

Final Draft
03-06-03
Revised
02-08-05

**PHASE II
STORM WATER MANAGEMENT PLAN**

Deerfield Township, Warren County
3378 Townsley Drive
Deerfield Township, OH 45140-1045
Telephone: (513) 683-5805
Fax: (513) 683-9271

Section A. Executive Summary.

Deerfield Township, Warren County, Ohio is required to submit a storm water management plan (SWMP) in accordance with 40 CFR Part 122.32 and Ohio law. This document outlines the steps Deerfield Township needs to take to develop, implement and enforce a storm water management program designed to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act (CWA) in accordance with the Ohio EPA Phase II Program. This SWMP addresses the six (6) minimum control members as required by state and federal regulations. The Notice of Intent (NOI) and this SWMP were submitted on or before March 10, 2003.

Section B. Legal Authority.

The Township's legal counsel has advised that Ohio townships lack the legal authority to implement various aspects of the six (6) minimum control measures. Consequently, the Township is incapable of fully satisfying the Phase II requirements without the assistance of other entities. One such entity will be a storm sewer district to be formed under Chapter 6119 of the Ohio Revised Code in 2003 or 2004. As you will see in the remainder of this Plan, that district shall be the primary entity implementing much of the following SWMP. The Township's legal counsel will also provide a letter opining on the lack of township authority with respect to Phase II SWMP requirements.

The Deerfield Regional Storm Water District was formed at the end of 2003 and the Board convened in March of 2004.

1. Permanent Coverage Area.

The storm water management plan covers all properties owned by the Deerfield Township Board of Trustees or maintained by Deerfield Township and that lie within an "Urbanized Area" as defined by the U.S. Census Bureau. In general, this includes all legal road rights of way maintained by the Township and all Township owned facilities. A map of the affected road rights of way and a listing of the affected facilities are attached as Appendix A.

2. Reporting Requirements.

Deerfield Township will submit its required report annually during the first term of the permit cycle. The report will include the status of compliance with the permit conditions, and assessment of the appropriateness of the BMPs and progress toward achieving the measurable goals for each of the six (6) minimum

control measures. A summary of the activities Deerfield Township will undertake during the reporting cycle and any changes to BMPs or measurable goals and all relevant data (monitoring) obtained during the reporting period.

Section C. Storm Water Management Plan.

The Plan outlines the six (6) minimum control measures which are expected to result in reductions in pollutants discharged in Deerfield Township, Ohio. The six (6) minimum control measures will address the water quality pollutants that are identified during the planning process. Each minimum control measure will have four (4) stages: planning, programming, implementation, and maintenance. During the planning stage, water quality pollutants will be identified, BMPs will be selected and programs and program materials will be developed. During the Programming Stage, the programs developed during the Planning Stage will be scheduled. Finally, the programs will be implemented and once they are fully implemented, maintenance procedures will be adopted.

The six (6) minimum controls are:

- (1) Public education/outreach;
- (2) Public participation/involvement;
- (3) Illicit discharge detection/elimination;
- (4) Construction site runoff control;
- (5) Post construction runoff control;
- (6) Pollution prevention/good housekeeping.

1. Public Education and Outreach.

Deerfield Township, through the storm sewer district, will work in cooperation with the Warren County Soil and Water Conservation District (WCSWCD), with the district staff serving as the lead agency on this minimum control measure (MCM). The Township has no major industrial or manufacturing sources of pollution. Therefore, the District will focus on educating the public on construction and residential runoff. The District will work with the Warren County Engineer (WCE) and the WCSWCD who are the authorized review agencies to monitor construction activities. To address residential issues, the District will work with the WCSWCD on education in the schools and storm drain stenciling. The District will also provide signage and make information available to the public. A survey of residents will be used in years three, four, and five to gauge the rise in public awareness.

Minimum Measure Objective. Implement a public education and outreach program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges and steps the public can take to reduce pollutants in runoff.

BMP: Storm water information distribution to the general public.

Measurable Goal. The district will secure brochures and/or fax sheets from Ohio EPA and USEPA and possibly develop its own newsletter or fact sheet to distribute to all residents of the Township throughout the five (5) year implementation. The Township will try to ensure that each resident receives at least one (1) publication. Additional distribution will be dictated by budget availability.

BMP: Develop alternative information sources such as websites, billboards, and refrigerator magnets.

Measurable Goal. Either the Township website or the new district's website will include storm water information and will be posted within one (1) year after the formation of the district. The district, Township and WCSWCD will develop refrigerator magnets and place billboard advertisements as budget availability dictates.

BMP: Conduct storm drain stenciling, tagging project with accompanying doorhangers for residents.

Measurable Goal. The district, Township and WCSWCD will develop drain stenciling or tagging to place on every storm sewer within the Township by the end of the permit term. As those storm drain stenciling and tags are installed, neighboring residents will also receive doorhangers providing information about storm water runoff as budget availability dictates.

BMP: Stormwater education program for school children.

Measurable Goal. Fifty percent (50%) of all school children (K-12) within Deerfield Township will be educated every two (2) years on storm water pollution by providing the schools with materials, live presentations, brochures, and other appropriate and feasible media as budget availability dictates.

BMP: Organize school/community sponsored action projects such as stream cleanup, riparian tree planting, stream bank stabilization.

Measurable Goal. The district, Township and WCSWCD will organize one (1) action project per year to cleanup various streams within the Township. They will also organize one riparian tree planting and stream bank stabilization project twice during the five (5) year permit term.

BMP: Create a storm water hotline.

Measurable Goal. If funding permits, the three (3) entities will create a storm water hotline for residents to call and report any storm water pollution violations. This number may be a separate number or may simply be a direct line to the Township, district or WCSWCD offices.

BMP: Develop watershed/tributary signage to identify streams.

Measurable Goal. The district, Township, and WCSWCD will develop signage to be placed at strategic locations along all tributaries throughout the Township. This effort will be completed by the end of the five (5) year permit term as budget availability dictates.

2. Public Participation/Involvement.

Deerfield Township, in cooperation with the new storm sewer district, and the WCSWCD staff will be the primary entities implementing this MCM. To evaluate the success of this MCM, the District will track the number of residents attending public meetings and participating in the programs. The District will also ask participants to complete survey cards.

Minimum Measure Objective. Involve stake holder groups, including local governments, businesses, and citizens, in making decisions about storm water management priorities and programs.

BMP: Conduct public meetings to obtain community input.

Measurable Goal. The district, Township, and WCSWCD will hold one (1) public meeting in 2003 and one (1) meeting in 2004 to inform citizens about storm water impacts and gain support for the proposed storm water management plan. These meetings will both educate the public and provide a forum for public input.

BMP: Creation of “adopt a storm drain program”, and “adopt a stream” within the Township.

Measurable Goal. The Township will work with community groups to adopt as many storm drains within the Township as possible to help clear debris from the drain entrances and report any illicit discharge. The program will be tailored to allow participation from any group or organization within the Township. By adopting the stream, the adopter will clean up, monitor, and inspect their portion of the stream through guidelines adopted at a later date. The program and activities will be publicized through the various items distributed in the public education and outreach minimum control measure and will also be partnered with the local schools to perform various functions including water quality testing.

3. Illicit Discharge Detection And Elimination.

The Township, to the extent permitted by law, and district will be the lead agencies for this minimum control measure. Significant assistance from the Warren County GIS, the Warren County Board of Health, and the Warren County Engineer’s Office in the preparation of intelligent mapping is anticipated. The Township itself has no authority to regulate illicit discharges. However, when the Township storm sewer district is established, the district will coordinate regulations with the Warren County Board of Health. The District will meet annually with the Warren County Board of Health, which is the regulatory agency for illicit discharges in the Township, to monitor and understand changes in their rules and regulations and assist them in monitoring problems and tracking complaints. The District will develop a system with the Warren County Health Department to track complaints through logs and annual reports from WCHD.

Minimum Measure Objective. Develop a comprehensive map of the storm drain system, establish and carry out procedures to identify and remove illicit discharges, establish legal authority for enforcement actions, and encourage public education and involvement in eliminating illicit discharges. (Illicit discharges are defined as any discharge not entirely composed of storm water and are considered “illicit” because MS4s are not designed to accept, process, or discharge such non-storm water waste.)

BMP: Create a map of the home sewage treatment systems.

Measurable Goal. Within the five (5) year permit term, the Township and the district will work with Warren County GIS to create a map of the home sewage treatment systems. An associated database containing the owner's name and address as well as other information about the HSTS will be connected to the map by Warren County GIS. The District will complete the mapping on the following schedule: 2005 – 30%, 2006 – 35%, 2007 – 35%. After this mapping is complete, the District will be better able to identify problems with older sanitary sewer lines and will work with the Warren County Health Department on a case by case basis to correct these problems.

BMP: Identify illicit connections through dry weather screening and targeted video inspection.

Measurable Goal. A survey during dry weather of the twenty percent (20%) of the storm drain system outfalls per year will be conducted to identify non storm water flows. Once each year's survey is complete, areas with suspicious discharges will be inspected again to detect suspected direct connections to the wastewater system and identify areas where wastewater might be leaking into adjacent storm water pipes. In 2005 the District will meet with the Warren County Health Department to discuss this screening.

BMP: Develop a storm drain system map.

Measurable Goal. Within the five (5) year permit term, the Township and the district will work with the Warren County Engineer's Office to develop a storm drain system map showing the location of all pipes, structures, outfalls, detention basins, and the names and locations of all surface waters of the state within the Township. The Township and the district will also develop and prioritize a list of outfalls that discharge into the Deerfield Township MS4, based on the degree of development and/or other determining factors. The District will complete this goal on the following schedule: 2005 – 30%, 2006 – 35%, 2007 – 35%.

BMP: Illicit discharge/illegal dumping hotline.

Measurable Goal. A hotline for citizens to report illegal dumping and suspicious discharges will be established during the five (5) year permit term if funds are available. If no independent hotline is established,

residents will be educated through the various publications and outreach materials of the need to report illicit discharges and the appropriate district or township phone number to call to report such discharges.

4. Construction Site Runoff Control.

The Warren County Soil and Water Conservation District will be the lead agency for this minimum control measure. Significant assistance from the Warren County Engineer's Office (WCEO) is also anticipated.

Minimum Measure Objective. Develop, implement, and enforce a program to reduce pollutants in storm water runoff to the small MS4 from construction activities that result in a land disturbance of one (1) or more acres.

BMP: The WCSWCD currently administers construction site runoff control within Deerfield Township for projects involving areas of disturbances of five (5) acres or greater in size. A copy of the current regulations can be found in Appendix B. After the storm sewer district is formed, that district will adopt similar regulations for all projects disturbing one (1) acre or more within the Township.

Measurable Goal. Draft regulatory guidelines will be developed within one (1) year after the formation of the proposed storm sewer district. Final regulations will be available within two (2) years after the establishment of the district. In any event, these regulatory mechanisms will require the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites. These procedures will also include site plan review of construction plans that consider potential water quality impacts; procedures for site inspection and enforcement of control measures; sanctions to ensure compliance; and procedures for the receipt and consideration of information submitted by the public. Maximum compliance with the ordinance should be achieved after three (3) years. Improved clarity and reduced sedimentation of local water bodies should be measurable.

BMP: Develop a certification program for contractors.

Measurable Goal. Achieve eighty percent (80%) compliance with the requirements by the end of the first permit term.

5. Post Construction Runoff Control.

Deerfield Township, to the extent permitted by law, and the district will cooperate with the WCEO to be the lead agencies for this minimum control measure.

Minimum Control Objective. Develop, implement, and enforce a program to address storm water runoff from new development and re-development projects that disturb one (1) or more acres of land. By 2007 Warren County regulations will require as-built documentation that a site is constructed as designed for parcels one acre or more. They will also be requiring BMPs for post construction storm water management. Deerfield Township will be covered by these regulations. The Warren County Soil and Water Conservation Department also monitors streams within the Township. Volunteer groups also test the Little Miami River and Landen Lake periodically.

BMP: Continue to administer, in cooperation with the WCEO, the "post development runoff management" program through the existing "Warren County, Ohio Rules and Regulations for the design of sewer and storm water management systems". (See Appendix C)

Measurable Goal. The WCEO Rules and Regulations will be immediately implemented within the Township. The newly developed district and township will work with the engineer's office to modify those rules in any way, including expansion of the Rules and Regulations, to ensure adequate long term operation and maintenance of the controls.

BMP: Develop master plans, comprehensive plans, and integrated zoning ordinances to promote and improve water quality by guiding the growth of the community away from sensitive areas and restricting certain types of growth to areas that can support it without compromising water quality.

Measurable Goal. By the end of the five (5) year permit term, a master plan would be developed to direct development away from sensitive areas and which integrates post construction runoff regulations.

6. Pollution Prevention/Good Housekeeping.

The district, working with the Township, will be the lead agency on this minimum control measure. The Township does not own or operate any facility subject to Ohio EPA Industrial Storm Water Permit.

Minimum Measure Objective. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing pollutant runoff from municipal operations.

BMP: Training program for public employees of the Township.

Measurable Goals. Within the first year of the permit, all Township and district employees will receive pollution prevention materials. Within the first year, the district, working in conjunction with the Township, will develop a pollution prevent workshop for all Township employees responsible for grounds maintenance and landscaping at public facilities. Each year after that, the district and Township will hold an additional workshop once per year for new employees and crew managers. By the end of the five (5) year permit term, the goal is to achieve a reduction in fertilizer and pesticide use by the Township, as budget availability dictates.

BMP: Develop a pollution prevention plan within the first year of the permit term.

Measurable Goals. The district, working with the Township, will develop a Pollution Prevention Plan which details controls and programs to promote recycling, minimize pesticide use, insure the proper disposal of animal waste, storm drain system cleaning procedures and schedules, street sweeping, etc. This plan should be completed within the first year and fully implemented within the third year of the permit term.

BMP: Develop spill prevention and control plans for Township facilities.

Measurable Goals. The Township will develop a plan to reduce spill prevention, including spill containment, spill response training and additional training to reduce pollution from Township facilities resulting from automobile maintenance, vehicle washing, and other pollution causing activities.

BMP: Incorporate the use of road salt storage control and implement road salt alternatives for roadway de-icing.

Measurable Goals. Within the first year, the Township will develop a program to improve salt storage controls, including siting and design considerations. The Township will also investigate the feasibility of less toxic alternatives for roadway de-icing. The implementation of these alternative de-icing mechanisms will be somewhat dependent on budget considerations.

Section D. The Deerfield Township Storm Sewer District.

As you will see from the accompanying letter from our attorney, Deerfield Township (and other townships in the state of Ohio) lack legal authority under the Ohio Revised Code to fully perform all functions necessary to implement a storm water management plan. Consequently, Deerfield Township has embarked upon the formation of a storm sewer district under Chapter 6119 of the Ohio Revised Code. This district will have the authority to implement those aspects of the above plan that the Township itself was not able to implement. At the time of the preparation of this plan, the formation of said storm sewer district appeared to have no organized opposition. Consequently, the formation of said district is likely. Nevertheless, in the event that some opposition or some other factor would prevent the formation of the said district, the Township would be placed in a position of inability to comply with all aspects of this storm water management plan, and thus an inability to fully comply with all Phase II requirements. In the event the district is not formed, this plan will require significant modification at some future date. Those modifications will need to seek assistance from other entities capable of assisting the Township with the implementation of the plan. Of course, if the Ohio Revised Code is amended to supply townships with specific and sufficient authority to comply with Phase II requirements, the Township would be in a position to be able to comply. While the formation of the storm sewer district is likely, the amendment of the Ohio Revised Code is certainly unknown at this time.

Section E. Certification.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel, properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, information submitted is, to the best of my knowledge, true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment for known violations.

Deerfield Administrator

Table of Contents

Section A.	Executive Summary	1
Section B.	Legal Authority	1
	1. Permanent Coverage Area.....	1
	2. Reporting Requirements.....	1
Section C.	Storm Water Management Plan	2
	1. Public Education and Outreach	2
	2. Public Participation/Involvement	4
	3. Illicit Discharge Detection and Elimination	5
	4. Construction Site Runoff Control	6
	5. Post Construction Runoff Control	7
	6. Pollution Prevention/Good Housekeeping	8
Section D.	The Deerfield Township Storm Sewer District	9
Section E.	Certification	10