Section 1
Introduction

Table of Contents

1.0 Introduction and Background

The City of Loveland is situated in Hamilton, Warren and Clermont Counties, located in southwestern Ohio in close proximity to Cincinnati (24 miles south) and Dayton (49 miles north). Loveland was first settled by Lt. Colonel Thomas Paxton, a Revolutionary War Veteran, in the 1795. The area's other first settlers were land speculators and Revolutionary War veterans.

Loveland's history is intimately connected to waterways. Loveland was first settled in 1795 at the confluence of the Little Miami River and the O'Bannon Creek. The fact that Loveland is bisected by two water courses gives it a unique distinction: Loveland's residents call three counties (Hamilton, Clermont and Warren) home. The Village of Loveland was incorporated on May 12, 1888. For most of its history, Loveland has been a small river, railroad and farming community. After World War II, with the increasing suburbanization and significant population growth in southwestern Ohio, Loveland has evolved into a bedroom community in the Greater Cincinnati-metropolitan area. Still, it has maintained its own identify as a charming community with residents committed to outdoor recreation, small town charms and neighborhoods. Today, Loveland has 13,034 residents.

1.1 Regulatory Requirements

The Storm Water Phase II Final Rule requires that the operator of a regulated small municipal separate storm sewer system (MS4), to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage because the storm water discharges are considered "point sources" of pollution. MS4s are considered point sources because they discharge storm water into discrete conveyances, including roads with drainage systems and municipal streets. MS4s are publicly owned or operated and are designed or used for collecting or conveying storm water.

According to 40 CFR 122.26(b)(8), "municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)... including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.

- Designed or used for collecting or conveying storm water;

- Which is not a combined sewer; and

- Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

EPA categorizes MS4s as either "small", "medium", or "large". The Phase I Storm Water Rule covered medium and large MS4s. A medium MS4 is an MS4 located in an incorporated place or county with a population of 100,000–249,999 (according to the 1990 Census). A large MS4 is an MS4 located in an incorporated place or county with a population of at least 250,000. A small MS4 is one that is not already defined as medium or large.

The Phase II Storm Water Rule covers a subset of small MS4s that are called "regulated small MS4s". Regulated small MS4s are automatically designated if they are located in "urbanized areas" (as defined by the Bureau of the Census). Other small MS4s located outside urbanized areas may be designated on a case-by-case basis by the NPDES permitting authority.

As a Phase II regulated small MS4, the City is required to submit a permit application to Ohio EPA and obtain coverage under an NPDES storm water permit. Under the permit, the City will be required to develop and implement a storm water management program that includes the 6 minimum control measures, evaluation/assessment and reporting efforts, and record keeping, as described below. The City must design a storm water management program that:

- Reduces the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protects water quality;
- Uses applicable recommendations found within local waterways' USEPA-approved Total Maximum Daily Load (TMDL) reports to tailor the program; and
- Satisfies the appropriate water quality requirements of the Clean Water Act.

MEP is a standard that establishes the level of pollutant reductions that MS4 operators must achieve through implementation of a storm water management program. The strategies used to reduce pollutants to the MEP may be different for each small MS4 because of unique local hydrologic, geologic, and water quality concerns in different areas. EPA envisions that permittees will determine what the MEP is on a location-by-location basis and consider such factors as conditions of receiving waters, specific local concerns, recommendations in TMDL reports, and other aspects of a comprehensive watershed plan.

Because so many diverse factors can dictate the specifics of a storm water management program, the City should determine appropriate best management practices (BMPs) to satisfy each of the minimum control measures through an evaluative process. The definition of "MEP" should adapt continually to both current conditions and BMP effectiveness, but ultimately, successive iterations of the mix of BMPs and measurable goals should be made to achieve the objective of meeting water

quality standards. If, after implementing the minimum control measures, there is still water quality impairment associated with discharges from the MS4, the City will need to expand or better tailor the selected BMPs.

NPDES permitting authorities will review the identified BMPs and measurable goals and determine if they are likely to reduce pollutants to the MEP, protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act. If the permitting authority does not think that the City is reducing pollutants to the MEP, the authority can request that the City revise the selected mix of BMPs and measurable goals.

The Phase II Rule defines a storm water management program for a small MS4 as a program composed of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water bodies to the MEP. These six program elements, or minimum control measures, including the following:

1. Public Education and Outreach on Storm Water Impacts;
2. Public Involvement/Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment;
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

For each minimum control measure, the City will select and implement BMPs and measurable goals that comprehensively address the specific storm water problems in Loveland, Ohio.

To apply for coverage under the Ohio EPA general permit for rapidly developing watersheds (NPDES Permit Number OHQ100000, December 27, 2002), the City has completed a Notice of Intent (NOI) application form including the following information:

- Best management practices (BMPs) for each of the six minimum control measures;
- Measurable goals for each of the BMPs (i.e., narrative or numeric standards used to gauge program effectiveness);
- A timeline for implementation of each measure (estimated years to implement each measure, including interim milestones and frequency); and

- Specified entities responsible for implementing or coordinating elements of the storm water program.

1.1.1 Options for Permit Coverage

There are a number of implementation options for regulated small MS4 operators. These include obtaining coverage under a general permit, participating in the implementation of an existing Phase I MS4's storm water program as a co-permittee (including sharing responsibility for program development with a nearby regulated small MS4), or applying for an individual permit. The City of Loveland has elected to pursue coverage under the Ohio EPA general permit.

To obtain a stormwater NPDES permit under the Phase II program, the City of Loveland is submitting an application document to Ohio EPA that outlines the programs and activities that the City will undertake over the permit duration (5 years). The document has also been referred to as a Storm Water Management Plan (SWMP).

The SWMP describes the City's approach to implement programs and practices to control storm water runoff pollution. This plan contains three basic components presented in a five (5) year time line:

1. Definition – definition of the Best Management Practices (BMPs) included in the City's approach to address the six (6) minimum controls, including other local qualifying programs.

2. Evaluation and Assessment – evaluation of the potential effectiveness of the BMPs within each of the six minimum control programs.

3. Reporting – documentation of how the City will report on the all the work being conducted under the Phase II program.

1.1.2 Recommendations for Loveland from TMDL Reports

The lower Little Miami River Watershed Total Maximum Daily Load (TMDL) report was approved by U.S. EPA on March 28, 2011. TMDL reports identify and evaluate water quality problems in impaired water bodies and propose solutions to bring those waters into attainment with water quality standards. TMDLs are calculated for *E. coli* bacteria, total phosphorus, chemical oxygen demand, total suspended solids, and sedimentation and habitat.

Recommendations from the report include point source controls on the airpark, MSD's combined sewer system, and the Blanchester wastewater treatment plant- none of which apply to the City of Loveland. Generally, nonpoint source actions recommended in the watershed include improving home septic systems and implementing conventional management practices that are designed to abate pollutant loading from cropland and urban landscapes. The City of Loveland contracts with Hamilton County Health Department to manage septic system

inspections and enforcement of maintenance. The City of Loveland is mostly comprised of residential lots, some commercial lots, green space, and no croplands. The majority of the City is built-out, but some redevelopment activity is underway. The City of Loveland is comprised of portions of 3 sub-watersheds: Salt Run (HUC 05090202-09-03), O'Bannon Creek (HUC 05090202-09-02), and Polk Run (HUC 05090202-14-02). According to the TMDL Report, Salt Run was not impaired and O'Bannon Creek had an impairment listed only because of natural conditions (low flow due to a dry year). Thus, there were no recommended actions for those sub-watersheds. The Polk Run sub-watershed had recommendations for point source controls through regulatory programs, such as implementing an MS4 permit. Testing sites in the Polk Run sub-watershed were found to have full water quality attainment within the City of Loveland's Corporation limits.

1.2 Organizational Structure of the Community

The City of Loveland's existing organizational structure as well as each department and/or division's current responsibilities are presented in this section. **Figure 1-1** graphically depicts the City's structure in an organizational chart. More information can be found on the City's web page (www.Lovelandoh.com).

The table below lists each City department and an associated point of contact for each department or group. Each department is described briefly in the following section.

FIGURE 1.1

ORGANIZATION CHART

TABLE 1.1

City of Loveland Storm Water Phase II Departments and Agencies

DEPARTMENT / GROUP	POINT OF CONTACT
City Manager's Office	David Kennedy, City Manager 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040
Finance Department	Kelly Beach, Finance Director 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040
Finance Department, Income Tax Division	Dawn Everett 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040
Loveland Utilities	Lisa Craig, Utility Clerk 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040
Loveland-Symmes Fire Department	Otto Huber, Fire Chief Safety Service Center 126 South Lebanon Road Loveland, OH 45140 Voice: (513) 583-3001 Fax: (513) 583-3012
Loveland Police Division	Sean Rahe, Police Chief Safety Service Center 126 South Lebanon Road Loveland, OH 45140 Voice: (513) 583-3000 Fax: (513) 583-3011

TABLE 1.1

City of Loveland Storm Water Phase II Departments and Agencies

DEPARTMENT / GROUP	POINT OF CONTACT
Law Department	Strauss & Troy Joseph Braun, City Solicitor The Federal Reserve Building 150 East Fourth Street Cincinnati, OH 45202-4018 Voice: (513) 621-2120 Fax: (513) 241-8259
Building and Zoning Division	Eva Parker, Building & Zoning Coordinator 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040
Service Department	Scott Wisby, Service Director 10980 Loveland-Madeira Road Loveland, OH 45140 Voice: (513) 583-3050 Fax: (513) 683-8089
Loveland City Council	Mayor and City Council 120 West Loveland Avenue Loveland, OH 45140 Voice: (513) 683-0150 Fax: (513) 583-3040

1.2.1 City Manager's Office

The City of Loveland operates under the Council-Manager form of government. The City Council, which includes seven members, serves as the legislative body establishing policy and creating laws, while the City Manager is responsible for the administration of the City departments. The City Manager is appointed by the City Council. As Chief Executive Officer for the municipality, he is responsible for a work force of 45 full-time equivalent employees and a 2016 capital improvement program of $837,686.

1.2.2 Finance Department

The Finance Department is responsible for the financial administration of the City. This includes the issuance of licenses, the preparation and certification of special assessments and collection of such assessments, final approval of expenditures of funds, assistance with the preparation of the City Budget, and the custody and disbursement of City funds and monies.

1.2.3 Income Tax Division

The Income Tax Division is responsible for administering the City's income tax collection operations. This includes reviews and audits of tax forms, receiving tax payments, advising tax payers on tax issues, managing collection of past due taxes and maintaining a computerized database.

1.2.4 Utility Division

The Utilities Office is responsible for setting up, maintaining and overseeing utility accounts (water, sewer, sanitation and now storm water) throughout the city. This includes managing payments, scheduling new services and arranging for service discontinuation.

1.2.5 Loveland-Symmes Fire Department

Within the Fire Department, the responsibilities of the Fire Prevention Bureau include three major areas: fire code enforcement, fire investigation and public fire education. The goal of the Bureau is to reduce the loss of life and property due to fire through fire prevention activities. The Loveland-Symmes Fire Department also provides emergency medical services.

1.2.6 Loveland Police Division

The Loveland Police Division is a full service law enforcement agency consisting of sixteen (16) full-time sworn police offers as well as a Records Management Specialist and a Mayor's Court Administrative Clerk. The responsibilities of the Police Division include patrolling, crime prevention activities, neighborhood watch programs, directed patrol for traffic and crime related problems, radio responses to calls and other routine police services to provide a safe environment for the community.

1.2.7 Law Department

The Director of Law is the chief legal advisor for the City and is responsible for providing legal services for both the legislative and administrative branches of the City government, which include Loveland City Council, the City Manager's office, and the City's four (4) Departments, together with the four (4) Divisions within those Departments.

1.2.8 Building and Zoning Division

The Building and Zoning Division works to bring together the physical, social, and economic aspects of the City for the purpose of assisting Loveland to be a vibrant, viable community in which to work, live, and play. It oversees construction, development, redevelopment, and other land use issues in the community. The full time Building and Zoning Coordinator oversees 1 part-time assistant, 3 part-time contract inspectors, and 1 part-time contract plans examiner.

1.2.9 Service Department

The City of Loveland Service Department (Public Works) is responsible for maintaining much of the City's infrastructure to provide a safe and pleasant environment for the community. The department is headed by the Public Works Director, and supported by a City Engineer, two maintenance crew leaders, a mechanic, and other full time and seasonal part time maintenance workers. The City Engineer is also licensed to perform as the City's Floodplain Administrator. Among the departments many responsibilities are: traffic engineering, transportation planning, design and maintenance of the City street system, design and maintenance of the storm sewer systems, park and recreation facility maintenance, and the operation and maintenance of the public drinking water system.

1.2.10 Loveland City Council

The City Council of Loveland considers and acts on all matters of governmental or utility operations that involve the establishment of policy decisions and/or the enactment of legislation. The Council adopts legislation pertaining to the expenditure of money, the levying of taxes and other assessments, the establishment of traffic regulations, approval of the City's annual budget and all other matters of governmental nature. Seven (7) Council members are each elected for staggering four-year terms, with three (3) or four (4) Council positions open for election every two (2) years. The Mayor is elected every two (2) years from among the seven members of City Council and serves a two-year term.

Section 2
Community NPDES Phase II Program

Listed below are the USEPA and Ohio EPA requirements for each of the six minimum controls. Also listed are the types of BMPs that the City has identified as appropriate for meeting Phase II requirements under each minimum control. Each BMP is listed along with the parameter to be used in measuring the effectiveness of the activity and the City contact responsible for BMP implementation. A summary of the entire action plan, including a schedule of BMP implementation for each minimum control during the 5-year permit term, is presented in **Appendix A**.

2.1 Public Education and Outreach

2.1.1 Regulatory Requirements & Guidelines

Requirements

The City of Loveland must implement a public education program to distribute educational materials to the community and/or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

Guidance

The City may use storm water educational materials provided by the state; EPA; environmental, public interest, or trade organizations; or other MS4s and agencies. The public education program will inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil and household hazardous wastes.

EPA recommends that the program inform individuals and groups of how to become involved in local stream restoration activities, as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities.

Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling and watershed cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains, and to garages on the impact of oil discharges.

The City is encouraged to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

Public education and outreach is a critical component of a successful storm water management program. These measures garner public support and establish individual awareness of what is expected of themselves and the community to improve the quality of local waters. A regulated small MS4 storm water management program requires:

- The implementation of a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local watercourses and the steps that can be taken to reduce storm water pollution.

- The determination of measurable goals for this minimum control measure.

The EPA recommends this minimum control measure be focused on three areas.

1. It encourages MS4s to form partnerships with other governmental and non-governmental entities to establish more cost-effective regional or statewide programs.

2. Educational material and strategies should be relevant to local issues. Existing materials from governmental, public interest, or trade organizations may be used for this purpose.

3. The education program should be applicable and available to all within the communities, including industrial and commercial entities that may likely have considerable storm water impacts.

Ohio EPA Requirements

The final Ohio Environmental Protection Agency (Ohio EPA) NPDES general permit for small MS4s located within rapidly developing water sheds requires the following (NPDES Permit OHQ100000, Section 3.2.1.1):

> The permittee must "implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff".

2.1.2 Approach

The City of Loveland is an active member of the "Regional Storm Water Collaborative" of Southwest Ohio. The Collaborative is composed of storm water districts, municipalities, and soil and water conservation districts in Southwest Ohio and Northern Kentucky. Its purpose is to raise awareness about water quality issues in the region. More information on the Collaborative is available on its web site at www.savelocalwaters.org. The Collaborative seeks to raise public awareness about multiple storm-water related issues, primarily through television and other media advertising campaigns and events. The City of Loveland and other Collaborative members will continue to develop and implement media advertising campaigns through the 2014-2019 permit cycle. Specific details of each ad campaign will be evaluated and decided upon on an annual basis by the Collaborative members.

Loveland will:

1. support and participate in the Regional Storm Water Collaborative;

2. be available to provide information to or give presentations to local schools, if requested by the school district; and

3. maintain existing stream crossing informational signs, as needed.

2.1.3 Action Plan

The City of Loveland has elected to implement the following types of BMPs to achieve compliance with minimum control 1. The measurable goals for each BMP are listed in generic terms, followed by quantitative metrics and the City contact responsible for BMP implementation (see **Appendix B** for a complete list of City staff storm water responsibilities). A complete BMP implementation schedule over the course of the permit term is included as Appendix A.

Goal	Appendix A Cross Reference	Metric	Contact
Management of web page	1.1	Web page	Assistant to the City Manager & RSWC
Develop and distribute BMP educational brochures from Building and Zoning to all permit applicants	1.2	Number of distributed brochures	Building and Zoning Assistant
Support Regional Storm Water Collaborative Public Education Efforts	1.3	Number of activities	City Manager's Office, City Engineer & RSWC
Educational Presentations in Public and Private Schools for All Grade Levels, if Invited by School to Present	1.4	Number of presentations	City Manager's Office and City Engineer
Install Signs at All Stream Crossings	1.5	Number of Signs Installed	Public Works Director

2.1.4 Rationale

The City of Loveland maintains a public outreach program to keep citizens aware of City services, volunteer opportunities, and other civic news. It is very cost-effective for Loveland to expand the existing public outreach with additional focus on storm water.

The storm water message presented will address different subjects at different times of the year, all of which will be targeted to the public with a goal of reducing nutrient loading and other non-point source pollution. The City selected this goal because residential operations may develop significant amounts of waste products that can significantly contribute to nutrient loading from the MS4.

In addition to the nutrient message in the media outlets, Loveland will promote a broad range of best practices (such as recycling, low impact choices for cleaning supplies, car washing practices, and proper maintenance and operation of septic systems).

The City of Loveland includes both public and private schools. The City of Loveland will reach out to these schools to have them add classroom learning on storm water and water quality issues. In particular, the schools will be encouraged to coordinate volunteer stream water quality monitoring with stakeholder groups in the Little Miami River watershed.

The Building and Zoning Department will provide storm water educational materials to every building permit applicant. This information will consist of a brochure that explains several simple and inexpensive ways to reduce pollution in storm water runoff. The Building and Zoning Department will have other educational materials that describe the requirements for meeting the construction and post-construction minimum control measures.

Success of BMP implementation efforts will be evaluated in light of fulfillment of the specified measurable goals. The measurable goals for the list of BMPs discussed above were selected to emphasize quantitative measurements such as the number of flyers distributed per year.

2.2 Public Participation and Involvement

2.2.1 Regulatory Requirements & Guidelines

Requirements

The City of Loveland must comply with state and local public notice requirements when implementing a public involvement/participation program.

Guidance

EPA recommends that the public be included in developing, implementing, and reviewing the City's storm water management program, and that the public participation process should make efforts to reach out and engage as many sectors of the community as possible including those separated by age, income level, ethnicity, heritage or geography. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Signage will indicate that citizens should obtain approval where necessary for lawful access to monitoring sites.)

Citizens can play a significant role in the development and implementation of a storm water management program. Public inclusion broadens public support and provides economic and intellectual resources otherwise unavailable. The Phase II rule requires:

- Compliance with applicable state and local public notice requirements.
- The determination of measurable goals for this minimum control measure.

The objective in implementing this measure is to involve a diverse group of participants incorporating various ideas and concerns. Advertising and recruiting should focus on specific sectors of the population to maximize interest and involvement.

Ohio EPA Requirements

The final Ohio EPA NPDES general permit for small MS4s located within rapidly developing water sheds requires the following (NPDES Permit OHQ100000, Section 3.2.2.1):

> At a minimum, the permittee must "comply with State and local public notice requirements when implementing a public involvement/participation program."

2.2.2 Approach

The City of Loveland is an active and participating member of the Greater Cincinnati "Regional Storm Water Collaborative." The Collaborative is composed of storm water districts, municipalities, townships and soil and water conservation districts in Southwest Ohio and Northern Kentucky. Its purpose is to raise awareness about water quality and storm water management issues in the region. More information on the Collaborative is available on its web site at www.savelocalwaters.org. The City of Loveland has already conducted storm drain marking and stream crossing signage in the past.

On behalf of The City of Loveland and member MS4 permittees, the Regional Storm Water Collaborative will conduct storm water education and awareness programs for the following five themes over the course of the 2014-2019 permit cycle:

1. Rain Barrels
   Target Audience – Property Owners
   Target Pollutant – Storm Water Runoff Volume and Flow Rate (Hydromodification)

   In 2015 and 2016, the Regional Storm Water Collaborative will organize and host the Rain Barrel Art Project, an event held annually since 2013. This Rain Barrel Art Project was created to promote the use of rain barrels throughout the Ohio River Valley area through a creative and educational medium. Rain barrels continue to grow in popularity across the country; however, one of the biggest drawbacks is their dull appearance. The Collaborative believes that producing beautiful artistic rain barrels that have unique painted details will make them more desirable and naturally increase interest in their use.

Local artists will be invited to submit their rain barrel artwork at the beginning of each year. From these, the Collaborative will select up to 50 designs for the rain barrels. After the artwork has been selected, the Collaborative will hold a workshop for the artists where they will learn the painting techniques and pick up their rain barrel barrels. The barrels will be displayed at the Cincinnati Zoo and Botanical Gardens from April 1 until the date of the event, at which time they will be auctioned during the Zoo's "Party for the Planet," which is attended by 3,000-5,000 people each year. Proceeds from the auction will be divided equally between the Collaborative and the Cincinnati Zoo. All proceeds received by the Collaborative will be used for future education and awareness campaigns. After 2016, the Collaborative will conduct a re-evaluation and decide if it will continue to host the Rain Barrel Art Project in subsequent years.

2. Household Conservation Practices

Target Audience – Residents of Greater Cincinnati
Target Pollutants – Household Hazardous Waste, Solid Waste/Litter, Pet Waste, Automotive Fluids

At least once during the permit cycle, the Regional Storm Water Collaborative will develop an education campaign related to household conservation practices that help reduce pollutant loadings to the MS4. Specific topics may include proper disposal of household hazardous wastes and use of alternative non-hazardous products, solid waste and recycling, pet waste, automotive maintenance and/or other household activities.

3. Fertilizer & Nutrient Runoff Reduction

Target Audience – Property Owners
Target Pollutant - Nutrients

Nutrients are a common cause of stream impairment throughout southwest Ohio. The Collaborative will develop an education and awareness campaign targeted at property owners focusing on fertilizer and nutrient runoff reduction. The campaign may include information on soil testing to determine nutrient needs prior to fertilizing, proper application of fertilizers, and management practices such as stream buffers to reduce nutrient runoff.

4. Erosion & Sediment Control

Target Audience – Development Community

Target Pollutant - Sediments

Once every three years, the Collaborative will seek to partner with the Cincinnati Homebuilders Association to install a rain garden at a Homearama display home. Homearama, generally held each year over a two week period in July, is Ohio's largest home expo. More than 35,000 attended the event in 2014. Most people attend Homearama each year not to purchase a home, but to get ideas for their own homes. Developers and homebuilders also pick up ideas from their colleagues. By having a rain garden on display during Homearama, the Collaborative will help promote the use of rain gardens to both homeowners and builders throughout the Greater Cincinnati area.

Also under this program, the Collaborative will help sponsor the Erosion & Sediment Control Field day held by Ohio Department of Natural Resources Division of Soil & Water Resources (ODNR-DSWR) and soil and water conservation districts in Area IV. As of 2015, ODNR-DSWR intends to hold this event annually, with the location rotating through the 19 counties within Area IV. The Regional Storm Water Collaborative will sponsor this event when it is held in Butler, Clermont, Hamilton or Warren Counties.

5. General Storm Water Programs

Target Audience – Greater Cincinnati residents
Target Pollutant – General Storm Water Pollution

During the current permit cycle, the Collaborative will seek to raise the awareness of Cincinnati area residents regarding general storm water and watershed management topics (e.g., what is storm water runoff, what problems does runoff pose for our streams and lakes, what is a watershed, and other general topics).

2.2.3 Action Plan

The Collaborative will use various methods to conduct the educational campaigns listed above. Information will be distributed through the Collaborative's web site (www.savelocalwaters.org) and through different social media outlets, such as Facebook (www.facebook.com/SaveLocalWaters), Twitter (@SaveLocalWaters) and YouTube (www.youtube.com/user/projectearthcincy). Also each year, the Collaborative will conduct at least one major campaign using radio and/or television advertising. To help MS4 permittees and other environmental professionals improve their education programs, the Collaborative will hold a minimum of one training workshop a year (topics will vary). Specific efforts and results for each educational campaign will be provided in the MS4 Annual Report

Goal	Appendix A Cross Reference	Metric	Contact
Support RSWC rain barrel event	2.1	Number of attendees at display	City Manager and City Engineer
Support RSWC website	2.2	Number of page visitors	City Manager and City Engineer
Support RSWC advertising	2.3	Number of impressions	City Manager and City Engineer
Support RSWC workshops	2.4	Number of attendees	City Manager and City Engineer

2.2.4 Rationale

Regional Storm Water Collaborative partners meet on a regular basis (generally monthly) to plan educational campaigns and review the successes of recently completed efforts and review possible program improvements. Any major adjustments to the overall program described above will be proposed to Ohio EPA in the MS4 Annual Report.

2.3 Illicit Discharge Detection and Elimination

2.3.1 Regulatory Requirements & Guidelines

Requirements

The City of Loveland must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at Sec. 122.26(b)(2)) into the City's small MS4. The City must:

- Develop and complete, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to its system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The City must address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if they have been identified as significant contributors of pollutants to the MS4:

water line flushing,

landscape irrigation,

diverted stream flows,

rising ground waters,

uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)),

uncontaminated pumped ground water,

discharges from potable water sources,

foundation drains,

air conditioning condensation,

irrigation water,

springs,

water from crawl space pumps,

footing drains,

lawn watering,

individual residential car washing,

flows from riparian habitats and wetlands,

dechlorinated swimming pool discharges, and

street wash water.

Guidance

EPA recommends that the plan to detect and address illicit discharges include the following four procedures:

1. for locating priority areas likely to have illicit discharges;
2. for tracing the source of an illicit discharge;
3. for removing the source of the discharge; and
4. for program evaluation and assessment.

EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of outreach materials.

Ohio EPA Requirements

The Ohio EPA general permit for small MS4s located within rapidly developing water sheds (NPDES Permit OHQ100000, Section 3.2.3.1) requires the City to perform the following elements in compliance with minimum control 3:

> Develop, implement and enforce a program to detect and eliminate illicit discharges, as defined Part 6 of this permit, into its small MS4.
>
> Develop and complete, a storm sewer system map, showing the location of all outfalls and the names and location of all surface waters of the State that receive discharges from those outfalls;
>
> Within five years of when its coverage under this general permit was granted, the City must submit the following to Ohio EPA:
>
> > A list of all on-site sewage disposal systems connected to discharge to its MS4 (a.k.a. home sewage treatment systems (HSTSs)) including the addresses; and
> >
> > A storm sewer map showing the location of all HSTSs connected to its MS4. This map shall include details on the type and size of conduits/ditches in the MS4 that receive discharges from HSTSs, as well as the water bodies receiving the discharges from the MS4.
>
> To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, illicit discharges into the storm sewer system and implement appropriate enforcement procedures and actions;
>
> Develop and implement a plan to detect and eliminate non-storm water discharges, including illegal dumping, to the system;
>
> Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

2.3.2 Approach

Loveland's approach will implement the following to meet these objectives:

1. Loveland conducts an annual dry weather flow detection program at outfalls.

2. Loveland has developed a map of the storm sewer system, outfalls, and all of the receiving water bodies in the City of Loveland. The map will be updated with acceptance of new subdivisions, completion of infrastructure projects, etc.

3. A new ordinance (Section 928) which provides sufficient protection against illicit discharges to comply with minimum control 3 was adopted in Feb. 2012.

4. Loveland City staff and the public at large are responsible for identifying and reporting illicit discharges.

5. Loveland will train City personnel about storm water issues. An important component of this will be to educate City staff about how to identify and report illicit discharges.

6. Loveland has mapped all home sewage treatment systems (HSTSs) within the City during the permit term, as required by the Ohio EPA general permit.

2.3.3 Action Plan

The goals of the illicit discharge and elimination system include the following:

1. Identify all discharges from the MS4 into receiving water bodies of the State of Ohio.

2. Identify and eliminate all discharges of non-storm water to the MS4.

3. Train City staff to recognize and report illicit discharges.

The City of Loveland has selected the following activities to support compliance efforts related to minimum control 3. The measurable goals for each BMP are listed in generic terms, followed by quantitative metrics and the City contact responsible for BMP implementation. A complete BMP implementation schedule over the course of the permit term is included as Appendix A.

Goal	Appendix A Cross Reference	Metric	Contact
Update the map of storm sewer system, outfalls, and receiving water bodies	3.1	Map of outfalls, storm sewer system, and receiving waters	Public Works
Dry Weather Flow screening at Outfalls	3.2	List or Table of Outfall Screening Data	Public Works
List addresses, map location and describe drainage conveyance of all HSTSs within the City	3.3	List and map of HSTSs	Public Works
Training for City staff	3.4	Number of employees or trainings held	City Manager

2.3.4 Rationale

The goals of this measure will be met primarily by Ordinance 928 in the City of Loveland. See **Appendix C** provides a copy of the City ordinance, including enforcement procedures for illicit discharges.

The City will be able to detect illicit discharges by providing training to City staff on how to identify and report illicit discharges, as well as how to respond to reports of illicit discharges from residents.

Loveland has mapped all receiving waters within the City boundaries, as well as the storm sewer system and outfalls. The map will need to be updated periodically to account for new subdivisions, annexations, infrastructure replacement projects, etc. The map is based on County contour data, local infrastructure maps (as-builts where available, or proposed plans) and hand-held GPS device or survey data collected specifically for generating the map.

The City of Loveland will also conduct dry weather flow screening at outfalls, as required. During periods of dry weather, City staff, volunteers or contracted experts will visit each identified discharge point of the MS4 to look for dry weather flow. Any sources of flowing water will be field-evaluated for waste content and traced to the upstream property owner where necessary. The outfall will be identified and located on a map. Landowners upstream from the source of flowing water may be identified for further investigation.

Also pursuant to the Ohio EPA general permit, Loveland has listed and mapped all home sewage treatment systems (HSTSs) within the City during the first permit term. A list of addresses for the HSTSs as well as a description of the drainage conveyance (e.g., pipe or ditch) draining from each HSTS was compiled pursuant to general permit requirements.

The success of the illicit discharge program will be measured according to fulfillment of the measurable goals. The measurable goals for this minimum control were selected to emphasize completion of set tasks such as production of a map of storm sewer outfalls and HSTSs within the City and holding of an illicit discharge training training session for City staff.

2.4 Construction Site Storm Water Runoff Control

2.4.1 Regulatory Requirements & Guidelines

Requirements

The City of Loveland must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting

authority waives requirements for storm water discharges associated with small construction activity in accordance with Sec. 122.26(b)(15)(i), then it is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

The City's program must include the development and implementation of:

- An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
- Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices;
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- Procedures for site plan review which incorporate consideration of potential water quality impacts;
- Procedures for receipt and consideration of information submitted by the public, and
- Procedures for site inspection and enforcement of control measures.

Guidance

EPA recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local Erosion and Sediment Control (ESC) requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

The City is encouraged to provide appropriate educational and training measures for construction site operators. In addition, the City may wish to require a storm water pollution prevention plan for construction sites within City jurisdiction that discharge into the MS4. See Sec. 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see Sec. 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on the City's behalf).

Ohio EPA Requirements

The Ohio EPA final general permit for MS4s located within rapidly developing water sheds (NPDES Permit OHQ100000, Section 3.2.4) requires the City to fulfill the following requirements for compliance with minimum control 4:

> Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to its small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollution in storm water discharges from construction activity disturbing less than one acre must be included in the City's program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If Ohio EPA waives requirements for storm water discharges associated with small construction from a specific site the City is not required to have a program to reduce pollutant discharges from such sites. The City's program must include the development and implementation of, at a minimum:
>
> An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
>
> Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
>
> Requirements for construction site operators to control wastes, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary wastes at the construction site that may cause adverse impacts to water quality;
>
> Procedures for site plan review which incorporate consideration of potential water quality impacts;
>
> Procedures for receipt and consideration of information submitted by the public; and
>
> Procedures for site inspection and enforcement of control measures.

2.4.2 Approach

For all construction projects over 1-acre in size, the City of Loveland will implement the following controls:

1. Loveland has developed storm water ordinance provisions (Section 926) that will require erosion and sediment controls to be specified on site development plans and stamped by a Professional Engineer.

2. Construction site operators will be required to implement all erosion and sediment control BMPs specified on the site development plan.

3. Construction site operators will be required to provide appropriate management and disposal of construction-related waste, such as having properly sized waste containers for discarded construction materials and litter, an area for concrete truck washout, properly sized and sited sanitary facilities, and proper waste chemical containment.

4. The storm water ordinance will require that the City Engineer review development site plans, including a review of the construction phase erosion and sediment control plan.

5. Loveland will establish procedures for receipt and consideration of information submitted by the public.

6. Loveland will perform site inspection and enforce use of control measures.

7. Loveland will distribute brochures concerning construction site runoff BMPs to all building permit holders.

8. The City will offer the main City Hall phone number and an Action Line link on its public website for residents to report storm water code enforcement issues, including construction site runoff concerns (e.g., failing or incorrectly installed sediment and erosion control BMPs).

2.4.3 Action Plan

The goals of the minimum control measure are to enforce the requirements of the storm water ordinance. In addition, the City will encourage public acceptance through educational programs at the point of building permit application.

The City of Loveland has selected the following activities to support their efforts toward compliance with minimum control 4. The measurable goals for each BMP are listed in generic terms, followed by quantitative metrics and the City contact responsible for BMP implementation. A complete BMP implementation schedule over the course of the permit term is included as Appendix A.

Goal	Appendix A Cross Reference	Metric	Contact
Develop and review on an ongoing basis construction plans	4.1	Number of site plans reviewed	Building & Zoning Division Head
Applicable construction sites inspected at least once for compliance	4.2	Number of inspections	Building & Zoning, Public Works
Distribute BMP brochures to all construction/building permit	4.3	Distribute brochures	Building & Zoning

Goal	Appendix A Cross Reference	Metric	Contact
holders.			
Management procedure for water quality information submitted by the public.	4.4	Storm Water Calls and / or emails received	City Engineer

2.4.4 Rationale Statement

Discharge of sediments causes the primary impact to streams from construction activities. The City will operate a proactive system to reduce sediment loading from construction activities. This system includes adoption of Ordinance 926 in February of 2012 to require erosion and sediment control plans for all new site developments, additional review procedures for construction inspections, and additional plan review by the City Engineer. All land-disturbing activities over 1 acre in size are required to meet the plan review procedures unless specifically exempted (see Appendix C for details). The Ordinance allows for enforcement with fines and penalties for non-compliance.

The City of Loveland offers a sediment and erosion control manual for builders and engineers to reference in order to choose structural best management practices that are appropriate for their sites.

2.5 Post Construction Storm Water Runoff Control

2.5.1 Regulatory Requirements & Guidelines

Requirements

The City of Loveland must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts.

The City must:

- Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for its community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
- Ensure adequate long-term operation and maintenance of BMPs.

Guidance

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMPs chosen:

- be appropriate for the local community;
- minimize water quality impacts; and
- attempt to maintain pre-development runoff conditions.

In choosing appropriate BMPs, EPA encourages the City to engage in locally based watershed planning efforts, which attempt to involve a diverse group of stakeholders including interested citizens.

When developing a program that is consistent with this measure's intent, EPA recommends that a planning process be adopted that identifies the municipality's:

- program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment),
- implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs),
- operation and maintenance policies and procedures, and
- enforcement procedures.

In developing the storm water management plan, the City should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the public should be invited to participate in the development of the program.

Non-structural BMPs are preventative actions that involve management and source controls such as:

- policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;
- policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas.

Structural BMPs include:

- storage practices such as wet ponds and extended-detention outlet structures;
- filtration practices such as grassed swales, sand filters and filter strips; and
- infiltration practices such as infiltration basins and infiltration trenches.

EPA recommends that the City ensure the appropriate implementation of the structural BMPs by considering some or all of the following:

- pre-construction review of BMP designs;
- inspections during construction to verify BMPs are built as designed;
- post-construction inspection and maintenance of BMPs; and
- penalty provisions for the noncompliance with design, construction or operation and maintenance.

Storm water technologies are constantly being improved, and EPA recommends that the City's storm water management requirements be responsive to these changes, developments or improvements in control technologies.

Ohio EPA Requirements

The Ohio EPA final general permit for MS4s within rapidly developing water sheds (NPDES Permit OHQ100000, Section 3.2.5) requires the City to fulfill the following requirements for compliance with minimum control 5:

> Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the City's small MS4. The City's program must ensure that controls are in place that would prevent or minimize water quality impacts.
>
> The City must develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for the City's community.
>
> The City must use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law; and
>
> Ensure adequate long-term operations and maintenance of BMPs.

2.5.2 Approach

Loveland will develop ordinance provisions requiring appropriate post construction runoff controls as part of the site development plan.

1. Loveland has an ordinance that limits post-construction peak discharge to the pre-development condition for sites over 1 acre in disturbed area. Loveland adopted Ordinance 926 in February 2012 that addresses the issue of water quality by requiring site appropriate BMPs for new development.

2. Loveland will consider BMP design and selection in terms of long-term maintenance issues. The City will develop an inspection program to ensure long-term operation and maintenance of post-construction runoff control BMPs.

3. The storm water management ordinance includes provisions for the City to assume operation and maintenance for new storm water facilities in the event that private owners (such as homeowner's associations) do not properly maintain the BMPs.

2.5.3 Action Plan

In January, 2003, the City of Loveland adopted a storm water ordinance that creates a storm water utility. The stated purpose of this utility includes the following:

1. Provide for administration, operation, maintenance and inspection of existing storm water management facilities;

2. Provide procedures for design, construction and inspection of proposed storm water management facilities;

3. Establish a mechanism for appeals and amendments to the Storm Water Management Code;

4. Provide for a procedure for abatement of conditions or activities that are not in the interest of public health, safety or welfare;

5. Provide for penalties for violations of its provisions.

In addition to these new requirements, City of Loveland will implement the following programs:

1. Guidance for City staff and contractors on BMP installation, operation, and inspection.

2. Final inspection for 100% of all new development and redevelopment to ensure that the proposed BMPs are implemented properly.

The Building and Zoning division will provide annual reports of all completed construction activities in the City of Loveland including a list of storm water BMPs installed. The Storm Water Management Commission will review this annual report.

3. The City has selected the following BMPs for compliance with minimum control 5. The measurable goals for each BMP are listed in generic terms, followed by quantitative metrics and the City contact responsible for BMP implementation. A complete BMP implementation schedule over the course of the permit term is included as Appendix A.

Goal	Appendix A Cross Reference	Metric	Contact
Ordinance that requires design for water quality standards including BMP implementation for all new developments and redevelopments.	5.1	Ordinance	Building & Zoning Division Head
Ordinance to require storm water facilities review by City engineer	5.2	Ordinance	Building & Zoning Division Head
Distribute design guidance in the form of brochures to all permit applicants.	5.3	Distribute material	Building & Zoning Division
BMP inspection and maintenance	5.4	Number of BMPs inspected	Building & Zoning Division
Annual report to Storm Water Management Commission	5.5	Number of Reports	City Manager

2.5.4 Rationale Statement

Loveland has decided to initiate a storm water utility to address some of the City's flooding and water quality issues. The Loveland City Council adopted an ordinance for this purpose in January 2003. This ordinance also establishes a revenue source for implementing storm water management programs in the City of Loveland. A copy of this ordinance is included as **Appendix E**.

The City chose to implement this minimum control measure through an ordinance because flooding issues in 2001-2002 created significant interest from the community in reducing flooding risks. The community leadership supports this additional revenue stream.

The City governs development based on a zoning code. The zoning code includes areas that are designated as special because of the proximity to the Little Miami River or other environmentally sensitive areas.

Structural BMPs for new development will be required to have a clear custody and responsible organization. The storm water ordinance allows the City under certain circumstances to accept responsibility for operation and maintenance of new BMPs.

2.6 Pollution Prevention and Good Housekeeping

2.6.1 Regulatory Requirements & Guidelines

Requirements

The City must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the state or other organizations, the City's program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

Guidance

EPA recommends that the City consider the following in developing the storm water management program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural storm water controls to reduce floatables and other pollutants discharged from its separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the City, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

Ohio EPA Requirements

The Ohio EPA final general permit for MS4s located within rapidly developing water sheds (NPDES Permit OHQ100000, Section 3.2.6) requires the City to fulfill the following requirements for compliance with minimum control 6:

> Develop, implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and
>
> Using training materials that are available from Ohio EPA or other organizations, the City's program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

2.6.2 Approach

Loveland currently maintains the following source control programs:

- public street and parking lot sweeping;
- roadway maintenance programs;
- septic system controls (in coordination with County Health Departments);
- cleaning and maintenance of storm drains.

Loveland will also educate City staff on proper materials management techniques especially in the areas of hazardous materials storage and use, road salt storage and use, spill response and prevention, and used oil recycling.

2.6.3 Action Plan

The successful program will meet the following goals:

1. Twice annual brush collection.
2. Annual fall leaf collection.
3. Annual Christmas tree pick-up.
4. Staff training.
5. Storm water system maintenance.

The City has chosen the following BMPs in support of compliance with the requirements of minimum control 6. The measurable goals for each BMP are listed in generic terms, followed by quantitative metrics and the City contact responsible for BMP implementation. A complete BMP implementation schedule over the course of the permit term is included as Appendix A.

Goal	Appendix A Cross Reference	Metric	Contact
Storm water system maintenance	6.1	Number of system components cleaned & maintained	Service Director
Operate brush, tree and leaf collections	6.2	Volume collected	Service Director
Perform routine street sweeping	6.3	Number of lane-miles swept	Service Director
Training for City staff	6.4	Number of employees trained on a topic	City Manager
Annual storm water maintenance reports	6.5	Annual Report	Service Director

2.6.4 Rationale

The City of Loveland currently maintains a series of effective source control programs including street sweeping, storm drain maintenance, leaf collection, brush collection, and Christmas tree pick-up. A portion of the revenue generated by the storm utility will be utilized to continue existing operation and maintenance.

Loveland will implement training designed to increase awareness about water quality issues among City staff. Because Loveland is so close to the Little Miami River, it is paramount that City staff recognizes the inherent risk of polluting this highly valued waterway. Also, City staff should be trained to recognize practices that may jeopardize the water quality value in the Little Miami River and its tributaries.

The City of Loveland does not currently operate any industrial facilities that require a NPDES permit.

The success of this minimum control measure will be evaluated in light of the fulfillment of the measurable goals identified above. The measurable goals were selected to emphasize quantitative measures such as the volume of yard waste collected.

Section 3
Administrative and Legal Issues

3.1 Regulatory Responsibility

Under the Phase II Storm Water NPDES regulations, the City of Loveland (City) is submitting this updated storm water management plan that outlines the activities that will be implemented during the third permit term (2014-2019). As part of this plan, the City will be required to submit annual reports which will include the following:

- The status of compliance with permit conditions, including an assessment of the selected BMPs and any progress that has been made toward achieving the measurable goals for each minimum measure.
- Results or any information collected and analyzed.
- A discussion of storm water activities planned for the next year.
- Any changes planned in the BMPs or the measurable goals for any minimum control measures to be implemented during the next report cycle.
- Continued notification of support or dependence upon another governmental entity to satisfy some part of the permit obligation, if applicable.

3.2 Report Format

The City's annual report for the Phase II storm water permit will match the OEPA's template structure. These summary tables will be used to organize the annual reports in light of the scheduled BMP implementation measures outlined in the Plan.

3.3 Reporting Schedule

Each annual report during the five (5) year permit term will be submitted on or before April 1st and will provide a description of the Phase II compliance activities performed through December 31st of the prior year.

Section 4
Funding Mechanism

4.1 Introduction

The City of Loveland (City) formed a Storm Water Advisory Committee (SWAC) in 2002 to evaluate the necessary level of service (LOS) to be provided by the City for

storm water management to adequately address both flood control and water quality issues. Initially, the SWAC was comprised of three individuals representing City Council, the City's Environment Committee, and the City's Planning and Zoning Commission. This team met six teams in the first half of 2002, but decided to expand the team to ensure it represented a broader cross section of the community. The expanded-SWAC included members representing various commercial, residential and other community elements. SWAC members served on a voluntary basis at the invitation of the City Council. The expanded SWAC met four times in the fall of 2002, including a field trip to some of Loveland's most problematic flooding areas, to determine the necessary LOS as well as to evaluate potential funding mechanisms to cover the costs and expenses related to the City's storm water management efforts, including costs of complying with the Phase II Rule. The following sections describe the evaluation process and the proposed approach for ensuring adequate funding of Phase II compliance measures.

4.2 SWAC Evaluation Process

4.2.1 Level of Service

The SWAC was presented with information regarding the current status of the City's storm water infrastructure, existing maintenance practices, desired capital improvement projects (CIPs), as well as Phase II Rule requirements to be met by the City. The City currently allocates its storm water management budget to the following activities: street sweeping/leaf collection/brush collection/Christmas tree collection, collection system operation and maintenance, and Capital Improvement Projects (CIPs). The City identified 17 CIPs related to the City's storm water infrastructure and is in the process of reviewing the existing projects, identifying possible additional projects, and prioritizing the proposed projects with regard to proper implementation order.

In order to ensure implementation of an adequate storm water management program that meets the minimum requirements of the Phase II Rule, four broad budgetary categories were identified for determining an appropriate LOS for the City of Loveland: (1) Regulatory Compliance, (2) Operation and Maintenance, (3) Planning and Management, and (4) Capital Improvement Program.

4.2.2 Funding Options

The SWAC evaluated the following potential funding mechanisms with regard to their appropriateness and adequacy for covering projected costs of the four storm water management budget categories listed above:

- **Status Quo** - This option involves no additional revenue collection or allocation and no impact on the existing City Budget/General Fund. This option is not viable since it would not allow projected storm water management requirements to be met, including anticipated Phase II compliance and implementation of necessary CIPs.

- **Reallocation of Existing City Budget** – Administratively, this option is the easiest to implement. However, this would require cuts in other City services due to reallocation of budgetary resources. Also, this option may not provide for an equitable distribution of the program costs and would not assure long-term stability of funding for the City's storm water management program.

- **Dedicated Property Tax Mill Levy** – This option would provide a stable source of easily collected revenue for storm water management efforts. However, this option exhibits the following negative characteristics: it is not linked to storm water needs and requirements; not all property owners would pay (e.g. schools and churches would be exempt); it would represent a significant change in City policy; implementation would require approval by the City's voting public at election; and it may not provide for an equitable distribution of the program costs.

- **Dedicated Income Tax** – This option would be easy to administer and would include contributions from non-residents working in the City. However, this method has the following drawbacks: it is not linked to storm water needs and requirements; it would represent a significant change in City policy; non-wage earning property owners would not contribute to the fund; implementation may require approval by the City's voting public at election; and it would not provide for an equitable distribution of the program costs.

- **Utility User Fee** – This method, based on the concept of an Equivalent Residential Unit (ERU, see the discussion in Section 4.3 below for more detail), would provide a dedicated funding source for storm water management; would link storm water management services provided by the City to the fee for service; is an equitable user fee based on the contribution of runoff by each property, rather than property value; is the most common user fee approach applied across the United States; is the simplest user fee option to administer; and has sound legal standing. The primary drawbacks noted in association with this alternative include the following: the need to map impervious area for all non-residential properties; and the concern of equity for residential property owners, since all residential properties would pay the same utility fee regardless of property size.

Following their review of the presented funding alternatives, the SWAC has recommended that the City cover the costs related to storm water management and system improvements, as well as activities specific to Phase II compliance, through the development and implementation of a storm water utility user fee. See Section 4.3 below for a discussion of the basis for the proposed funding mechanism. Approval and implementation of the proposed funding mechanism required action by City Council. City Council passed an ordinance to create a stormwater utility on January 28th, 2003 and this ordinance became effective on February 28th. The City of Loveland began charging a storm water utility fee on April 1, 2003.

4.3 Storm Water Utility

Using revenues from a user charge system to fund stormwater management programs is a growing trend in Ohio. The concept has achieved growing popularity in the western and Midwestern United States since the mid-1970s. Between the time the concept was established and Loveland was considering it, 320 other entities adopted ordinances and took steps to implement the stormwater utility and many more have done so since. For example, stormwater utilities are now in operation in the Ohio cities of Cincinnati, Mason, Forest Park, Columbus, Upper Arlington, Wooster, Toledo, Galion, Bucyrus, Kent, Hudson, and Sheffield Lake.

The user charge assigned to the fee payer is an equitable share of the cost of the stormwater management program based on the relative contribution to the stormwater problem. This share is determined by the amount of runoff attributed to the property. The greater the runoff, the greater is the contribution to the problem. The relative amount of runoff is estimated by the actual amount of impervious area on the parcel. This allows for the equitable and fair distribution of the stormwater management program costs. A stormwater utility is a more equitable funding mechanism than reliance on General Fund revenue and most special tax districts, since charges assessed to each parcel of land are based upon usage of the drainage system rather than property value.

Because commercial properties generate much more runoff and stormwater pollution per square foot than single-family residential properties, commercial sites are charged a proportionately greater fee by the stormwater utility. A principal advantage associated with a city stormwater utility is that tax-exempt properties (federal, state, schools, and other tax-exempt buildings and installations) are assessed a user fee that reflects their relative stormwater contribution to the City's drainage system. For example, each tax-exempt parcel will be charged a stormwater utility fee that is proportional to the stormwater discharge from the site. The method is identical to that used by other public utilities: tax-exempt property is charged based upon usage (e.g., power consumption, water consumption).

4.3.1 Storm Water Utility Rate Calculation

The proposed utility user fee is based on the concept of an "Equivalent Residential Unit" or "ERU". The ERU is derived as the average impervious area for a residential property within the City, based on a statistically significant sample of the City's residential properties. The ERU base unit for the City of Loveland was determined to be 2,500 square-feet. Under the proposed storm water utility rate structure, each residential property would receive a utility charge for a single ERU. For non-residential properties, the impervious area for each parcel must be determined, typically with the use of GIS software and digital aerial photographs. The total impervious area for each non-residential property is divided by the impervious area associated with the base ERU unit (2,500 square-feet for Loveland) to determine the total ERUs represented by the non-residential property in question (see **Figure 4-1**).

The utility user fee for an individual ERU is determined by following the procedure. The impervious area for all non-residential properties is determined with GIS software and aerial photos, with the total impervious area for all non-residential properties divided by the impervious area for a single ERU. There is also a storm water credit and adjustment policy in place which addresses disputes. New or re-development sites may also be required to have the design engineer or surveyor certify the proposed impervious area (in square feet) prior to issuance of a building permit or Certificate of Occupancy for the City to accurately make an ERU determination before the GIS maps are updated. This yields the total number of ERUs represented by the non-residential properties within the City. The number of residences within the City (each representing a single ERU) is added to the total non-residential ERUs for the City to yield the total number of ERUs for all properties within the City to be included in the storm utility billing structure.

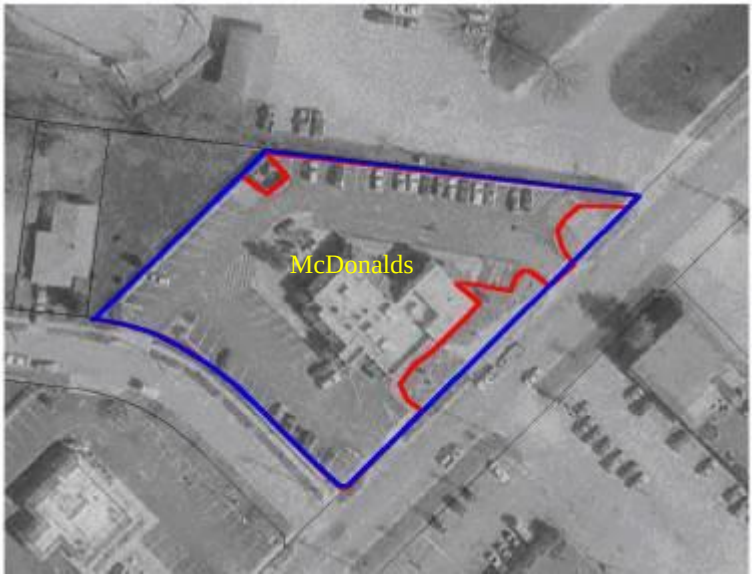

Figure 4-1. Example of ERU Determination for a Non-Residential Property

Section 5
Administrative and Legal Issues

5.1 Regulatory Responsibility

The general permit issued by Ohio EPA pursuant to the Federal Phase II NPDES Rule identifies entities covered by this permit as small municipal separate storm sewer systems (MS4) that are located within an "urbanized area" as defined by the Bureau of Census, or as designated for permit authorization by Ohio EPA (NPDES Permit No. OHQ100000, Section 1.2.1). As such, the City of Loveland (City) qualifies as a MS4 located within a rapidly developing watershed and must comply with the requirements of the Federal Phase II Rule and corresponding Ohio EPA alternative general permit for MS4s in a rapidly developing watershed. The City will necessarily be the permitted entity, while the entity charged with directing Phase II compliance measures for the City will be the City Manager's Office. The individual in responsible charge for implementation of Phase II compliance measures as well as annual reporting requirements will be the City Manager. Additional City staff positions have been identified by the City Manager to provide oversight of compliance efforts specific to individual minimum controls:

- Minimum Controls 1, 2 – City Manager
- Minimum Controls 3, 4, 5 and 6 – Public Works Director

5.2 City Department Compliance Responsibilities

While the City Manager is the lead individual for the City's Phase II compliance efforts, a number of City departments (see Section 1 for a full listing) share the responsibility of executing the Phase II Stormwater Management Plan. For information regarding department/agency Phase II compliance responsibilities, see the Action Plan subsections of Section 2 for each minimum control.

5.3 Legal Authority and BMP Implementation

The City asserts that it possesses the legal authority to implement each of the BMPs for which the City is immediately responsible, as indicated in the Action Plan summary tables of Section 2.

Table B-1. City Staff Storm Water Responsibilities

Position	Current Staff	Duties	BMP(s)
City Manager	David Kennedy	Responsible Official Oversight Long-range Planning Budget Permit Compliance Management Responsibilities Coordinate Staff	Staff Training
Assistant to the City Manager	Misty Cheshire	Facility Scheduling Website and Communications Recreation Policy/Scheduling	Stakeholder Meetings Website Updates
Building and Zoning Coordinator	Eva Parker	Code Enforcement Construction Site Inspections Building Permit Issuance Maintain Stormwater Management and Sediment Control Design Manual	Educational materials. Post construction plan review coordination. ESC Inspections.
Fire Chief	Otto Huber	Training Staff Emergency Response	Safety staff training Spill Response
Public Works Director	Scott Wisby	Utility Director Street Sweeping Christmas Tree Pick-up Brush & Leaf Collection Roads & Systems Maintenance Grounds Maintenance	Street Sweeping Christmas Tree Collection Leaf & Brush Collection Utility & Road Mainten. Grounds Maintenance
City Engineer	Cindy Klopfenstein, PE, CFM	Infrastructure Project Management Floodplain Administration Private Development Site, Grading, Storm Water & Utility Review	RSWC Main Contact Respond to Residents RE: Storm Water Issues Development Plan Review Compiles Annual Report

Table C-1. Provisions of Loveland Storm Water Management Code (Chapter 925)

Sect.	Title	Description	Minimum Control Measure					
			1	2	3	4	5	6
925.03	Organization of the Utility	Delegates Management responsibility. Describes Storm Water Management Commission		X				X
925.04	Storm Water Facilities	Describes facilities under utility responsibility.				X	X	
925.05	Erosion, Siltation and Sedimentation	Describes utility responsibility for sediment and erosion control.				X	X	
925.07	Private Facilities	Assigns utility responsibilities for certain private storm water facilities. Allows private/public partnership to solve storm water problems.		X				X
925.10	Routine and Remedial Maintenance	Describes utility O&M responsibilities for public facilities.						X
925.12	Rules and Regulations	Commission may pass rules and regulations to implement the goals of this ordinance including: inspection, design standards, facility operations, enforcement, service charges. City engineer will develop, interpret and enforce provisions for storm water infrastructures.		X	X	X	X	X
925.13	Right of Entry, Examination and Maintenance	Describes city's inspection authority.		X	X			X
51.14	Planning and Management	Describes authority to conduct planning and management for storm water facilities including maps or reports of infrastructure	X		X		X	X
51.15	Storm water Management System	Describes requirements of storm water system.				X	X	
51.16	Performance Principles and Standards	Principles for minimizing erosion and sedimentation.				X	X	
51.17-925.18	Permit	Permit application requirements for land-disturbing activities.				X	X	
925.19	Plan Submission Requirements	Plans for land development and building including drainage and grading plans.				X	X	
925.20	Plan Review and Approval Procedures	Describes management responsibilities for plan review.				X	X	
925.21	Inspections	Description and rules for inspections.	X		X			
925.22	Fees and Bonds	Describes assurances for land developers.	X			X	X	
925.23	Revocation of Permit	Describes enforcement for permitted construction.			X	X		

Table C-1. Provisions of Loveland Storm Water Management Code (Chapter 925)

Sect.	Title	Description	Minimum Control Measure					
			1	2	3	4	5	6
925.24-925.30	Funding	Describes source and implementation for funding the storm water utility. Fee structure. Fee calculations. Enforcement.	X	X	X	X	X	X
925.31	Notice to Correct Improper Drainage	Enforcement for improper drainage.			X	X	X	
925.34-925.35	Variances and Appeals	Describes appeals process.			X	X	X	

Table C-2. Existing City of Loveland Ordinance Provisions Addressing Minimum Control Measures

Sect.	Ordinance	New	Extant	Applicable Minimum Control
926	Construction and Post-Construction Best Management Practices for Storm Water Management		X	Construction & Post-Construction
927	Sewer Service		X	Illicit discharge, Pollution prevention
928	Illicit Discharge and Illegal Connection Control		X	Illicit discharge, Pollution prevention
929	Industrial Waste Disposal		X	Illicit discharge, Pollution prevention
953	Waste Collection		X	Illicit discharge, Pollution prevention