### Public Notice and Access to Documents

- The City has developed a web page which allows the public to gain access to vital information about the SWMP.
- The SWMP Annual Report was provided to the public for comment on April 21, 2004 at the City Board of Public Works meeting. A public notice was also posted in the Ithaca Journal on April 23<sup>rd</sup>. Members of both the Board and SWG were sent copies of the report for their review. The report, along with comments from the SWG, was approved at the Board of Public Works meeting on May 12, 2004.

<b>TABLE 2 - Implementation of Best Management Practices, #2 Public Involvement / Participation</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Public notice and access to documents and information (required)	X		<ul style="list-style-type: none"> <li>• List date for annual report here</li> <li>• Public notice and review is available for all site plan review projects</li> </ul>	<ul style="list-style-type: none"> <li>• The reviews process will continue and will be available for the next reporting period.</li> </ul>
Public presentation and comments received on SWMP and annual report (required)	X		<ul style="list-style-type: none"> <li>• List date here</li> </ul>	<ul style="list-style-type: none"> <li>• Public presentation and comments on the SWMP and annual report will be made available just prior to the report due date. Public presentation will be held at the monthly Board of Public Works meeting.</li> </ul>
Public involvement/ participation program(required)	X		<ul style="list-style-type: none"> <li>• Storm drain stenciling: currently reviewing different methods / costs. City of Ithaca helped create a stencil for use with volunteer groups. 4H applied stencils to approx. 12 catch basins but reported problems. Now investigating purchase of vinyl labels through the SWG.</li> <li>• Volunteer monitoring of Fall Creek, Cayuga Lake, Taughannock Creek through Fall Creek . Supported with funds from organizations such as the WRC and FL-LOWPA.</li> <li>• Fall Creek Watershed Committee – stream cleanups and creek walks.</li> <li>• Riparian Buffer Restoration: City of Ithaca, Network, and Town of Caroline working on two grants to involve public in planting, stream surveys, and monitoring.</li> <li>• Sixmile Creek volunteer monitoring partnership developed between Town of Caroline, Town of Ithaca, City of Ithaca, Town of Dryden, SWCD, CCE, WRC and Community Science Institute. Supported with funds FL-LOWPA.</li> <li>• Volunteers with the Natural Areas Commission.</li> <li>• Volunteers with the IO.</li> <li>• Network has coordinated planting of 1500 willow whips provided by DEC for stream bank erosion control.</li> </ul>	<ul style="list-style-type: none"> <li>• Purchase and installation of Storm Drain labels (Town of Caroline and City of Ithaca, are committed to this program)</li> <li>• Monitoring and Planting for Buffer Restoration projects.</li> <li>• Existing monitoring efforts will continue.</li> <li>• Sixmile Creek Volunteer monitoring program should begin in Fall 2004.</li> <li>• Willow whip program will continue.</li> </ul>

<b>TABLE 2 - Implementation of Best Management Practices, #2 Public Involvement / Participation</b>				
<b>TECHNIQUES</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Watershed Organizations and Advisory/Partner Committees	X		<ul style="list-style-type: none"> <li>The City has representation in various watershed based groups and is involved in stakeholder meeting including the SWG, IO, Fall Creek Watershed Committee, the Regional Non-Point Source group, the WRC, etc. Also, the City meets with its environmental consultant, EcoLogic, the Network, TOC, monthly to discuss the management of its two riparian buffer restoration grants.</li> </ul>	Membership in each of these organizations will continue during the 2004 reporting period.
Mailing List	X		<ul style="list-style-type: none"> <li>A mailing list has been developed around the upcoming Stormwater Construction Activity Workshop to notify interested parties in the region of stormwater happenings. The list includes municipal officials, key contractors, engineering groups, planners, etc.</li> </ul>	The mailing list will continue to grow during the 2004 reporting period. The goal will be to broadcast outside of the MS4 region to be able to contact MS4s in other regions to disseminate information.
Adopt a Stream	X		<ul style="list-style-type: none"> <li>The Fall Creek Watershed Committee is a group of people interested in volunteer monitoring efforts and maintaining a healthy watershed. Currently the group monitors Upper and Lower Fall Creek.</li> </ul>	During the 2004 reporting period, it is hoped that the FCWC will intensify its monitoring efforts to include more sediment and possibly phosphorus sampling. This data can be used for illicit discharge detection, tracking and to determine water quality for local watershed projects.
Contact person identified (required)	X		<ul style="list-style-type: none"> <li>Scott D. Gibson, Environmental Engineer, City of Ithaca Dept. Public Works, Division of Water &amp; Sewer.</li> </ul>	Will be the same person during 2004 reporting period.

### Public Involvement and Participation Program

- Working with the SWG and the Network, the City Sign Shop successfully created a storm drain stenciling template for use by area volunteer groups. Early during the reporting period, the local 4H applied stencils to approximately 12 City catch basins. Unfortunately, this proved to be extremely time consuming, complicated, and unreliable. Overall, the program was fraught with problems and funding was always an issue. When the SWG was formed, it was decided that the original stenciling program would be dropped in lieu of a better alternative. Through deliberation, the new approach would be in bulk applications of pre-made 5" x 7" vinyl labels. The labels have an average life span of 10+ years and are affixed using common construction adhesive. Sold for about \$1.00 each, the City has agreed to purchase up to 2,500 or, the number required for all of its catch basins.
- Regional community volunteers have been slated in such capacity as water quality monitoring for the Six-Mile Creek Riparian Buffer Restoration project, supporting volunteer planting efforts through the same project, and stream cleanup efforts through the Fall Creek Watershed Committee.
- Another volunteer monitoring partnership to collect sediment data along Six-Mile Creek has evolved between the City and several SWG members. The data will be offered to the region to help better understand water quality and to track problem sources of pollution along the upper reaches of Six-Mile Creek. .

### Watershed Organizations

- The City has representation in many groups including the IO, the WRC, the SWG, the Fall Creek Watershed Committee, and the Regional Non-Point Source Group (RNPS), just to name a few. In October 2003, the City gave a presentation on GIS and Stormwater Modeling at the biannual RNPS meeting. During the lecture, the City offered its services as a resource for GIS questions, programming concerns, and general kickoff functions.

#### Mailing Lists

- The SWG is responsible for developing a general mailing list that informs the public of important events such as workshops, cleanups, monitoring, etc. The list has grown exponentially with the planning for the upcoming April 15, 2004 Stormwater Construction Activity Workshop.

#### Point of Contact

- The point of contact for the coordination and maintenance of the City SWMP is Scott Gibson, Environmental Engineer, City of Ithaca, Div. Water & Sewer, 510 First Street, Ithaca, NY 14850 607-272-1717.

### 3.3 Activities Planned for the Upcoming Year

Similarly to the narrative provided in Section 2.3, the continued success of the Public Involvement/Participation campaign will depend on the level of funding available during upcoming reporting periods. While costs can be balanced through partnerships, the efficiency of the program is not where it could be.

During the next reporting period, it is expected that the SWG will finalize the decision on the type, size and cost of the storm drain labels. City S&F will most likely be responsible for their application as part of the normal O&M routine and volunteers through the Network and CCE may be included as part of the general effort.

Regardless of funding, the City's involvement in partnerships will continue indefinitely to maintain the general focus of community interest and well being. The importance of these partnerships is invaluable in helping to balance the cost of keeping projects afloat. For example, in a recent partnered monitoring campaign between the City, TOC, TOI, and TOD, approximately \$9,500 annually will be needed to bring the project to fruition. While the City could not fund this alone, it is providing its fair share of \$2,500 to help make up the general budget amongst the group. A copy of this agreement letter has been provided in Appendix F.

The Riparian Buffer Restoration Project will continue to work toward the implementation of construction activities so that erosion control efforts will become a reality. It is hoped that the City Silt Dam can be the focal point in the program by the fall of 2004, with restoration efforts funded by a local contractor who currently maintains the site. Work with the TOC has been recently delayed due to funding concerns and the plantings and creek restoration efforts in that area will probably not take place until the 2005 reporting period.

#### 4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

##### 4.1 Narrative Overview

The development of a City illicit discharge detection and elimination program was approached regionally for the benefit of those MS4s who do not have GIS programs or the resources or means with which to develop one. The City had worked toward providing a usable GIS database for the stormwater utility throughout much of the reporting period and through the SWG, offered to share what it could to the other MS4s. Ultimately, the SWG will endorse the development of a regional GIS system which will identify all of the area's outfalls and the location of waterbodies within the watershed.

Another effort by the SWG is to front the compilation of a general ordinance template to be quickly adopted by each municipality. This would address issues of prohibited usage within the system and enforcement procedures on illegal dumping and discharge.

Of the non-stormwater discharges in the City, all of those identified were found to be acceptable in their current state. During system inspections by City S&F, catch basins are evaluated to insure that they are not contaminated with pollutants like automotive fluids, household chemicals, or excessive debris. Like most communities however, issues with City residents piling leaves over catch basins can be a problem. With due diligence from S&F, these areas can be cleaned quickly and efficiently. A program to identify sump pumps, downspouts, and general system drains would be implemented if staff becomes available. At present however, records indicate that there has been no adverse history from any of these sources.

##### 4.2 Implementation of Best Management Practices

Table 3 reviews the City's BMPs for illicit discharge detection and elimination. A brief narrative has been provided to detail each bulleted item.

<b>TABLE 3 - Implementation of Best Management Practices, # 3 Illicit Discharge Detection and Elimination</b>				
ACTIVITIES	YES	NO	ACHIEVEMENTS / EXPLANATIONS	PLANS FOR NEXT YEAR AND CHANGES
Outfall mapping (required)	X		<ul style="list-style-type: none"> <li>• The SWG has developed a protocol and is awaiting funding to extend efforts across all MS4s to establish GIS support.</li> <li>• The City has embarked on a plan to develop a GIS stormwater utility. Approximately 25% of the system has been digitized.</li> </ul>	<ul style="list-style-type: none"> <li>• Once funding is received, City of Ithaca and Tompkins County GIS programs will assist MS4s with mapping efforts.</li> <li>• Due to staffing and budgeting cutbacks, it is uncertain as to what percentage will be complete by end of 2004. It is hoped that this will be between 20% and 30% more.</li> </ul>
Illicit discharges prohibited (required)	X		<ul style="list-style-type: none"> <li>• The City has begun preliminary discussions on a draft ordinance to address discharge prohibitions. It is expected that this will be modeled after the City Sewer Use Ordinance prohibitions.</li> </ul>	<ul style="list-style-type: none"> <li>• A draft copy of a new stormwater ordinance is expected by the end of the 2004 reporting period.</li> </ul>
Public, employees, businesses informed of hazards from illicit discharges (required)	X		<ul style="list-style-type: none"> <li>• Informative literature provided by the EPA was used for distribution at various events like WaterWeek. These included fertilizer management, automotive fluids, recycling, debris (cigarette butts), etc.</li> <li>• On the talk circuit to schools and the community, the City has stressed the effects of illicit discharges on the watershed.</li> </ul>	<ul style="list-style-type: none"> <li>• Public outreach materials will be identified / designed and distributed through our existing communication network (newsletters, articles, websites, trainings, etc.)</li> </ul>
Illicit discharges identified (required)	X		<ul style="list-style-type: none"> <li>• The Streets &amp; Facilities (S&amp;F) crew have inspected/maintained 1100 catch basins during the reporting period.</li> <li>• S&amp;F cleaned various catch basin grates, creek debris and sediment traps after rainfall events at Hensy Dam, Williams Creek, Kline Creek, and Midas Muffler.</li> <li>• Investigating flyover of Cayuga Lake as a collaborative effort for septic system problems through infrared technology with company called Landview.</li> <li>• Effort to address I and I for the City wastewater treatment plant is ongoing. 7 portable flow meters were installed as well as the rehabilitation of inter-jurisdictional flow monitoring stations.</li> </ul>	<ul style="list-style-type: none"> <li>• S&amp;F will continue to evaluate and maintain the conditions of the stormwater collection system. It is expected that another 1100 catch basins will be completed by the end of the next reporting period.</li> <li>• Shoreline flyover could take place early next spring, pending funding. Potential to do the whole lake.</li> <li>• SWG will identify other detection methods and support municipal efforts.</li> <li>• Intermunicipal sewer agreement will enable new sewer hook-ups and phosphorous reduction.</li> <li>• Continued monitoring of the designated I/I locations will extend into the 2004 reporting period. At the end of the term, the locations for the 7 meters will be changed to other problem areas.</li> </ul>

### Outfall Mapping

- Efforts through the existing City GIS program were channeled to begin creation of a new GIS data base for the stormwater utility. The GIS group began digitizing all of the available City stormwater structures, including its 2500 catch basins, in early 2003. Much of the work that was required began with a surveying effort that could concentrate on daily field data collection. Because the responsibilities were delegated to a part-time student, it was difficult to maintain a consistent flow of information. To date, approximately 25% of the work has been completed.

### Illicit Discharges Prohibited

- Through the SWG, the City has been discussing on how best to develop a draft ordinance which will address prohibitions and enforcement on stormwater utility usage. It is expected that the ordinance will mirror the City's existing Sewer Use Ordinance where specific prohibited discharges and procedures necessary to take action on violators of the rule are enforced.

### Public Employees, Businesses Information Campaign

- The City has been providing the community with literature on fertilizer/pesticide reduction, general housekeeping for household chemicals, recycling, and land management practices at events such as WaterWeek, Earth Day and other community functions.
- As is described in the public outreach section, the City has also been involved in educating the community on watershed awareness. As part of the campaign, the effects of illicit discharges on the environment are stressed.

### Identification of Illicit Discharges

- City S&F have inspected, cleaned, and maintained 1100 catch basins during the reporting period which represents ½ of all City structures. During the O&M routine, the crew evaluates the system and notes any problems including excessive debris, sheen, odor, etc. Although none were noted during the reporting period, the

crew has the ability to trigger a tracking operation to work up the system to identify any potential “problem users.” Dye tests can also be used to identify questionable pipes leading through the system.

- City S&F have cleaned creeks and sediment traps with known debris problems after large scale rain events at locations such as the Henisy Dam, Williams Creek, Kline Creek and Midas Muffler. The crew is on call to clear choked ditches, channels and catch basins.
- Through the Town of Ulysees, the SWG is investigating the retainage of a flyover contractor who uses infrared technology to identify septic system problems around the lake. Through this effort it would be possible to have credible evidence that a homeowner’s system needs to be either maintained or connected to a public sewer utility.
- The City installed 7 portable wastewater flow meters to monitor known areas of sanitary sewer overflows. Coupled with a program to rehabilitate the City/Town flow monitoring stations, it is hoped that problem areas can be repaired or replaced to eliminate potential cross contamination problems between the sanitary sewer and storm utilities.

#### 4.3 Activities Planned for the Upcoming Year

As in previous sections, funding and staffing issues are the primary area of concern with regard to maintaining an efficiently run system. With GIS development, staff is stretched between maintaining its existing water and sanitary sewer utilities data base and the need to develop a fully functioning stormwater system by 2008. To place things in perspective, it took a staff of 3 professionals six years to develop working, field ready water and sanitary systems. The group is now one member short and as result, it is unclear as to what progress the program will maintain for stormwater during the next reporting period. Estimates indicate that database development could be limited to only another 20 - 30% toward completion.

The SWG will continue working on regional ordinance development as part of the vast effort to standardize a document that can be adopted by each MS4. The City is awaiting promised guidance from the DEC regarding the same.

Public outreach will continue to the best of the City's availability. At each of these events, literature will be distributed as well as the iCD mentioned in the outreach section of this document. The iCD will contain general information on the precipitation cycle and how pollutants can migrate through the system.

It is expected that the level of effort by the City S&F group will remain the same by evaluating another 1100 catch basins throughout the next reporting period.

Finally, programs such as the shoreline flyover for septic systems could take place as early as the 2005 reporting period. However, its success will depend solely on the availability of financial aid.

The City I/I program will continue to investigate sanitary sewer overflows throughout the year. Based on these result, future budgeting would likely incorporate utilities replacement of those problem areas. Eventually, it is hoped that the GIS system will be able to help with prioritizing and ranking trouble spots.

## 5.0 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

### 5.1 Narrative Overview

Adjustments were made by the City to adopt new Phase II requirements into standard operating procedure on public projects. References to the NYS Standards and Specs for Erosion and Sediment Control and the Stormwater Management Design Manual have always been used. For private projects, the stormwater utility is evaluated during the site plan review process but a City inspection protocol needs to be developed to insure that the developer is maintaining its stormwater pollution prevention plan (SWPPP). To date, staffing issues have hampered efforts to delegate these responsibilities and it has been undecided as to whether specific individuals in the Building, Engineering, W&S or Planning Departments will assume this role.

On significant construction jobs, the City relies on the developer's engineering and consulting group to maintain its stormwater permit. The "big box" project currently being constructed by Benderson Development as part of the City's retail initiative along the Southwestern Route 13 corridor is such an example. Including such stores as Wal-Mart, Lowes, and other chain type companies, it is a vast construction operation that disturbs more than 5 acres. The project requires an SWPPP which is operated and maintained by the developer. The City is currently laying new sanitary and water utility services at the site and maintains close contact with the project through working with the developer's consultant, T.G. Miller, a locally owned and operated entity.

The efforts put forth by the City on Construction Management are listed in the following section.

### 5.2 Implementation of Best Management Practices

As shown in Table 4, the following BMPs list the runoff protection achievements that have been implemented to date along with a brief narrative of each category.

<b>TABLE 4 - Implementation of Best Management Practices, #4 Construction Site Stormwater Runoff Control</b>				
<b>REQUIREMENTS</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Require erosion and sedimentation controls through an ordinance or other regulatory mechanism (required)	X		<ul style="list-style-type: none"> <li>• The City reviews erosion and sediment control as part of its site plan review process.</li> <li>• Early discussions were held between the City Engineering/Planning and W&amp;S groups to begin development of a general stormwater ordinance.</li> </ul>	<ul style="list-style-type: none"> <li>• A plan will be discussed to develop a formal site plan review with regard to E&amp;SC.</li> <li>• A draft ordinance is expected to be developed by the end of the 2004 reporting period.</li> </ul>
Provide opportunity for public comment on construction plans (required)	X		<ul style="list-style-type: none"> <li>• As part of the site plan review process, the City affords the public a comment period on construction plans through board and council meetings.</li> </ul>	<ul style="list-style-type: none"> <li>• Stormwater specific public comment periods will be designed in upcoming years.</li> </ul>
Require construction site plan review (required)	X		<ul style="list-style-type: none"> <li>• The City has a site plan review process that includes stormwater utility evaluations.</li> <li>• In February of 2003, Network hosted satellite broadcast by DEC on stormwater management for MS4's. This was followed by a question and answer session with Steve Eidt of DEC.</li> <li>• The City has always referenced the DEC Stormwater Management Design Manual and the DEC Specs for E&amp;SC in its site plan review process.</li> </ul>	<ul style="list-style-type: none"> <li>• SWG is organizing a workshop on April 15<sup>th</sup> for local review boards, engineers, and contractors. Over 65 have already registered.</li> <li>• It is hoped that the SWG can coordinate efforts to create a "how to" guide for incoming contractors looking to develop in the region.</li> </ul>
Require overall construction site waste management (required)	X		<ul style="list-style-type: none"> <li>• State Building Codes and County Health may have some language on this however, more work is needed, especially for education and enforcement.</li> <li>• The City maintains public job sites in top condition by insuring that debris is cleaned up during the operation and that a general "clean" site is maintained to insure that there is a good public image.</li> </ul>	<ul style="list-style-type: none"> <li>• Details on construction site waste management will be incorporated into ordinances and outreach efforts.</li> </ul>
Site inspection and enforcement (required)		X	<ul style="list-style-type: none"> <li>• Though not yet a formal process, the City Div. W&amp;S evaluates site conditions with regard to E&amp;SC on all utility jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• This will be addressed in future years once ordinances are developed and staff receive trainings.</li> </ul>

<b>TABLE 4 - Implementation of Best Management Practices, #4 Construction Site Stormwater Runoff Control</b>				
<b>REQUIREMENTS</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Education and training of construction site operators (required)	X		<ul style="list-style-type: none"> <li>• In February of 2003, Network hosted satellite broadcast by DEC on stormwater management requirements for construction activities.</li> <li>• Code enforcement officers provide training in their daily work.</li> <li>• Two City staffers have enrolled in CPESQ training.</li> <li>• SWCD newsletters have provided information.</li> </ul>	<ul style="list-style-type: none"> <li>• SWG is organizing a workshop on April 15<sup>th</sup> for local review boards, engineers, and contractors. Over 65 have already registered.</li> <li>• SWG is developing a brochure with details on Phase II regulations to be distributed by municipalities to project applicants.</li> <li>• CPESQ training in May 2004. The exam will be taken sometime early 2005.</li> </ul>

Require Erosion and Sedimentation Controls Through Ordinance

- The City reviews E&SC as part of the site plan review process to insure that there is a plan in place. It currently relies on the engineer working for the developer to implement program. Major private construction jobs have involved local engineering firms that are well known to the City.
- Early discussions with the City Engineering/Planning Departments were held to outline a plan for ordinance development. The SWG will likely take the lead in this project to draft a model that can easily be adopted by the regional MS4s.

Provide Opportunity for Public Comment on Construction Plans

- The City offers a public comment period through the site plan review process when construction plans are brought forth to Common Council and to various board meetings.

Require Construction Site Plan Review

- The City has a site plan review process which includes stormwater utility evaluations. E&SC plans and SWPPP have been required for submittal but the review of those plans have been delegated to the developer's engineer. This system has worked for the City thus far since the larger developments have used local, well known consulting firms.
- In February of 2003 the DEC gave a satellite teleconference to inform MS4s of pending construction requirements. City municipal officials, engineers and planners attended.
- The City references the NYS Standards and Specifications for Erosion and Sediment Control and the New York State Stormwater Management Design Manual in all of its projects. A formal process needs to be implemented to insure that this is accomplished through the site plan review process when evaluating SWPPPs.

#### Require Overall Construction Site Waste Management

- The County Health Department and Building Codes have some language on this requirement but there is a need to adopt something similar in City ordinances.
- The City maintains clean job sites during all public operations. Generally, the purpose of this has been to insure a good public image but it also works well for stormwater management. Debris is picked up, spoil piles are covered, and streets are swept to keep dust and runoff to a minimum.

#### Site Inspection and Enforcement

- The City Division of Water & Sewer evaluates site conditions with regard to utility projects. As ordinances are developed around stormwater management, this requirement will encompass private jobs. Currently, local developers and their consultants maintain the sites but as staffing levels increase, the City will assume this role. The City does investigate complaints regarding erosion and sediment control.

#### Education and Training

- The DEC satellite teleconference addressed many questions concerning Phase II requirements. The teleconference served as a training/workshop to educate municipal officials and employees on new requirements.
- Code enforcement officials are consistently trained as regulations change.
- Two City staff employees are enrolled in CPESQ training at Syracuse University in May of 2004.

### 5.3 Activities Planned for the Upcoming Year

To insure that stormwater runoff is controlled throughout the City, plans to phase out reliability on the developer's engineer to insure that site conditions are maintained are being discussed. This will begin with a general draft ordinance to address implementing stormwater management into the site review process, the public comment procedure, responsibilities for inspection and enforcement, site maintenance, and references to State

documents in design. The SWG will most likely head this project on behalf of all MS4s and issue a draft model in late 2004.

The SWG arranged for an April 15 workshop on Stormwater Construction Activity to address local concerns from developers, engineers and planners. To date, there are 65 enrolled and the number is steadily increasing. Scott Cook will be speaking on behalf of the DEC. Based on the results of this event, the SWG would likely begin compilation of a “how to” guide for contractors. The guide would contain design standards, a copy of the local ordinance, an outline of the reviews process, and phone numbers of key personnel. The document will evolve over the lifetime of the SWMP but early discussions will begin late during the next reporting period.

Finally, two W&S City staffers will attend CPESQ training in May at Syracuse University. It is hoped that both will be eligible for the follow-up exam sometime in early 2005.

## 6.0 POST CONSTRUCTION SITE STORMWATER MANAGEMENT

### 6.1 Narrative Overview

Through the City's active involvement in the vast monitoring efforts and grant programs aimed at reducing erosion along Six-Mile Creek and other tributaries, it appears that the BMPs in the following section will lead to a successful program. Lake and creek programs are specifically designed around TMDL parameters for phosphorus and sediment loading which will allow for a technically sound comparative analysis of water quality across the region. The program will also provide the ability to track problem pollutants from construction operations or other causes of disturbance.

Regional MS4s partake in an informal equipment sharing agreement which provides the City with a resource for hydroseeding (a mixture of wood or fiber, seed, and a stabilizing emulsion to help protect soil) on all of its public jobs. Requirements to implement the same practices on private sites will need to be developed through ordinances.

Although it will take some time for this measurable goal to evolve, the City will continue to work through the SWG as a viable resource for the program's structure.

### 6.2 Implementation of Best Management Practices

The following list (Table 5) identifies the BMPs achieved by the City during the 2003 reporting period. A brief narrative on each function is provided.

#### Assess Existing Conditions and Identify Appropriate BMPs to Reduce Pollutants

- There are several monitoring programs that have been developed from grant resources as well as volunteer efforts. TC has organized a watershed assessment to evaluate sediment issues within Six-Mile Creek, volunteer groups currently monitor

**TABLE 5 - Implementation of Best Management Practices, #5 Post-Construction Stormwater Management**

REQUIREMENTS	YES	NO	ACHIEVEMENTS / EXPLANATIONS	PLANS FOR NEXT YEAR AND CHANGES
Assess existing conditions throughout the MS4 and identify appropriate management practices to reduce pollutant discharge to the maximum extent practicable (required)	X		<ul style="list-style-type: none"> <li>• TCP has organized a watershed assessment for Sixmile Creek which takes a close look at sediment issues.</li> <li>• Several volunteer monitoring programs are in place, on Fall Creek and Taugannock Creek. USGS gauging stations on Sixmile Creek also monitor sediment loads.</li> <li>• The City has partnered with the USGS, SWCD and TC on a phosphorus and sediment load monitoring program of Cayuga Lake. Funding was obtained through the EPA.</li> <li>• Volunteer monitoring in the City’s two riparian buffer restoration grants will help to evaluate water quality along 6-Mile Creek.</li> <li>• Riparian buffer projects and willow planting efforts will be conducted along 6-Mile Creek through the DOS, USDA and Bond Act grants.</li> <li>• TC has a hydroseeder which is offered to the regional MS4s for use.</li> <li>• City S&amp;F maintains the City’s roadways by streetsweeping and insuring that construction related dust and dirt are controlled.</li> <li>• SWCD provides technical assistance and interpretation of practices and standards.</li> </ul>	<ul style="list-style-type: none"> <li>• TCP will support watershed assessments for Fall Creek, the Cayuga Inlet, and Salmon Creek.</li> <li>• Volunteer monitoring program on Sixmile Creek.</li> <li>• SWCD will continue to provide technical assistance and interpretation of practices and standards.</li> <li>• Network organizes monitoring conferences to facilitate coordination of efforts across the Cayuga Lake Watershed.</li> <li>• SWCD will continue riparian buffer projects.</li> <li>• The City will continue its involvement in the various grants, monitoring and planting projects.</li> </ul>
Regulate post-construction runoff from development through an ordinance or other regulatory mechanism (required)	X		<ul style="list-style-type: none"> <li>• Town of Ithaca has been researching ordinance development with special attention to maintenance issues. They will share results.</li> <li>• A draft ordinance has been discussed between City W&amp;S, Engineering/Planning.</li> </ul>	<ul style="list-style-type: none"> <li>• SWG will review model language and assist MS4s.</li> <li>• The City will review existing ordinances for concurrence with Phase II regulations and develop a draft ordinance by the end of the 2004 reporting period.</li> </ul>
Reduce Impervious Surfaces	X		<ul style="list-style-type: none"> <li>• City W&amp;S partnered with IPM, City Forestry, Ithaca Science Center and the Network to evaluate the use of structural soils.</li> </ul>	<ul style="list-style-type: none"> <li>• Continued support for the structural soils evaluation throughout the next reporting period.</li> </ul>

<b>TABLE 5 - Implementation of Best Management Practices, #5 Post-Construction Stormwater Management</b>				
<b>REQUIREMENTS</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
Develop management practice inspection and maintenance program (required)	X		<ul style="list-style-type: none"> <li>• The City has discussed how best to incorporate this into ordinance language</li> </ul>	<ul style="list-style-type: none"> <li>• SWG will review model language and assist MS4s.</li> <li>• SWCD will provide technical assistance.</li> <li>• The City will review existing ordinances for concurrence with Phase II regulations and develop a draft ordinance by the end of the 2004 reporting period</li> </ul>

both Upper and Lower Fall Creek, USGS gauging stations (one which is funded by the City) monitor sediment along Six-Mile Creek, there is an EPA/City sponsored phosphorus and sediment monitoring project in Cayuga Lake, the City is managing two riparian buffer restoration grants that will involve sediment and phosphorus sampling along Six-Mile Creek, and a recent partnership between the City, TOC, TOD, TOI and SWCD will enhance the latter project.

- SWCD allows the use of its hydroseeder under an informal equipment sharing agreement.
- The City provides services to public roadways around construction sites by street sweeping to keep mud and dust at a minimum.
- The SWCD is available to all MS4s, contractors and developers for technical assistance with regard to stormwater management.

#### Regulate Post-Construction Runoff Through Ordinance

- The City has begun discussions for ordinance development but will rely on the SWG as a resource to help the program along.

#### Reduce Impervious Surfaces

- City W&S partnered with City Forestry, Ithaca Science Center and CCE to evaluate the use of structural soils. NYS IPM offered grant money to develop a demonstration site along Cascadilla Creek.

#### Develop Management Practice Inspection and Maintenance Program

- As mentioned in the comment above, the City will likely rely on ordinance development through the SWG for inspections and maintenance. A model ordinance would then be evaluated for content through the MS4 and quickly adopted as its own.

### 6.3 Activities Planned for the Upcoming Year

City sponsored grants through the DOS, USDA and EPA as well as partnerships with local MS4s will continue to foster the development of monitoring programs to strengthen water quality assessments across the region. While the sampling program slated in the riparian buffer restoration program will probably not get off the ground until the 2005 reporting period, the first monitoring event for the Cayuga Lake phosphorus and sediment loading project is set to begin in May 2004. The Fall Creek Watershed Committee is still committed to monitoring and maintaining Fall Creek.

As mentioned in previous sections, the SWG will strive to work toward a draft model ordinance for use by the regional MS4s. Along with construction runoff language, the ordinance will include local laws on post-construction runoff control, maintenance, and enforcement.

The City will continue to rely on the extensive efforts by the SWCD throughout the next reporting period. SWCD is a valuable resource for providing technical assistance to the community and offers support for the interpretation of practices and standards.

7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

7.1 Narrative Overview

The City of Ithaca administers an O&M program for its stormwater utility through the S&F Group. Charged with inspecting, cleaning, repair and construction, the group evaluates roughly 1100 catch basins per year. When it eventually becomes coupled with GIS, S&F will be able to begin mapping operations and develop a ranking system to prioritize trouble spots and repair issues. S&F is also responsible for implementing roadway and right-of-way maintenance, culvert and ditch cleaning operations, and construction site maintenance. It operates an extensive road salting program, maintains the fueling depot for City vehicles and has a paint shop for sign production. All of these represent various potential non-point sources of pollution. This measurable goal was perhaps the easiest to implement since much of the program's structure already exists. Details of these and other items within the system are identified below.

7.2 Implementation of Best Management Practices

Table 6 identifies all of the major BMPs that the City has achieved prior to and during the 2003 reporting period. A narrative of these accomplishments has been provided.

Prevent Discharge of Pollutants from Municipal Operations

- A lending program between municipal operatives allows use of hydroseeders on municipal jobs. The program is supported by funding from the WRC and FLLOWPA. In addition, the City lends use of its jet/vacuum truck for stormwater system maintenance.
- Several recycling programs in the area sponsored by the County include a hazardous waste pickup day, a SWCD tire collection program, and drop-off events.
- The City complies with the NYS Chemical Bulk Storage requirements at both its water and wastewater treatment facilities. The program includes repeated inspections, maintenance of the spill prevention report, and improvements to the system.

**TABLE 6 - Implementation of Best Management Practices, # 6 Pollution Prevention / Good Housekeeping**

REQUIREMENTS	YES	NO	ACHIEVEMENTS / EXPLANATIONS	PLANS FOR NEXT YEAR AND CHANGES
Prevent discharge of pollutants from municipal operations (required)			<ul style="list-style-type: none"> <li>• SWCD, Town of Ithaca, and Village of Cayuga Heights have hydroseeders which they have been sharing with other MS4s. Hydroseeding is supported by funding from the WRC and FL-LOWPA.</li> <li>• The City of Ithaca offers its jet-vac truck to local municipalities for use within their storm systems. This is an informal sharing agreement for municipal equipment.</li> <li>• The county has an annual hazardous waste collection day. The City will advertise this on its web site when it becomes available.</li> <li>• County All Hazard Mitigation Plan.</li> <li>• The City runs a 6 NYCRR Part 595-599 Chemical bulk storage program for both its water filtration and wastewater treatment facilities.</li> <li>• SWCD has an annual tire collection program open to the region.</li> <li>• SWCD Agricultural Chemical Clean-Sweep. (Drop off of containers).</li> <li>• Network supported an erosion control project on Cayuga Inlet at the Farmers Market.</li> </ul>	<ul style="list-style-type: none"> <li>• IO received grant to address streambank erosion and road management in several municipalities. Project includes production of educational materials and outreach.</li> <li>• All hazard mitigation plan finalization.</li> <li>• The City will continue to offer informal equipment sharing.</li> <li>• The City Water Filtration Plant will require its five year inspection of its chemical bulk storage system. Arrangements have been made for this.</li> </ul>

<b>TABLE 6 - Implementation of Best Management Practices, # 6 Pollution Prevention / Good Housekeeping</b>				
<b>REQUIREMENTS</b>	<b>YES</b>	<b>NO</b>	<b>ACHIEVEMENTS / EXPLANATIONS</b>	<b>PLANS FOR NEXT YEAR AND CHANGES</b>
			<ul style="list-style-type: none"> <li>• The City successfully street swept at least 140 lane miles during the reporting period</li> <li>• 1100 catch basins were cleaned and inspected during the reporting period.</li> <li>• The two riparian restoration grants managed by the City has focused on the City de-siltation operation at the Silt Dam site.</li> <li>• The City of Ithaca, partnered with the TOI and TOD are out to bid on a contract to build a tertiary phosphorus removal plant at the wastewater treatment facility. Although this is for sanitary sewage, the plant will significantly reduce the point source loading of phosphorus and sediment to Cayuga Lake.</li> <li>• The wastewater treatment plant pretreatment program inspects industrial users to identify chemical usage and hazardous waste disposal on-site.</li> </ul>	<ul style="list-style-type: none"> <li>• The Silt Dam de-siltation site will be dressed and hydroseeded and buffer zone planting will be placed as part of the reforestation efforts.</li> <li>• The Phosphorus Treatment Plant expansion will be during the 2004 reporting period.</li> </ul>
Follow DEC NPS management Practices catalog, or equivalent (required)			<ul style="list-style-type: none"> <li>• Prior to Phase II regulations, the City had been maintaining its stormwater system following BMPs. Now with the SWMP in place, this process is insured in an organized, structured fashion</li> </ul>	<ul style="list-style-type: none"> <li>• The City will continue to reinforce stormwater management following BMP to the MEP.</li> </ul>
Conduct employee pollution prevention training (required)			<ul style="list-style-type: none"> <li>• The City conducts annual PESH (OSHA) confined space entry, chemical management and spill training to all of its operations personnel.</li> <li>• Every three years County and emergency responders have trainings – hazardous spill. Lee Shurtleiff, disaster management.</li> </ul>	Training has been slated for the 2004 reporting period.

- The City street swept as much as 140 lane miles which included site maintenance of various construction projects.
- S&F maintained approximately 1100 catch basins along with sediment traps, creek banks, culverts, ditches, and storm grates.
- The City has developed a plan with which to mitigate land management practices that have the potential to cause erosion at the City Silt Dam. Silt mining operations have encroached too close to Six-Mile Creek. The site contractor will be required to improve site access, stabilize the area by hydroseeding, and to provide planting to reinforce the embankment.
- The City pretreatment program conducts industrial inspections to evaluate potential sources of sanitary and stormwater contamination from inadequate chemical storage, improper hazardous materials disposal, and general site maintenance.

#### Follow DEC NPS Management Practices Catalog

- Prior to the implementation of Phase II regulations, the City had been adequately maintaining its stormwater system keeping BMPs in mind. O&M maintenance of the collection system, inspections, erosion and sediment control at its construction sites, chemical bulk storage plans, and adequate hazardous materials management at its maintenance shop. The City will continue to implement these practices throughout future reporting periods.

#### Conduct Employee Pollution Prevention Training

- PESH confined space entry training, chemical management, and spill prevention training are offered to City field crews once every two years. The last recorded training class was held in 2002.
- The County host's emergency spill response training and disaster management workshops.

### 7.3 Activities Planned for the Upcoming Year

The S&F group will continue to operate in an O&M role. With the evolution of the GIS program, management is expected to become easier by improving tracking and prioritizing of maintenance problems. This program will steadily develop throughout the duration of the SWMP.

The City's grant management program will see improvements at the Silt Dam when it works with the contractor responsible for site maintenance in May 2004. Improvements are expected in early fall.

The City will be building a tertiary phosphorus removal system at its wastewater treatment plant in the summer of 2004. This is an advanced sanitary waste treatment process whose expansion will ultimately reduce the amount of point source phosphorus and sediment loading to Cayuga Lake. This will place less of an emphasis on the non-point source pollution via tributaries.

## 8.0 MONITORING AND MODELING RESULTS

To identify those sites to be selected for the City's riparian buffer restoration project, the City's consultant, EcoLogic, conducted two field surveys. The initial project was a forest inventory performed from June 4-19, 2002. This was an evaluation of thirteen potential work areas to be included as either restoration, demonstration, or control sites.

Collected data was fed into a USFS NED-1 model which assessed nine management goals including various water and ecological criteria. Essentially, the model was designed to make determinations on riparian forest protection based on whether certain goals were actively being met.

The conclusion of the report indicates that some protection is necessary at each site and should be enhanced when needed.

A second survey was conducted on August 26, 2003 as a follow-up assessment of a previous stream habitat and water quality study along Six-Mile Creek in the fall of 2002. Through channel profiling, velocity measurements, and visual assessments, six sites were evaluated to determine if significant changes had occurred one year later.

Conclusions indicated that canopy cover is probably the most important focus to help regulate summer instream temperatures. Overall, the results proved to be the same between both quality evaluations.

A copy of both surveys has been provided in Appendix G.

In as much as funding has not been available through the DEC to date, it is not possible to comment on the effects that potential grants have had on the City's SWMP.

9.0 SUMMARY OF FUNDING AND USE OF GRANT MONEY

As was mentioned earlier in the report, the SWG applied for funding through the EPF to supplement existing City and County GIS programs and to support the growing media and outreach campaigns formulated by the group. Funding from this source was subsequently denied and for this reason, it is not possible to directly link achievements in the SWMP to State funded stormwater grants.

The City has discussed tax or rate increases to help supplement the program. However, with local real estate, county and school taxes on the rise, it is doubtful that this will ever come to fruition. With continued support from the SWG, the continuation of existing City programs, and a reliance on the current limited City budget that has already been allocated, the basic structure of the SWMP will remain. However, unless funding becomes readily available, the future of maintaining this program to its highest efficiency is uncertain at best.

APPENDIX A

Board of Public Works Meeting Resolution

APPENDIX B

Op-Ed Piece, Ithaca Journal

APPENDIX C

Letter of Support WRI Educational Programming – IPM

APPENDIX D

Letter of Support Urban and Community Forestry Project

APPENDIX E

Annual Report Public Comments

APPENDIX F

Volunteer Monitoring Partnership Letter

APPENDIX G

Riparian Buffer Restoration Site Survey Reports