

City of Monroe					
Storm Water Management Plan					
Commitments to actions for 2010 through 2014					
Public Education Plan					
Topic	Implementation BMP (Message and Target Audience)	Timeframe	Measurable Goal	Record Keeping	Responsible Party (in-house use only)
Educate the public on hazards associated with illicit discharges and improper disposal of waste	Educate the Public on a variety of storm water issues	Completed, continue in perpetuity	Preparation of Home Owner's Handbook, posted at City Hall at Assessor's office when a property is transferred, at Building Department when a property has its rental inspection every 3 years, and at the Water Department for regular distribution. Also available on partner web sites.	Handbook updated periodically as needed	Engineering
	Perpetuate usage of the Monroe Metropolitan Wastewater Treatment facility Hotline for reporting of illicit discharges and other potentially hazardous conditions	Completed, continue in perpetuity	Compile number of calls each year, ensure all complaints are addressed and / or closed if no action needed/possible	Complaint form filled out and retained	Wastewater staff, Engineering
	Educate the Public on common illicit discharges	Completed, continue in perpetuity	Posting of various documents at City Hall, Drain Commissioner's office, on web pages, including SEMCOG "7 simple steps"	Brochures available in listed locations	Engineering
	Promote proper yard waste disposal through waste collection contract	Completed, continue in perpetuity	Provide yard waste collection as a part of City's weekly refuse contract (39 weeks each year April-December)	Tonnage reports to determine usage, budget to allow collection within City's refuse millage	Public Services, refuse contractor
	Educate public on health of River Raisin in general	Ongoing	Prepare presentations to City Council, other area groups, post on City's web page, cable channel, etc. Presentation will be made once per year to the City Council, and all presentations will be placed on the City's web page once given.	Presentations in listed locations	Drain Commissioner, Commission on the Environment, others
Stewardship and Water bodies potentially impacted	Establish City of Monroe Commission on the Environment, include area citizens with interest	Annual	Continuing appointments to Commission, promote activities through local media, City Council, etc. Annually support Earth Day, staff booth, any other activities that are appropriate.	Minutes prepared of each meeting, committee can authorize activities on behalf of City Council or route for approval as needed	City Staff liaison and other departments as appropriate
Sanitary and Pet Waste (Septic System Maintenance N/A - City has ordinance requiring connection to public sanitary system)	Prepare presentation "Dispose of Pet Waste Properly"	Completed, continue in perpetuity	Run continuously on City's cable channel, post on web site	PowerPoint in listed locations	Engineering
	Post signage at high-traffic locations such as City parks, non-motorized pathways, particularly along the River Raisin, reminding pet owners to clean up after pets.	Completed, continue in perpetuity	Maintain and add signage as necessary at Munson Park, Veterans' Park, St. Mary's Park, inventory at least twice each year to ensure they are still posted.	Copies of sign inspection logs	Public Services
	Provide pet waste disposal areas, trash cans, etc. in high traffic areas.	Completed, continue in perpetuity	Maintain and add disposal locations as necessary at Munson Park, Veterans' Park, St. Mary's Park, inventory at least twice each year to ensure they are still in good repair.	Copies of container inspection logs	Public Services
Collection, disposal, managing HHW, etc	Hold household hazardous waste collection days	Ongoing, 2 times per year, program coordinated through Solid Waste Division.	Partner with Monroe County Health Department, Solid Waste Division, who hosts these events, track number of City residents utilizing these services	Retain copies of advertisements, track participation from year to year (with assistance from Solid Waste Division)	Monroe County Health Department
	Prepare presentation "Proper Disposal of Vehicle Liquids" for homeowners	Completed, continue in perpetuity	Run continuously on City's cable channel, post on web site	PowerPoint in listed locations	Engineering

Managing Pesticides and Fertilizers	Prepare presentation "Have Your Soil Tested Before Fertilizing"	Completed, continue in perpetuity	Run continuously on City's cable channel, post on web site	PowerPoint in listed locations	Engineering
	Provide further information on proper lawn care	Annual	Prepare informational brochures, provide to various governmental entities and send to homeowners as a part of annual mailing.	Brochures posted at City Hall, Drain Commissioner's Office, MSU Extension office	MSU Extension Service
Commercial, Industrial, Institutional Education on storm water impacts	Commercial and Industrial Businesses	By April 2013	Develop educational brochure for commercial businesses, tailored to specific types of businesses (restaurants, car washes, others, etc.), distribute once per year.	Copies of brochures at City Hall, Drain Commissioner's Office, others	Engineering, others as appropriate
	Institutional entities	Once annually	Conduct annual River Raisin cleanup with area Boy Scouts	Copies of advertisements, log of items collected.	Drain Commissioner
		Twice annually	Conduct "Stream Search" program in conjunction with local schools and other groups	Copies of advertisements	Drain Commissioner
Public Education Plan (Continued)					
Topic	Implementation BMP (Message and Target Audience)	Timeframe	Measurable Goal	Record Keeping	Responsible Party (in-house use only)
Educate the public on car washing	Prepare presentation "Wash Your Car on the Lawn"	Completed, continue in perpetuity	Run continuously on City's cable channel, post on web site	PowerPoint in listed locations	Engineering
Educate riparian land owners	Promote use of Rain Gardens and native vegetation along River Raisin, other natural channels	Install one rain garden by December 31, 2011, others by December 31, 2013	Sample rain garden at Drain Commissioner's office, develop others by willing private developers as a part of the site plan review process. Develop 3 rain gardens at City facilities by date listed.	Copy of design plans and O&M, pictures on file.	Engineering, Building
	Allow for native vegetation and rain gardens to be exempted from weed and grass mowing ordinances .	By 2013, sooner if possible	Amend ordinances so as not to require City to effectuate mowing of these facilities when used for bank protection and storm water quality / quantity purposes	Insertion of new ordinance into City's Codification Book	Engineering, Clerk, Attorney's Office
Water Conservation Measures	Prepare literature on general water conservation tips	Annual	Provide brochures at City Water Department, other locations, post on web site and on cable channel. Annual mailing with utility bills.	Brochures posted at City Hall, other locations, audit information available on web page	Water Department
	Prepare presentation "Do Not Over Water Your Lawns" and "Capture and Reuse Rainfall"	Completed, continue in perpetuity	Run continuously on City's cable channel, post on web site, annual mailing to home owners with utility bills.	PowerPoint in listed locations	Engineering
	Provide sample water conservation kits, including low-flow shower heads, etc.	Completed, secure more if interest is high	Provide kits for samples at City Water Department	Change in usage tracked in Utility Billing software	Water Department

Benefits of native vegetation / species	Solicit grants for permanent removal / modification of 6 low-head dams to better fish passage for River Raisin	Grant secured for first 2-4 dams in May 2010	Carry out terms of grants when monies available	Future sampling of fish species in upstream locations	Drain Commissioner
	Solicit grants for modification / replacement of Waterloo Dam fish ladder to provide better fish passage for River Raisin	First application filed January 2010	Carry out terms of grants when monies available	Future sampling of fish species in upstream locations	Drain Commissioner

Public Involvement & Participation Plan

Objective	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party
Public notice of SWMP	Place updated SWMP on various public outlets, including listing of web link on City's cable channel, web page, and in hard copy form at City Hall.	July 31, 2010	Document placed in various locations for review	Spreadsheet and cover letter, attach certificate of coverage	Engineering
	Circulate updated SWMP to City Commission on Environment, Drain Commissioner's Office, adjacent governmental units for review	By March 31, 2010	Sign Off from listed agencies	Spreadsheet and cover letter, attach certificate of coverage	Engineering
Citizen Advisory Committee (CAC)	Continue to involve the City's Commission on the Environment, which regularly solicits public involvement and advertises upcoming events consistent with SWMP. Majority of commission members are City residents.	Ongoing - monthly meetings	Post notices of meeting on City web site and in Monroe Evening News, other locations depending on events	Meeting notices and minutes.	Clerk's Office, Engineering, Water Department, others
Cooperation with local watershed protection group	Encourage partnerships with River Raisin Watershed Council, Local Public Advisory Council, other interested ad hoc groups.	Ongoing	Forward SWMP to River Raisin Watershed Council, PAC for comments, adopt recommendations as appropriate and feasible	Copies of correspondence sent and received	Engineering

Illicit Discharge Elimination Program (IDEP)

Topic	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party (in-house use only)
Prohibit illicit discharges through regulation (this should already be done from last permit cycle)	Regulate the contribution of pollutants and prevent dumping to all storm sewers within City of Monroe's jurisdiction. Require and enforce the elimination of any new illicit discharges that are found in the future.	Completed, ongoing in perpetuity	All original goals met during last permit cycle (most ordinances that allow City to deal with these situations were present prior to last permit cycle).	Continue to keep log of all complaint forms, correspondence, enforcement documentation, etc.	Engineering
	Investigate complaints as reported by internal staff or outside citizens, provide for civil fines or criminal penalties as appropriate based on situation.				
A program to find and eliminate illicit connections and discharges	Preparation of revised storm sewer / outfall map	February 1, 2011, sooner if possible	Completed GIS mapping system with all discharge points, receiving waters, facilities, controls listed as appropriate	Permanent layer in GIS	Engineering to prepare, Public Services to verify
	Regularly clean outfalls, prioritization on those outletting to River Raisin	Ongoing, completed last time in 2007, some work done in 2009	Cleaning logs, goal is 25% each year, south side of River Raisin completed in 2009, along with Plum Creek outlets	Log of maintenance activities	Public Services
	Perform dry weather sampling (screening) of discharge points to ensure no illicit discharges are present.	Ongoing, most work completed last in 2007	Sampling logs, goal is 25% each year during dry weather	Log of sampling	Public Services to sample, Wastewater to test
	Establish emergency procedures for spills occurring after hours	Decemebr 31, 2010	Monroe Fire Department to handle first response to hazardous materials	Copy of policy, log of responses made	Fire, Engineering

Environmental or Complaint Response	Maintain existing illicit discharge hotline established at Monroe Metropolitan Wastewater Treatment Plant	Ongoing	Compile number of calls each year, ensure all complaints are addressed and / or closed if no action needed/possible	Complaint form filled out and retained for City of Monroe plus townships in service area	Wastewater staff, Engineering
Staff Training	Develop and implement formal training program for existing employees, new hires within all City departments	Development by June 30, 2010, relevant City employees to be trained by December 31, 2010 with first emphasis on employees most active in this type of work	Development of written policies and procedures	Original policy maintained by Engineering, copies of training materials and sign-in sheet for each session.	Engineering Department
Overall Effectiveness of IDEP	Eliminate all obvious sources of illicit discharges and terminate connections as soon as possible	Ongoing, as found	All field staff trained and knowledgeable of IDEP issues	Log of inspection / eliminated connections	Engineering, Wastewater
	Identify main pollutants of concern	Ongoing, as found	Prepare estimation of pollutants removed from system	Summary form, submit with progress reports	Engineering, Wastewater

Post Construction Controls for Development and Re-development

Topic	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party (in-house use only)
Regulate Post Construction Controls at new development sites and re-development sites	Adopt minimum treatment volume standard and channel protection criteria for sites over 1 acre	Completed November 2, 2009	Adoption of Ordinance by City Council (Completed)	Insertion of new ordinance into City's Codification Book	Engineering, Clerk, Attorney's Office
	Adopt operation and maintenance requirements for above controls on required sites			Original policy maintained by Engineering, administered by site plan review departments	Engineering, Building
	Establish penalties for violation of minimum treatment volume standard and channel protection			Insertion of new ordinance into City's Codification Book	Engineering, Clerk, Attorney's Office
	Develop written policy for site plan review of sites greater than 1 acre	June 30, 2010	Signed policy issued by Engineering Department, in conformance with approved ordinance	Original policy maintained by Engineering, administered by site plan review departments	Engineering, Planning, Building
	Develop inspection policy and standards to ensure required post-construction controls installed as required				Engineering, Building
	Develop and implement enforcement policies for failure to properly maintain operation and maintenance features				Engineering, Building
	Consider policies to extend requirements to sites smaller than 1 acre under certain conditions.	As soon as possible, if politically viable	Amendment to original policy to include smaller sites (may or may not need or desire to amend ordinance)	Original policy maintained by Engineering, administered by site plan review departments	Engineering, Building
Post Construction O&M	All property owned by the City of Monroe will adhere to the minimum treatment volume standards and channel protection criteria when undergoing development or redevelopment of an area greater than 1 acre	Implementation current, written policy by December 31, 2010	Signed policy issued by Engineering Department	Original policy maintained by Engineering, administered by all departments responsible for City facilities, records of inspections and O&M activities, as well as enforcement if it is needed.	Engineering, Public Services, Building, Fire, Police
	All property owned by the City of Monroe will adhere to the operation and maintenance standards, and shall have a written plan to complete necessary tasks to ensure their performance				

Construction Storm Water Runoff Control					
Topic	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party
Provide notice to the SESC agency and DNRE when pollutants are discharged from construction activity	Provide inspections of construction sites for regular compliance with terms of SESC agency permits (Monroe County Drain Commissioner's Office). City record of any discharges other than violations of SESC permit.	Ongoing, regular, frequency varies based on type of work, but minimum of two inspections will occur on even the smallest of projects	Inspect all sites at least monthly	Inspection reports (tracked in BS & A software if by Building, on infrastructure report if by Engineering)	Engineering for utility or other right-of-way projects, Building for others
Complaint Process	Provide tracking mechanism for outside complaints	Complete, ongoing	Respond to all complaints within 24 hours, faster if situation warrants due to imminently hazardous condition (fire department will respond).	City Action Line (automated complaint system) to be available for 24/7 recording	
Review and approval of preliminary site plans	Develop and implement policy for site plan review and approval to meet Part 91 standards	Complete, ongoing	Site plans reviewed for this criteria by Building Department, including residential sites not subject to multi-department site plan review by Zoning code	Record of corrective action, violations to be noted in BS & A if by Building, infrastructure record if by Engineering	Engineering for utility or other right-of-way projects, Building for others
	Develop and implement enforcement procedures if SESC controls are not constructed and maintained as required		Enforcement staff to stop work or direct corrective action as needed, establish fines and penalties when appropriate		
Pollution Prevention / Good Housekeeping for Municipal Operations					
Topic	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party (in-house use only)
Employee / Contractor Training	Develop detailed list of training topics, requirements for each type of contractor (i.e., underground contractor vs. surface construction, sidewalks, etc.)	By June 30, 2010	Development of written policies and procedures	Original policy maintained by Engineering	Engineering Department, will likely utilize MDNRE permit coordinator to facilitate training program initially
	Develop and implement formal training program for all existing employees within all City departments.	All City employees in Public Services, Water, Wastewater to be trained by December 31, 2010 with first emphasis on employees most active in this type of work, all other employees to be trained by June 30, 2011.	Development of written policies and procedures	Original policy maintained by Engineering, records on the various types of trainings, materials, sign in sheets, etc.	
	Develop and implement formal training program for Contractors on all City projects with measurable impact on storm water runoff or structures	Development by June 30, 2010, all contractors trained starting this date, requirement placed in all 2010 contract documents	Development of written policies and procedures, insertion into contract bid documents	Original policy maintained by Engineering	
Structural Storm Water Control Effectiveness	Detailed list of municipal properties and structural controls at those properties. The required summary list is attached to this SWMP as an appendix.	February 1, 2011	Submitted as a part of the First Progress report	Spreadsheet for relevant items, along with Aerial photos and GIS output, updated regularly and reprinted annually or more often as needed. Database for keeping track of inspections and O&M for the City's controls.	Engineering
	Develop a schedule for inspections, and O&M for all structural controls	February 1, 2011	Inspection schedule developed and added to the SWMP. Relevant elements to be added to the City GIS program		
	New Facilities and SW Controls	Ongoing	Continued application of City's approved Post Construction Controls ordinance		

Waste Management from O&M	Properly handle generated waste and store appropriately	December 31, 2010	Development of written policies and procedures	Original policy maintained by Engineering	
	Develop procedures for proper handling and disposal of waste	December 31, 2010	Development of written policies and procedures		
Management of Vegetated Properties owned or responsibility of Permittee	Adopt fertilizer / pesticide policy for City facilities	December 31, 2010	Development of written policies and procedures, in rare cases where phosphorus is used, test on regular schedule	Original policy maintained by Engineering	Engineering, Public Services
	Training for employees and contractors regarding storage, handling, and use of pesticides, herbicides, and fertilizers	December 31, 2010	Development of written policies and procedures	Original policy maintained by Engineering, material data sheets, sign in sheets for training, etc.	
	Develop a program to minimize SW impacts from vegetated properties	December 31, 2010	Development of written policies and procedures	Original policy maintained by Engineering	
Fleet Maintenance and Storage Yard/Facilities	Certified Operator	Completed	Public Services Superintendent and Fleet Supervisor has passed exam in 2009	Copy of certifications	Engineering, Public Services
	SWPPP developed for Public Services facility	December 31, 2010	Cleaning and investigations of all storm lines completed, formal plan to be prepared. Determine if additional facilities require plan, if so, prepare by same date.	Written plan, inspection checklist, and map with aerial photo	
	Inspection, O&M Schedules for all permittee owned vehicles and equipment	Ongoing	Preventative maintenance schedules have been established for all equipment, inspections undertaken on scheduled maintenance and any other suspicion of problems	Original policy maintained by Fleet Manager	
	Refuse management	June 30, 2010	Cover outside dumpsters, remove all refuse from areas where it could contaminate storm water. Construct permanent structure at DPS facility.	Completion of construction, original policy maintained by Engineering	
Parking Lots, Roadways, Bridges owned by Permittee	BMPs to reduce pollutant discharges (requirement from last permit) -- including dust and SS from unpaved roads and parking lots	Ongoing	Continue existing programs for catch basin and storm sewer cleaning, street sweeping	Copy of schedule, summary of waste collected, reports of salt usage	Engineering, Public Services
	Proper salt storage and management	Ongoing	Continue proper storage of salt (inside enclosed building)	Inspection reports as needed	
	Reduce TSS runoff from paved surfaces to the MEP with a goal of 25% reduction	February 1, 2011	Review current controls and calculate TSS load reductions with and without controls	Final report on TSS reduction vs. no action	
		February 1, 2013	Identify needs to reduce TSS runoff by 25% minimum	Report of necessary changes	