Storm Water Management Plan

Permittee: Riverdale City

Permit Number: UTR090019

Location of MS4: Weber County, Utah

Submitted with this permit is the following:

A map of the MS4 location
Information Regarding the overall quality concerns, priorities, and measureable goals specific to the Permittee that were considered in the development and/or revisions to the SWMP document
A description of the program elements that will be implemented in each of the six minimum control measures
A description of any modifications to ordinances or long-term/ongoing processes implemented in accordance with the previous MS4 general permit for each of the six minimum control measures
A description of how the Permittee intends to meet the requirements Permit as described in Part 4.0 by either referencing existing program areas that already meet the Permit requirements or a description and relevant measurable goals that include, as appropriate, the year by which the Permittee will achieve required actions, including interim milestones.
If applicable indication of joint submittal of Co-Permittees and the associated responsibility in meeting requirements of the SWMP

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 manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations"

Authorized Signature

30 Aug 2011
Date

RIVERDALE CITY

STORM WATER

MANAGEMENT PROGRAM

Originally Prepared: August 2004
Revised: September 2006
New Permit Update (Major Revisions): August, 2011

Major Revisions by: J-U-B ENGINEERS, Inc.

INTRODUCTION

Polluted storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. EPA's Storm Water Phase II Rule establishes an MS4 storm water management program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that are introduced into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, roadway salts and deicing materials, pesticides and fertilizers from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging use of the resource, contaminating water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s. The Storm Water Phase II Rule extends coverage of the NPDES storm water program to certain "small" MS4s but takes a slightly different approach to how the storm water management program is developed and implemented.

In the State of Utah, the EPA has granted primacy to the State of Utah to oversee and manage the storm water program. The State has adopted the Utah Pollutant Discharge Elimination System (UPDES) for that purpose. Riverdale City has prepared this Storm Water Management Program (SWMP) to meet the requirements of the UPDES Storm Water Discharge Permit for Small MS4s.

Storm Water Management Program

A Storm Water Management Program should:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality;
- Satisfy the appropriate water quality requirements of the Clean Water Act; and
- Be phased in over a five year period.

Storm water management programs must include:

- ✧ Best Management Practices (BMPs) for each of the six minimum control measures;

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

- ✧ Measurable goals for each minimum control measure (i.e., narrative or numeric standards used to gauge program effectiveness);
- ✧ Estimated months and years in which actions to implement each measure will be undertaken, including interim milestones and frequency; and
- ✧ The person or persons responsible for implementing or coordinating the storm water program.

Permit Application and Notice of Intent

Phase II Rule encourages the development of a storm water management program by requiring a Notice of Intent (NOI) describing the storm water management program to be submitted to the NPDES permitting authority. The Notice of Intent becomes the permit application.

Cities required to permit under Phase II are allowed to cooperate and work together with neighboring cities in the application process. The permittee may join with a Phase I city or another Phase II city in applying for a permit. The individual MS4s may share responsibility for program development with neighboring communities and/or take advantage of existing local or state programs.

Permit Requirements

The chosen measurable goals, submitted in the Notice of Intent as a permit application, become the required storm water management program; however, the NPDES permitting authority can require changes in the mix of chosen BMPs and measurable goals if all or some of them are found to be inconsistent with the provisions of the Phase II Final Rule. Likewise, the permittee can change its mix of BMPs if it determines that the program is not as effective as it could be.

Reports

The permit requires that the city review the SWMP annually, report on our activities and make any updates that might be required. The annual reports should use the

form provided by the State. Generally, the annual report should include the following information:

- ✧ The status of compliance with permit conditions, including an assessment of the appropriateness of the selected BMPs and progress toward achieving the selected measurable goals for each minimum measure;
- ✧ Results of any information collected and analyzed, including monitoring data if any;
- ✧ A summary of the storm water activities planned for the next reporting cycle;
- ✧ A change in any identified BMP or measurable goals for any minimum measure; and
- ✧ Notice of relying on another governmental entity to satisfy some of the permit obligations (if applicable).

Record Keeping

Records required by the State must be kept for at least 5 years and made accessible to the public at reasonable times during regular business hours. Records need not be submitted to the State unless the Permittee is requested to do so.

Deadlines

The following deadlines are recognized as part of the program:

Date	Description
February 1, 2012	Post Construction program implemented
February 1, 2012	Construction program implemented
February 1, 2012	IDDE program implemented

Penalties

The NPDES permit that the operator of a regulated small MS4 is required to obtain is federally enforceable, thus subjecting the Permittee to potential enforcement actions and penalties by the NPDES permitting authority if the permittee does not fully comply with application or permit requirements. This federal enforceability also includes the right for interested parties to sue under citizen suit provision (section 405) of CWA.

This document contains a description of the community-specific Storm Water Management Program for Riverdale City. The Program includes the following;

- ✧ Best Management Practices (BMPs) for each of the six minimum control measures;

    1. Public Education and Outreach
    2. Public Participation/Involvement
    3. Illicit Discharge Detection and Elimination
    4. Construction Site Runoff Control
    5. Post-Construction Runoff Control
    6. Pollution Prevention/Good Housekeeping

- ✧ Measurable goals for each minimum control measure (i.e., narrative or numeric standards used to gauge program effectiveness);
- ✧ Estimated months and years in which actions to implement each measure will be undertaken, including interim milestones and frequency; and
- ✧ The person or persons responsible for implementing or coordinating the storm water program.

    This document also contains the following information and documentation in its appendices:

    - ✧ Appendix A – Supplemental Guide to Storm Water Management for Contractors and Developers
    - ✧ Appendix B – Supplemental Guide to Storm Water Management for Public Works Departments
    - ✧ Appendix C – Standard Operating Procedures, Documentation and Elements of the Illicit Discharge Detection and Elimination program
    - ✧ Appendix D – General program documentation including inspection forms, enforcement logs, training logs, annual reports, maintenance records, observation reports, and other general documentation
    - ✧ Appendix E – Copies of the most current city ordinances applicable to stormwater
    - ✧ Appendix F – Copies of State permits and documents regulating the Riverdale City storm water program

- ✧ Appendix G – System maps and inventories

RIVERDALE CITY CHARACTERISTICS

General Information

The Riverdale City Storm Drain System falls under the Public Works Department for the City. The Public Works Director can be contacted at the following address and phone number:

Mr. Shawn Douglas
4600 S. Weber River Dr.
Riverdale, UT 84405
office: (801) 394-5541

Some general information for Riverdale City follows:

Population:	8,426
Size:	4.5 sq. miles
Geographic Description:	Riverdale City is located on the Wasatch Front, on the south end of Weber County. The city is located along the Weber River Valley, with a large portion of the city being located in the bottom of the valley. Elevations in the city generally range between 4400 feet and 4300 feet above mean sea level.
Receiving Waters:	Most of Riverdale drains into the Weber River, which empties into the Great Salt Lake.
Annual Precipitation:	15.83 inches per year
Type of Community:	A major portion of the land use in the community is commercial with residential filling the remainder.
Latitude:	41.18° N
Longitude:	111.99° W

The Riverdale storm water system consists of curb and gutters, inlet boxes, piping, a few typical open channel sections, swales and canals. Most storm water facilities drain through piping directly into the Weber River. The Weber River generally drains from the southeast to the northwest through the city. The city is adjacent to Ogden City, Washington Terrace, South Weber and Roy Cities. There are a few detention basins

that exist within the system. Many of the streets use curb and gutter to collect storm water runoff with the remaining using swales or ditches. Most of the swales and ditches are located in parts of the city that have not yet been fully developed. The city is served by a sanitary sewer system that is treated by the Central Weber Sewer Improvement District. The city has an ordinance requiring any new development within 300 feet of the existing sanitary sewer to connect. There are some existing septic tank systems in the city, but all new developments are required to connect to the public sanitary sewer system.

History

Riverdale City is located in south central Weber County along the Weber River. Historically Riverdale City has been a crossroads for many. Riverdale is located just south of the confluence of the Weber and Ogden Rivers. Located near the mouth of Weber Canyon, Riverdale was settled primarily as a farming community with most homes being built near the river and land in the river bottoms being utilized for farming.

The first settlers in the Riverdale area arrived in the late 1840's and early 1850's. The river became a focal point for survival of these early residents. Water from the river was diverted through canals to irrigate the land. A mill was also constructed on the river to further provide a means of sustaining life. The river also provided a source of drinking water for those early settlers. The first community water system was begun in 1818 or 1819. Springs and wells now supply the city with culinary water.

Riverdale City was incorporated on March 4, 1946. As Utah began to grow Riverdale became the crossroads for major traffic flow. The Wasatch Front was originally connected via Highway 89. Now the Wasatch Front is connected by I-15. Riverdale is located at the intersection of I-15 and I-84 coming out of Weber Canyon. As a crossroads, Riverdale is a prime location for retail and commercial business. Riverdale Road is a regional thoroughfare of activity linking several communities in Weber County.

As a regional retail center, the retail shops in Riverdale attract many people from surrounding communities. At times, Riverdale feels like a much larger city than the 8,300 or so residents would indicate. This creates some unique challenges for the city. For its actual population, many of the services provided are similar in size and function to those of much larger cities. The challenge of staffing and supporting these services for a small city is ever present.

The Weber River has always been a focal point for activity and sustainability in Riverdale. This precious resource attracted the first settlers to the area and continues to be the backbone for activities today. The city has taken steps to protect and accentuate this resource. In recent years the city has completed a trail system running the length of the city along the river, encouraging its residents to make beneficial use of this corridor and enhancing the living experience and quality of life of the residents.

Local Water Quality Concerns

The water quality within Riverdale City is relatively good. None of the streams or waterways have been identified as protected under Section 303(d) of the Clean Water Act. The hope and intent of this Storm Water Management program (SWMP) is to maintain that status and possibly even improve the current water quality.

The storm water in Riverdale City flows from the foothills and river bottom bluffs to the river. Storm water from surrounding communities and facilities runs through Riverdale. Run on water from Washington Terrace, Hill Air Force Base, Roy, and Ogden City all come through portions of Riverdale. This run on water occurs in varying degrees at various locations.

With Riverdale's high retail and commercial base and with the two major interstates that run through and adjacent to the city, some of the biggest water quality concerns are with sediment and debris coming from hard-scaped roads, parking lots and roof tops. There is also concern with oils and grease, salts and deicing materials coming from the roadways. With the high percentage of retail and commercial establishments, general debris and floatables are also a primary concern. Of secondary concern there are fertilizers and pesticides and household hazardous wastes. These pollutants are the focus of the SWMP program.

Ongoing Documentation Process

With this revised SWMP our program has been restructured. The SWMP itself has been reorganized to make it more of a working document with multiple appendices to help the City do a better job in record keeping and documenting our activities. Much of the documentation is or will be included in Appendix D. As part of this update, the existing BMPs and measureable goals have been reviewed and assessed for their effectiveness and contribution in helping us achieve our desired results. We have completed evaluation worksheets to document our review and our assessment of our current program. These evaluation sheets are found in Appendix D. This evaluation provided the foundation for this update. We have tried to build off of the positive things that have been accomplished and renewed our commitment to improve in areas where our program has been lacking. We feel the revised program is more focused.

Our plan is to document our activities and to keep better track of what is happening within our community. This updated SWMP includes many new forms and reports to help us in these documentation efforts. Report forms, logs, evaluation forms and backup information is spread throughout the applicable appendices.

PUBLIC EDUCATION AND OUTREACH

Permit Requirements

The permit requirements for Public Education and Outreach on Storm Water Impacts can be found in Section 4.2.1 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.

1. The MS4 shall promote behavior change by the public to reduce water quality impacts associated with pollutants in storm water runoff and illicit discharges. This is a multimedia approach targeted to specific audiences. The four audiences are: (1) residents, (2) businesses, institutions, and commercial facilities, (3) developers and contractors (construction), and (4) MS4 industrial facilities.

2. The MS4 shall identify target pollutants and pollutant sources and their potential impacts relating to storm water quality.

3. The MS4 shall provide and document information given to the four focus audiences.

4. The MS4 shall provide documentation or rationale as to why particular BMPs were chosen for its public education and outreach program.

Summary of Existing Efforts

Educational Materials
The city publishes a newsletter monthly.

City used Media
Riverdale City has a website that is located at www.riverdalecity.com. This website includes a storm water page that includes both general and specific information. The storm water page is located under Public Works/Utilities.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs. Each BMP is cross referenced alphabetically by code in the indicated appendix to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness. Only those BMPs listed below will be utilized by Riverdale City as part of their SWMP at the present time.

BMP	Code	Appendix
Classroom Education On Storm Water	CESW	B
Educational Materials	EM	B
Employee Training	ET	B
Public Education/ Participation	PEP	B
+Using Media	UM	B

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Education and Outreach.

The following table includes the goals for MCM 1.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	Selected pollutants	Residents and Businesses	4.2.1.1 To educate audiences about impacts from storm water discharge and actions individuals can take to improve water quality	1.1 Continue supporting TV ads	Ongoing	PEP and UM	Ads continue to run
1	Selected pollutants	Residents (4th graders)	4.2.1.1 To educate audiences on ways to avoid, minimize, and reduce impacts of storm water discharge	1.2 Continue storm water fair annually	Annually	PEP and CESW	Fair occurs annually
1	See list in "desired result" column	General Public	4.2.1.2 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: maintenance of septic systems; effects of outdoor activities, such as lawn care; benefits of on-site infiltration of storm water; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; and proper management of pet wastes.	1.3 Include information on the website and include information in utility bills or city newsletter.	Ongoing	PEP and UM	Information is current on website and included in utility bills or city newsletter.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	See list in "desired result" column	Business and Institutions	4.2.1.3 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: Proper lawn maintenance Benefits of appropriate on-site infiltration of storm water Building and equipment maintenance Use of salt or other deicing materials Proper storage of materials Proper management of waste materials and dumpsters Proper management of parking lot surfaces.	1.4 Include information on the website and produce and distribute a brochure annually that is targeted to specific types of businesses.	Ongoing	PEP and UM	Information is current on website and included and brochures are distributed.
1	Illicit discharge and waste	Contractors, Developers, and plan review staff	4.2.1.4 Reduce adverse impacts from development sites	1.5 Assemble packets of information on SWPPP and BMPs that the contractor must sign that it was received.	By Feb 2012	EM	Information packets are signed for every new development.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	Illicit discharge and waste	Employees	4.2.1.5 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: Equipment inspection to ensure timely maintenance Benefits of appropriate on-site infiltration of storm water Minimization of use of salt or other deicing materials Proper storage of industrial materials Proper management of waste materials and dumpsters Proper management of parking lot surfaces.	1.6 Have training quarterly on illicit discharges.	First Quarter in 2012	ET	Training occurs every 5th Tuesday
1	All pollutants	Permittee engineers, development and plan review staff, land use planners	4.2.1.6 Training on LID, Green Infrastructure, and post construction BMPs	1.7 Require an annual meeting with all engineers, development and plan review staff, and land use planners to review the city's LID goals. Discuss what has been done in the past year to meet the goals, and define the upcoming year's goals.	By July 2011		Annual meeting occurs
1	All pollutants	All Audiences	4.2.1.7 Evaluate the effectiveness of the public education program by a defined method.	1.8 Conduct a survey by the end of the permit cycle to evaluate program effectiveness	End of permit cycle		Evaluation method chosen (2011) and implemented (2012)
1	All pollutants	All Audiences	4.2.1.8 Document why certain BMPs were chosen for public education program (over others)	1.9 Include an explanation in the SWMP.	October 2011		Documented rationale included in the SWMP.
1	All pollutants	General Public	To educate residents about catch basins draining to river	1.10 To evaluate the effectiveness of basin labels and if they should be continued and replaced or not	July 2014	PEP	If Basin labels are found to be effective 90% be replaced

PUBLIC PARTICIPATION / INVOLVEMENT

Permit Requirements

The permit requirements for Public Participation and Involvement on Storm Water Impacts can be found in Section 4.2.2 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.

1. Comply with applicable State, and local public notice requirements to involve interest groups and stakeholders for their input on the SWMP.

2. Make available to the public a current version of the SWMP document for review and input for the life of the permit. This should be posted on the City's website.

Summary of Existing Efforts

Storm Drain Labeling Program
The city has labeled all storm water basins utilizing volunteer groups to place the stencils. The city's program utilized the Weber County Inter-local agreement to provide the labels as part of the public education program.

Used Oil Recycling
There are several locations within the city boundaries where used oils and tires can be brought for recycling.

Waste Collection
Twice a year in the spring and fall the city conducts a general cleanup and a green waste cleanup. There are three locations in which residence can bring their waste for the city to dispose of.

Service Groups
There are local scout and church groups that have participated in street cleanup and litter reduction.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Public Education/ Participation	PEP	B

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Public Involvement and Participation.

The following table summarizes the goals for MCM 2.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
2	All pollutants	General public	4.2.2.1 Have a program or policy in place that allows for the public to provide input	2.1 Set a date for a public hearing	By November 2011	PEP	The program or policy is in place
2	All pollutants	General public	4.2.2.3 Have SWMP document available to the public at all times	2.2 Post the SWMP on the website	By October 2011	PEP	SWMP is updated and posted on the website
2	All pollutants	General public	4.2.2.3 Make updated SWMP document available to the public annually	2.3 Post updated SWMP annually	Ongoing	PEP	SWMP is updated and posted on the website annually
2	All pollutants	General public	Continue current public involvement parctices	2.4 Have bi-annual clean up days, provide dog litter bags	Ongoing	PEP	The public participates in the programs

ILLICIT DISCHARGE DETECTION AND ELIMINATION

Permit Requirements

The permit requirements for Illicit Discharge Detection and Elimination on Storm Water Impacts can be found in Section 4.2.3 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.

1. Maintain a storm sewer system map of the MS4, showing the location of all outfalls and the names and location of all State waters that receive discharges from those outfalls.

2. Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions.

3. Develop and implement a plan to detect and address non-storm water discharges, including spills, illicit connections, and illegal dumping to the MS4.

4. Develop and implement standard operating procedures (SOPs) for:

    a. tracing the source of an illicit discharge.
    b. characterizing the nature of, and the potential public or environmental threat posed by, any illicit discharges found or reported.
    c. ceasing the illicit discharge, including notification of appropriate authorities, property owners, and technical assistance for removing the source and follow-up inspections.

5. Inform public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.

6. Promote or provide services for the collection of household hazardous waste.

7. Publicly list and publicize a hotline or other local number for public reporting of spills and other illicit discharges.

8. Develop a written spill/dumping response procedure, and a flowchart for internal use, including various responsible agencies and their contacts.

9. Adopt and implement procedures for program evaluation and assessment.

10. Train employees, at a minimum, annually on the IDDE program.

Summary of Existing Efforts

Ordinances

Riverdale City has an ordinance designed to specifically prohibit illicit discharges to the storm sewer system.

Illicit Spills
Currently, reports of spills are handled by the Fire Department or County Health Department.

Illicit Connections
The City has not generally experienced problems with individuals or businesses illicitly connecting their sanitary waste water piping to storm drains. More-common types of illicit discharges include spills from highway accidents, concrete truck wash out water, residential yard waste and debris being washed into the gutters, and general litter and debris (floatables) originating from retail businesses and the general public.

Mapping
The city has a fairly comprehensive, storm drain map showing the storm drain system and its points of discharge. A copy of this map is included in Appendix G.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Community Hotline	CH	B,C
Employee Training	ET	B,C
Hazardous Waste Management	HWM	B,C
Illegal Dumping Control	IDC	B,C
Identify Illicit Connections	IIC	B,C
Illegal Solids Dumping Controls	ISDC	B,C
Map Storm Water Drains	MSWD	B,C
Non-Storm Water Discharge to Drains	NSWD	B,C
Ordinance Development	OD	B,C
Public Education/ Participation	PEP	B,C
Used Oil Recycling	UOR	B,C

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Illicit Discharge Detection and Elimination.

The following table includes the goals for MCM 3.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
3	All Pollutants	Contractors, Developers, City Council	4.2.3 Enforcement ability for storm water rules	3.1 Review and update the ordinance to conform with new permit	Draft by Feb 2012 & Final Feb 2012	OD	If ordinance is in place and meets the permit requirements
3	N/A	Public Works	4.2.3.1 Maintain Storm Water Map	3.2 Maintain current policy to update every project	Immediate	MSWD	If policy is in place and meets the permit requirements
3	All Pollutants	All Audiences	4.2.3.2 Develop, implement, and prepare in writing a plan to detect and address non-SW discharges	3.3 Do Dry weather screening 20% of all outfalls each year	1 July of each year	NSWD	Successful if all screens are done
3	"	"	"	3.4 Have SOP in place and training to Staff	Complete by Oct 15, 2011	NSWD	Successful if completed by that date and staff is following SOP
3	All Pollutants	All Audiences	4.2.3.4 Develop and implement standard operating procedures for tracing the source of illicit discharge	3.5 Train on flow charts	Complete by Oct 15, 2011	IIC	Successful if purchased by that date
3	All Pollutants	All Audiences	4.2.3.5 Develop and implement standard operating procedures for characterizing the nature of any illicit discharges found or reported to the Permittee by the hotline developed in 4.2.3.9	3.6 Create the Incidence Response Flow Chart and train personnel	Complete by Oct 15, 2011	IIC, CH	Successful if completed by that date and staff is following Flow Chart
	"	"	"	3.7 Add # to website	Oct 15 2011		
3	"	"	"	3.8 Review flow chart and SOP with staff and provide training annually.	Ongoing	IIC, CH	Successful if training is completed annually for all staff involved in incident reporting.
3	All Pollutants	All Audiences	4.2.3.6 Develop and implement standard operating procedures for ceasing the illicit discharge	3.9 Create the Incidence Response Flow Chart and train personnel	Complete by Oct 15, 2011	IDC, ISDC	
1	All Pollutants	Public Employees, Businesses and Residents	4.2.3.7 Inform public employees, businesses, and general public of hazards associated with illicit discharges and improper disposal of waste	3.10 See MCM 1		PEP, ET	See MCM 1
3	Household Hazardous Waste	Residents	4.2.3.8 Promote or provide services for the collection of household hazardous waste	3.11 Put the HHW Address and Phone number on City Web Site	Oct 15, 2011	UOR, HWM	Successful if complete by that date

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
3	Household Hazardous Waste	Residents	4.2.3.9 Publicly list and publicize a hotline or other telephone number for public reporting of spills and other illicit discharges	3.12 Put the HHW Address and Phone number on City Web Site	Oct 15, 2011	CH	Successful if complete by that date
3	All Pollutants	All Audiences	4.2.3.10 Adopt and implement procedures for program evaluation and assessment. Include a database for mapping, tracking of the spills or illicit discharges identified and inspections conducted	3.13 Create a spreadsheet for tracking Illicit Discharges and obtain documentation from Fire Department of spills covered	Oct 15, 2011	IIC, MSWD	Successful if complete by that date

CONSTRUCTION SITE RUNOFF CONTROL

Permit Requirements

The permit requirements for Construction Site Runoff Control on Storm Water Impacts can be found in Section 4.2.4 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment control practices on construction sites. This will include a requirement for a Storm Water Pollution Prevention Plan (SWPPP) and enforcement provisions.

2. Develop and implement Standard Operating Procedures (SOPs) for:

    a. pre-construction SWPPP reviews to ensure plans are complete and in compliance with State and Local regulations.
    b. construction site inspection and enforcement of construction storm water pollution control measures.

3. Train staff to implement the construction storm water program, including permitting, plan review, construction site inspections, and enforcement.

4. Establish procedures to maintain records of all projects disturbing greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development.

Summary of Existing Efforts

City Ordinances

The City currently has an ordinance that requires a storm water construction activity permit for construction activities. The application for this permit requires a completed Storm Water Pollution Prevention Plan (SWPPP).

Site Plan Review Process

The City currently has a procedure requiring the submittal of construction drawings prior to approving a new development. This process does not specifically require water quality impacts to be considered.

Inspectors

The City has one RSI registered inspector and is working to improve frequency and adequacy of construction site inspections.

Standard Drawings and Specifications

The city has a set of standard drawings and specifications for subdivision site development.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix .

BMP	Code	Appendix
Certification and Inspector Training	CCIT	A,B
Erosion Control Plan	ECP	A,B
Landscape and Irrigation Plan	LIP	A,B
Ordinance Development	OD	A,B
Zoning	ZO	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Construction Site Runoff Control.

The following table includes the goals for MCM 4.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	4.2.4.1 Raise awareness of contractors and developers on what is expected on construction sites	4.1 Require a SWPPP for every construction site over one acre	Feb. 2012	OD	Successful if 95% of all active construction sites have a working SWPPP
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	4.2.4.2 Develop a written enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism	4.2 Draft ordinance to include escalating enforcement provisions	Feb. 2012	OD	Successful if completed by milestone
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers, City Council, Plan Reviewers	Have an ordinance that is meaningful and enforceable	4.3 Revise ordinance to require a SWPPP on every active construction site over 1 acre	Feb. 2012	OD	If ordinance is in place and meets the permit requirements
4	"	"	"	4.4 Revise ordinance to include escalating enforcement provisions	Feb. 2012	OD	Successful if completed by milestone
4	"	"	4.2.4.2 Documentation and tracking of all enforcement actions	4.5 Develop and begin using a construction site enforcement action log/database	Feb. 2012	OD	Successful if we have a log and are using it
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	4.2.4.3 Develop and implement SOP's for pre-construction SWPPP review for construction sites	4.6 Develop checklist and begin to do preconstruction reviews of SWPPP	Feb. 2012	ECP	Successful if we are conducting SWPPP reviews

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
4	"	"	4.2.4.3.1 Conduct a pre-construction meeting	4.7 Hold Pre-con meetings on all sites greater than 1 acre or as part of common plan of development	Immediately		Successful if we are conducting Pre-con meetings, coordinate with building and zoning department
4	"	"	4.2.4.3.2 Incorporate into the SWPPP review procedures the consideration of potential water quality impacts and procedures for pre-construction review which shall include the use of a checklist.	4.8 Develop a policy to consider potential water quality impacts on all projects - private or municipal	Feb. 2012	ZO	Memo or other documentation on 90% of project reviews
4	"	"	4.2.4.3.3 Incorporate into the SWPPP review procedures for an evaluation of opportunities for use of Low Impact Development (LID) and green infrastructure and when the opportunity exists, encourage such BMPs to be incorporated into the site design.	4.9 (1.) Have Building and Zoning make a list of LID practices to consider (2.) Make Fact Sheets available	Feb. 2012	ZO	Successful if we have post construction BMPs on 50% of projects
4	"	"	4.2.4.3.4 Identify priority construction sites, including at a minimum those construction sites discharging directly into or immediately upstream of waters that the State	4.10 Develop a "sensitive area" map showing areas within the city where "additional" protection may be desired	Feb. 2012	LIP	Successful when map is completed and ready for use

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	4.2.4.4.1 Inspections of all new construction sites ... at least monthly by qualified personnel	4.11 Conduct monthly inspections of all construction sites - Emphasize self inspections - sensitive areas to be inspected twice monthly	Feb. 2012	CCIT	Successful if 90% of all active construction sites are inspected monthly and documented
4	"	Contractors, developers and MS4 staff	4.2.4.5 Provide training to city staff and 3rd party designers	4.12 Develop a city policy to require all SWPPP inspectors to be RSI inspectors within 1 year	August, 2012	CCIT	Successful if completed by milestone
4	"	Contractors, developers and MS4 staff	4.2.4.4.2 ...The Permittee must include in its SWMP document a procedure for being notified by construction operators/owners of their completion of active construction so that verification of final stabilization and removal of all temporary control measures may be conducted.	4.13 Support State's on-line process once in place	Feb. 2012	ECP	Successful if 85% of all active construction sites are terminated appropriately
4	"	Contractors, developers and MS4 staff	"	4.14 Train SWPPP inspectors, their supervisors, and any personnel who grant final occupancy permits on the NOT process	Feb. 2012	ECP	Successful if 85% of all active construction sites are terminated appropriately
	"	"	4.2.4.4.3 Conduct Bi-weekly inspections on high priority construction sites	4.15 Inspect high priority sites	Feb. 2012	ECP	Successful if 85% of high priority sites are inspected bi-weekly

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
	"	"	4.2.4.6 Maintain a log of permitted active construction sites	4.16 Establish a log	Feb. 2012	ECP	Successful if active construction sites are recorded in the log

POST CONSTRUCTION RUNOFF CONTROL

Permit Requirements

The permit requirements for Post-Construction Runoff Control on Storm Water Impacts can be found in Section 4.2.5 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Have an ordinance or other regulatory mechanism requiring the implementation of long-term post-construction storm water controls at new and redevelopment sites.

2. Develop an enforcement strategy and implement enforcement provisions of the ordinance.

3. Develop requirements or standards for new development and redevelopment projects to include storm water controls or management practices that will prevent or minimize impacts to water quality.

4. Define specific hydrologic method for calculating runoff and flow rates to be used to size structural BMPs and facilitate plan review.

5. Adopt and implement procedures for site plan review which incorporate consideration of water quality impacts.

6. Develop, adopt and implement Standard Operating Procedures (SOPs) for site inspection and enforcement of post-construction storm water control measures.

7. Provide adequate training for staff concerning post-construction storm water management, plan review, inspections and enforcement.

8. Maintain an inventory of all post-construction structural storm water control measures. This includes public and private facilities.

Summary of Existing Efforts

Ordinances

The City has an ordinance allowing a maximum storm water discharge rate for new development. No other ordinances currently address runoff from construction sites or new development.

Landscaping Plans

Developers are required to present a plan outlining landscaping plans to the city.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
BMP Inspection and Maintenance	BMPIM	A,B
Educational Materials	EM	A,B
Infrastructure Planning	IPL	A,B
Landscape and Irrigation Plan	LIP	A,B
Ordinance Development	OD	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Post Construction Runoff Control.

The following table includes the goals for MCM 5.

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	All Pollutants	All Audiences	4.2.5.1. Develop and adopt an ordinance or other regulatory mechanism that requires long-term post-construction storm water controls at new development and redevelopment sites. (4.2.5.3.1 for flood control structure issues and 4.2.5.3.2 for LID)	5.1 Review existing ordinance to determine if it meets requirements of new permit - Use checklist from coaching sessions	October, 2012	OD	If review is complete
5	"	"	"	5.2 Draft ordinance revisions	Feb, 2012	OD	If draft is complete and ready for others to review
5	"	"	"	5.3 Adopt updated ordinance	Feb. 2012	OD	If ordinance has been passed
5	"	"	4.2.5.2.2 Documentation on how the requirements of the ordinance or other regulatory mechanism will protect water quality and reduce the discharge of pollutants to the MS4.	5.4 Draft a standard to require contractors and developers to submit documentation on: how long-term BMPs were selected, pollutant removal expected from the BMP, and technical basis supporting performance claims	Feb, 2012	IPL	If draft is completed by the milestone date
5	"	"	"	5.5 Adopt revised standard	Feb. 2012	IPL	

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone	Assoc.	Measure of Success
	Pollutant(s)	Audience(s)			Date	BMP	(Effectiveness)
5	"	MS4 Staff, City Council	4.2.5.3.3 The Permittee must develop a plan to retrofit existing developed sites that are adversely impacting water quality.	5.6 Update Storm Drain Master Plan and Capital Improvement Plan to include Water Quality	Dec. 2014	IPL	If CIP includes water quality projects
5	"	MS4 Staff, Contractors and Developers	4.2.5.3.4 Each Permittee shall develop and define specific hydrologic method or methods for calculating runoff volumes and flow rates…	5.7 Review existing design standards to see if they meet new permit requirements - see section 4.2.5.3.4	June, 2012	IPL	If standards have been reviewed and comments made
5	"	"	"	5.8 Update design standards	Dec. 2012	IPL	If updated standards have been adopted
5	"	"	4.2.5.4.1 Review Storm Water Pollution Prevention Plans (SWPPPs)	5.9 See goals for MCM 4			
5	"	"	4.2.5.4.2 Permittees shall provide developers and contractors with preferred design specifications to more effectively treat storm water for different development types...projects located in, adjacent to, or discharging to environmentally sensitive areas.	5.10 Locate environmentally sensitive areas within the MS4	Dec, 2011	IPL	Completed map identifying environmentally sensitive areas

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone	Assoc.	Measure of Success
	Pollutant(s)	Audience(s)			Date	BMP	(Effectiveness)
5	"	"	"	5.11 Review map of sensitive areas and identify preferred method(s) of treating storm water to discharge to those areas	Dec. 2012	IPL	List of preferred method(s)
5	"	"	4.2.5.4.3 Permittees shall keep a representative copy of information that is provided to design professionals;...the dates of the mailings and lists of recipients.	5.12 Keep a revision log for information in Appendix A - Supplemental Guide to Contractors and Developers	Dec, 2011	EM	If revision log is filled out for all revisions
5	"	"	"	5.13 Log name and date of distribution of Supplemental Guide to Contractors and Developers	Dec, 2011	EM	If log is up to date and current
5	"	"	4.2.5.5. All Permittees shall adopt and implement SOPs or similar type of documents for site inspection and enforcement of post-construction storm water control measures.	5.14 Review and customize SOPs for inspection and enforcement of post-construction control measures	Dec, 2011	LIP	If inspection and enforcment SOPs are current and being utilized?

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	"	4.2.5.5.1 ... require private property owner/operators or qualified third parties to conduct maintenance and provide annual certification that adequate maintenance has been performed and the structural controls are operating as designed to protect water quality. In this case, the Permittee must require a maintenance agreement addressing maintenance requirements for any control measures installed on site.	5.15 Draft a maintenance agreement template	July, 2012	BMPIM	If draft is completed by the milestone date
5	"	"	"	5.16 Adopt a maintenance agreement template	Dec, 2012	BMPIM	If template is adopted and being used by milestone date

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	"	4.2.5.5.3 Inspections and any necessary maintenance must be conducted annually by either the Permittee or through a maintenance agreement, the property owner/operator. On sites where the property owner/operator is conducting maintenance, the Permittee shall inspect those storm water control measures at least once every five years, ...	5.17 Inventory post-construction BMPs - see 4.2.5.7.1 for inventory inclusion items	March, 2012	BMPIM	If inventory is complete
5	"	"	"	5.18 Identify who is responsible to inspect and/or maintain each post-construction BMP	March, 2012	BMPIM	If list identifies person responsible for inspections/ maintenance
5	"	"	"	5.19 Develop inspection report form for post-construction BMPs	March, 2012	BMPIM	If form is completed
5	"	"	"	5.20 Conduct inspections annually for city owned BMP's	Ongoing	BMPIM	If completed inspection reports are properly filed

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	MS4 staff	4.2.5.6. Permittees shall provide adequate training for all staff involved in post-construction storm water management, planning and review, and inspections and enforcement.	5.21 Schedule and conduct training for appropriate personnel	Annually	BMPIM	If all appropriate personnel are trained
5	"	"	4.2.5.7 Maintian an inventory of post construction BMP's	5.22 Inventory log updated annually	Ongoing		If log is updated

POLLUTION PREVENTION / GOOD HOUSEKEEPING

Permit Requirements

The permit requirements for Pollution Prevention and Good Housekeeping on Storm Water Impacts can be found in Section 4.2.6 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Develop and implement an operation and maintenance program for city-owned or operated facilities.

2. Maintain an inventory of city-owned or operated facilities and storm water controls. Assess said list for their potential to discharge typical urban pollutants to the storm water system.

3. Identify 'high-priority' facilities or operations that have a high potential to generate storm water pollutants. Included with Standard Operating Procedures (SOPs) specific to municipal operations. The SOPs shall include appropriate pollution prevention and good housekeeping procedures for all of the following types of facilities and/or activities listed below:

    a. Buildings and facilities
    b. Material storage areas, heavy equipment storage areas and maintenance areas
    c. Parks and open spaces
    d. Vehicle and equipment
    e. Roads, highways, and parking lots
    f. Storm water collection and conveyance system
    g. Other facilities and operations (those not listed, but would reasonably be expected to discharge contaminated runoff)

4. If a third-party is to conduct municipal maintenance or private developments conduct their own maintenance, the contractor shall be held to the same standard as the City. This should be outlined and defined in contracts.

5. Inspection schedules and logs should be part of the O&M program.

6. Develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls that are associated with the MS4.

7. City construction projects shall comply with the requirements applied to private projects.

8. Include employee training on how to incorporate pollution prevention and good housekeeping techniques into municipal operations, including SOPs.

Summary of Existing Efforts

Existing Maintenance Program

The City currently maintains inlet boxes and other MS4 improvements on an as-needed basis. Streets are also swept as-needed.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Riverdale City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Employee Training	ET	A,B
Housekeeping Practices	HP	A,B
Infrastructure Planning	IPL	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Storm Water Phase II Rule for Pollution Prevention/Good Housekeeping.

The following table includes the goals for MCM 6.

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	All pollutants	MS4 staff	4.2.6 ...All components of an O & M program shall be included in the SWMP document and must identify the department (and where appropriate, the specific staff) responsible for performing each activity described in this section…	6.1 Complete Org chart and define specific responsibilities for all departments shown	Sep. 2011	HP	If org chart is complete and up to date by milestone date
6	"	"	4.2.6.1. Permitees shall develop and keep current a written inventory of Permittee-owned or operated facilities	6.2 Complete listing of MS4 owned/operated facilities	Sep. 2011	HP	If list is completed by milestone date
6	"	"	4.2.6.2. All Permittees must initially assess the written inventory of Permittee-owned or operated facilities, operations and storm water controls identified in Part 4.2.6.1. for their potential to discharge to storm water the following typical urban pollutants:	6.3 Complete assessments and identify "high priority" facilities	Sep. 2011	HP	If assessments are completed and documentation recorded in SWMP
6	"	"	4.2.6.4. Each “high priority” facility identified in Part 4.2.6.3. must develop facility-specific standard operating procedures (SOPs) or similar type of documents.	6.4 Review, customize and update appropriate SOPs	Sep. 2011	HP	If SOPs are updated and current by milestone date

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	4.2.6.6.1 Weekly visual inspections: The Permittee must perform weekly visual inspections of “high priority” facilities in accordance with the developed SOPs to minimize the potential for pollutant discharge.	6.5 Develop weekly inspection form and log	Sep. 2011	HP	Completed inspection form and log
6	"	"	"	6.6 Conduct weekly inspections	Ongoing	HP	If at annual review all weekly inspections are logged and reports completed
6	"	"	4.2.6.6.2 Quarterly comprehensive inspections: At least once per quarter, a comprehensive inspection of “high priority” facilities, including all storm water controls, must be performed	6.7 Develop quarterly inspection form(s) and log	Sep. 2011	HP	Completed inspection form and log
6	"	"	"	6.8 Conduct quarterly comprehensive inspections	Ongoing	HP	If at annual review all quarterly inspections are logged and reports completed

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	4.2.6.6.3 Quarterly visual observation of storm water discharges: At least once per quarter, the Permittee must visually observe the quality of the storm water discharges from the “high priority” facilities	6.9 Conduct quarterly visual observations of storm water discharges at high priority facilities	Ongoing	HP	If at annual review all quarterly visual monitoring is completed and logged and reports completed
6	"	MS4 Staff, Contractors and Developers	4.2.6.7. The Permittee must develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls that are associated with the Permittee or that discharge to the MS4.	6.10 Draft a policy/process to assess water quality impacts on all new flood control projects	Oct-11	IPL	If draft is prepared and ready for internal review process by milestone date
6	"	"	"	6.11 Get policy approved	Dec. 2011	IPL	If policy is approved and adopted by milestone date
6	"	MS4 staff	4.2.6.7.1 Existing flood management structural controls must be assessed to determine whether changes or additions should be made to improve water quality.	6.12 See MCM 5 for goals (part of the retrofit program)			

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	4.2.6.9. Permittees shall provide training for all employees who have primary construction, operation, or maintenance job functions that are likely to impact storm water quality.	6.13 20% of Topics covered every year	ongoing		
6	"	"	"	6.14 Use training topic list to provide training	Sep. 2011	ET, HP	If schedule is complete by milestone date
6	"	"	"	6.15 Conduct ongoing training according to schedule	Ongoing	ET, HP	If training is completed and documented according to schedule at annual evaluation
6	"	"	To keep road sediments from entering the storm drain	6.16 Fill potholes annually and sweep streets semi-annually	Annually, semiannually	HP	If pot holes are filled and streets continue to be swept

STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY
195 North 1950 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870 (801)536-4300

Notice of Intent (NOI) for Coverage Under the UPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4's), Permit No. UTR090000.

INSTRUCTIONS ON BACK PAGE

DWQ USE ONLY

Coverage No. _____

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a UPDES permit issued for storm water discharges from Small Municipal Separate Storm Sewers in the State of Utah. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

Part I. General Information

Governmental Entity Name: RIVERDALE CITY, UTAH

Mailing Address: Street 4600 SOUTH WEBER RIVER DR.

City RIVERDALE State UT Zip Code 84405-

Operator Type (Circle One): (City) County, Hospital, Prison, Military Base, Park, College/University, UDOT, Sewer District, Flood Control District, Drainage District, Association, Other(list) _____)

Operator Status (Circle One): (Federal/State/Local/Other Public Entity(list) _____)

Operator Contact Person: Name LARRY HANSEN

Title CITY ADMINISTRATOR Telephone Number 801-394-5541 Ext 1233

Latitude/Longitude at Center of land for which you are requesting authorization to discharge:

Latitude 41-10-22 Longitude 112-00-08

Population served by your MS4: 84260 People

Storm Water Management Program Responsible Person:

Name SHANN DOUGLAS Title PUBLIC WORKS DIRECTOR

Telephone Number 801-394-5541 Ext 1217

Part II: Outfalls and Receiving Waters

Receiving Waters: List all separate storm water outfall receiving waters (all discharges to waters under the definition of waters of the State). If all receiving waters are not known at the time of the NOI submittal, list known outfalls and update the list on annual reports. (ATTACH ADDITIONAL SHEETS AS NEEDED)

	Outfall	Receiving Water
1.	3550 SOUTH	WEBER RIVER
2.	3750 SOUTH (2)	WEBER RIVER
3.	3950 SOUTH	WEBER RIVER
4.	PACIFIC AVE (2)	WEBER RIVER
5.	4300 SOUTH	WEBER RIVER
6.	4400 SOUTH (2)	WEBER RIVER
7.	4600 SOUTH (3)	WEBER RIVER
8.	UNION PACIFIC AVE	WEBER RIVER
9.	RIVER PARK DRIVE (2)	WEBER RIVER

Part III. Initial Identification of Best Management Practices (ATTACH ADDITIONAL SHEETS AS NEEDED)

1. Public Education and Outreach on Storm Water Impacts

Outreach Techniques

- ☐ Classroom education/school programs
- ☐ Outreach to commercial entities
- ☐ Printed material
- ☐ Media campaign
- ☐ Classroom educational materials
- ☐ Events and Programs
- ☐ Displays
- ☐ Speakers to community groups
- ☐ Economic incentives
- ☐ Promotional giveaways
- ☒ Others
  ..... WEBER COUNTY .....

Management Practices to Encourage

- ☐ Proper lawn and garden care (fertilizer and pesticide use, sweeping, etc.)
- ☐ Low impact development
- ☐ Pet waste management
- ☐ Pollution prevention for businesses
- ☐ Proper disposal of household hazardous wastes
- ☐ Water Conservation Practices
- ☒ Others
  ..... WEBER COUNTY .....

2. Public Involvement/Participation

Involvement Techniques

- ☐ Advisory/partner committees
- ☐ Local storm water contact
- ☐ Public access to documents and information
- ☐ Public review of plans and annual reports
- ☐ Watershed organizations
- ☐ Attitude surveys
- ☐ Community hot lines
- ☐ Stakeholder meetings
- ☐ Others
  .....

Participation Activities

- ☐ Adopt-a-stream
- ☐ Storm drain stenciling
- ☐ Stream/roadway cleanup
- ☐ Volunteer monitoring
- ☐ Wetland plantings
- ☒ Others
  ..... WEBER COUNTY .....

3. Illicit Discharge Detection and Elimination

Detection and Elimination Activities

- ☒ System mapping
- ☒ Regulatory Control Program
- ☒ Identifying and Eliminating illicit connection procedures
- ☒ Dye testing/Tracing Procedures
- ☒ System inspections
- ☒ Dry Weather Screening Program/ Field Testing
- ☐ Others
  .....

Type of Discharges to Target

- ☐ Failing septic systems
- ☒ Illegal dumping
- ☒ Industrial/business connections
- ☒ Recreational sewage
- ☒ Sanitary sewer overflows
- ☒ Wastewater connections to the storm drain system
- ☐ Others
  .....

4. Construction Site Storm Water Runoff Control

Program Activities

- ☒ Regulatory Control Program
- ☒ Erosion and Sediment Control BMP's
- ☐ Other Waste Control Program
- ☒ Site Plan Review Procedures
- ☒ Public Information handling Procedures
- ☒ Site Inspection/Enforcement Procedures
- ☒ Other Construction Site Runoff Controls
- ☐ Contractor certification and inspector training
- ☐ Others
  .....

Best Management Practices

- ☒ Construction Entrance/Exit Stabilization
- ☒ Perimeter Controls
- ☒ Sediment Retention Structure Requirements
- ☒ Sediment filters and sediment chambers
- ☒ Mulching Requirements
- ☒ Temporary/Permanent Stabilization Requirements
- ☒ Vehicle maintenance and washing areas
- ☒ Cement Truck Washout Area
- ☐ OtherBMP's
  .....

5. Post-Construction Storm Water Management in New Development and Redevelopment

- ☐ Community Control Strategy
- ☒ Regulatory Control Program
- ☒ Long Term O& M Procedures
- ☒ Pre-Construction Review of BMP Designs
- ☒ Site Inspections During Construction
- ☒ Post Construction Inspections
- ☐ Others
  .....

- ☒ Infiltration trench/basin
- ☒ Infrastructure planning
- ☒ storm water inlet specifications
- ☐ Narrower residential streets
- ☒ Open space design
- ☒ Ordinances for post construction runoff
- ☒ Storm water wetland
- ☐ Zoning
- ☐ Others:
  .....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- ☒ Employee Training Program
- ☒ Inspection and Maintenance Program
- ☒ Municipal Operations Storm Water Control
- ☒ Others
  ..... SALT STORAGE BUILDING .....

- ☒ Municipal Operations Waste Disposal
- ☒ Flood Management/Assessment Guidelines
- ☐ Others:
  .....

Part IV. Initial Identification of Measurable Goals (Attach additional sheets as needed)

1. Public Education and Outreach on Storm Water Impacts

Measurable goals (with start and end dates):

SEE STORM WATER MANAGEMENT PLAN (SWMP)

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

2. Public Involvement/Participation

Measurable goals (with start and end dates):

SEE SWMP

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

3. Illicit Discharge Detection and Elimination

Measurable goals (with start and end dates):

SEE SWMP

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

4. Construction Site Storm Water Runoff Control

Measurable goals (with start and end dates):

SEE SWMP

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

5. Post-Construction Storm Water Management in New Development and Redevelopment

Measurable goals (with start and end dates):

SEE SWMP

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Measurable goals (with start and end dates):

SEE SWMP

Milestones: Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

Part V. 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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: LARRY HANSEN

Signature: _____ Date: _____

Part VI: Contract Certification for Co-Permittee SWMP Implementation
(ATTACH ADDITIONAL SHEETS AS NEEDED)

List entity names responsible for implementation of the SWMP

1. PLEASANT GROVE CITY, UTAH
2. WEBER COUNTY, UTAH
3.
4.
5.
6.

The above entities have entered into an agreement or contract to satisfy the implementation requirements of the Storm Water Management Program listed in the NOI. As stated in the existing agreements (MOU's) or contracts, the entities have agreed to the following responsibilities.

Circle the entity numbers (entity numbers correspond to entity name numbers listed above) corresponding with responsibilities, or portions thereof, of each entity entering into this agreement in the table below:

RESPONSIBILITY	**ENTITY**					
a. Public Education and Outreach	1.	(2)	3.	4.	5.	6.
b. Public Involvement and Participation	1.	(2)	3.	4.	5.	6.
c. Illicit Discharge Detection and Elimination	(1)	2.	3.	4.	5.	6.
d. Construction Site Run-off Control	(1)	2.	3.	4.	5.	6.
e. Post-Construction Storm Water Management in New Development and Redevelopment	(1)	2.	3.	4.	5.	6.
f. Pollution Prevention/Good Housekeeping for Municipal Operations	(1)	2.	3.	4.	5.	6.

If any entity is agreeing to accomplish only a portion of a responsibility in the table then explain the responsibility portion (e.g. entity 1 is responsible for storm drain stenciling program in the MS4 area, entity 2 is responsible for conducting phone surveys for item (a) in the table etc.) on a separate sheet.

The following statement and the accompanying signatures serve as certification that the agreements (MOU's) or contracts have been developed and agreed upon for the implementation of the Operator's (Identified in Part I of the NOI) SWMP.

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Entity	Authorized Signature	Date	Entity	Authorized Signature	Date
1.	_____		2.	_____	
3.	_____		4.	_____	
5.	_____		6.	_____	

Instructions for Completing the Notice of Intent for Coverage Under a UPDES General Permit for Storm Water Discharges From SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
Permit No. UTR090000

Who Must File a Notice of Intent?
If you are an operator of a regulated small MS4 designated for permitting, you must apply for coverage under a UPDES permit, or apply for a modification of an existing UPDES permit. If you have questions about whether you need a permit under the UPDES Storm Water Program, contact the Utah Division of Water Quality. The NOI must be submitted in accordance with the deadlines established in Part 2.A. of the UPDES MS4 General Permit.

When to File the NOI Form
DO NOT FILE THE NOI UNTIL YOU HAVE READ A COPY OF THE SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM GENERAL PERMIT. You will need to determine your eligibility, prepare your storm water management plan, and correctly answer all questions on the NOI form, all of which must be done before you can sign the certification statement on the NOI in good faith (and without risk of committing perjury).

Where to File the NOI Form
NOIs must be sent to the following address:

Department of Environmental Quality
Division of Water Quality
P.O. Box 144870
Salt Lake City, UT 84114-4870

Completing the NOI Form
Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the address above. Attach additional pages as needed for detailed explanations of items on the form.

Part I. MS4 General Information
Provide the legal name of the person, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or other legal entity that operates the MS4 described in this application. The responsible party is the legal entity that controls the MS4's operation. Provide the telephone number of the MS4 operator. Provide the mailing address of the MS4 operator. Include the street address or P.O. box, city, state, and zip code. All correspondence regarding the permit will be sent to this address, not the MS4 address in Section B.

Enter the official or legal name of the MS4.
Enter the city or cities, county or counties, and state in which the MS4 is located.
Enter the latitude and longitude of the approximate center of the MS4 in degrees/minutes/seconds. Latitude and longitude can be obtained from U.S. Geological Survey (USGS) quadrangle or topographic maps or by using a GPS unit, calling 1-(888) ASK-USGS, searching for your Facility's address on several commercial map sites on the Internet, or searching the U.S. Census Bureau database at http://www.census.gov/cgi-bin/gazetteer. Additionally, estimate the acreage of land area that drains to the MS4. This estimate can be made using topographic maps or topographic data in a geographic information system.

Indicate the legal status of the MS4 operator as a Federal, State, private, or other public entity (other than Federal or State). This refers only to the operator, not the owner of the land on which the MS4 is located.
Indicate whether the MS4 discharges storm water into one or more receiving water(s). Enter the name(s) of the receiving water(s).
Indicate whether the MS4 discharges storm water into one or more receiving water(s). Enter the name(s) of the receiving water(s).

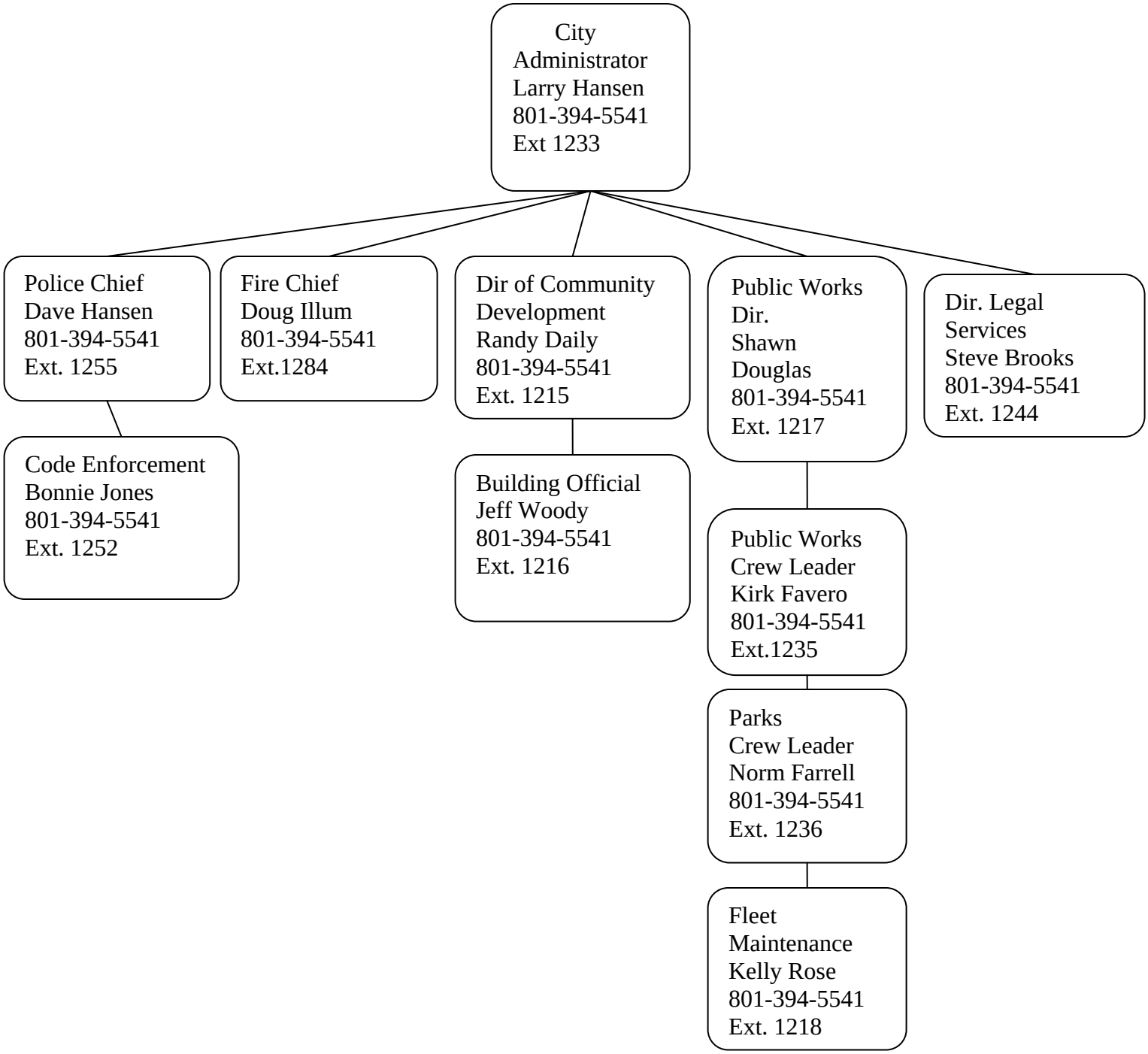
Part II. Outfalls and Receiving Waters
Indicate all major outfalls (by outfall description) and the receiving water body for each outfall. Indicate whether any of the receiving water bodies are included on the 303(d) list for water quality impairments.

Part III. Initial Identification of Management Practices
Check the management practices that you have selected to meet each of the minimum measures. If a selected practice is not on the list, check "Other" and write the name of the practice in the space provided.

Part IV. Identification of Initial Measurable Goals
List the person(s) responsible for implementing or coordinating the storm water management program. Provide a narrative description of the measurable goals that will be used for each of the storm water minimum control measures. Indicate the month and year in which you will start and fully implement each of the minimum control measures, or indicate the frequency of the action in the description. Attach additional pages as necessary.

Part V. Certification
Certification statement and signature. (CAUTION: An unsigned or undated NOI form will prevent the granting of permit coverage.) State statutes provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed by either a principal executive or ranking elected official as described in Part VI.H. of the Small MS4 General Permit.

Part VI. Contract Certification for Co-Permittee SWMP Implementation
Contract certification is required when more than one entity will be implementing the SWMP for the operator filing the NOI. The form must be completely filled out to clearly identify all coordinating agencies. Additional pages shall be used as necessary to define the responsibilities for each entity in preparation and implementation of the SWMP. The form must be signed by all coordinating entities, certifying that local agreements and/or contracts have been developed and agreed upon.


City Administrator
Larry Hansen
801-394-5541
Ext 1233
Police Chief
Dave Hansen
801-394-5541
Ext. 1255
Fire Chief
Doug Illum
801-394-5541
Ext.1284
Dir of Community Development
Randy Daily
801-394-5541
Ext. 1215
Public Works Dir.
Shawn Douglas
801-394-5541
Ext. 1217
Dir. Legal Services
Steve Brooks
801-394-5541
Ext. 1244
Code Enforcement
Bonnie Jones
801-394-5541
Ext. 1252
Building Official
Jeff Woody
801-394-5541
Ext. 1216
Public Works Crew Leader
Kirk Favero
801-394-5541
Ext.1235
Parks Crew Leader
Norm Farrell
801-394-5541
Ext. 1236
Fleet Maintenance
Kelly Rose
801-394-5541
Ext. 1218

Organization Chart Responsibilities For Storm Water

City Administrator

-Oversight of all departments
-Liaison with administration and City Council

Public Works Director

-Liaison with administration and Department Heads
-General coordination of the Storm Water Pollution Prevention (SWPP) program
-Annual report

Public Works Crew Leader

-Oversee SWPP program specifics
-Responsible for shared facilities and general work areas including:
-Large equipment wash area
-Salt and materials storage stockpile areas
-Storm drain system maintenance
-General BMP maintenance
-Small vehicle wash area
-Updating SWPPP
-Tracking and documentation of activities and actions
-Database updates
-Engineering support
-Help with all reporting
-Storm Drain mapping
-Training public works dept. personnel
-Public Works equipment operation
-Equipment maintenance for water dept. equipment
-Snow plowing program
-Street sweeping program
-Salt and materials storage stockpile areas

Parks Department Crew Leader

-Parks dept. maintenance work activities and areas
-Pesticide, Herbicide, and Fertilizer (PHF) program
-Training parks dept. personnel
-Chemical and fertilizer storage in work area
-Parks department equipment operation
-Equipment maintenance for parks dept. equipment
-Mowing, grounds maintenance program

Fleet Department

-Fleet dept. maintenance work activities and areas
-Chemicals, fluids, and oils in work area, waste oils/fluids
-Metal fabrication area
-MSDS Program

-Community Development
-Plan Review
-Construction Site Inspections
-Liaison with Contractors

Fire Department
-Emergency Response
-Spill clean up
-Coordination With health department

Police
-Ordinance enforcement
-Criminal Investigations
-Scene control

Legal
-Ordinances
-Prosecution
-Legal Council

Activity	Target Pollutants	Target Audiences	Measurable Goal	Document/Data/Proof of Completion	Document Location	Responsible Person/Party
TV Advertisements	1-17	1-4	Purchase annually	Invoice	Coalition Documentation Binder	Coalition Chairman
Monthly Coalition Meeting	1-17	1-4	Meet 10 times annually	Agenda, Minutes, Attendance List	Binder	Coalition Chairman
4th Grade Lessons	1-7,15	1	Teach all public 4th grade classes annually	Invoice, Teacher's lesson plan, school visitation schedule	Binder	Coalition Chairman
Purchase Education Materials						
Booklets & Balls	1-7,15	1	Purchase enough for all 4th grade classes annually	Invoice	Binder	Coalition Chairman
BMP Manual	3,8	3,4	Review annually	Finished document	Binder	Coalition Chairman
Pamphlets	2,3,6,9-14,16	1-4	Develop 1 pamphlet annually	Invoice, finished document	Binder	Coalition Chairman
Stickers (gas station)	17	1,2	Purchase when supply is depleted	Invoice, finished products	Binder	Coalition Chairman
Pencils & Magnets	1-17	1	Have continually available	Invoice, finished products	Binder	Coalition Chairman
Curb Markers	1-17	1	Have continually available	Invoice, finished products	Binder	Coalition Chairman
Water Fair	1-7,15	1	Hold one event annually	Invoices	Binder	Coalition Chairman
Trainings	1-17	3,4	Hold one training annually	Invoice, Ivitation, Agenda, Attendance List	Binder	Coalition Chairman
County Drainage Map	15	4	Request updates annually	Minutes of Coalition meeting	Binder	Coalition Chairman
Spill Report Hotline	15	1-4	Get reports semi-annually	Report on calls received	Binder	Coalition Chairman
Standard Operating Procedures	1-17	4	Review & update annually	Finished document	Binder	Coalition Chairman
StormCon Conference	1-17	4	Send 3 coalition members annually	Invoices	Binder	Coalition Chairman
SWAC Meeting Attendance	1-17	4	Have 1 voting member and 1 alternate assigned and present 90%	Attendance sheet, minutes	Binder	Coalition Chairman
Interlocal Agreement	1-17	1-4	Execute once per permit cycle	Executed document	Binder	Coalition Chairman
Model Ordinance	1-17	1-4	Have available by July 2011	Finished document, subcommitee minutes	Binder	Coalition Chairman

Account Number	Account Title	2009-10 Prior year Actual	2010-11 Current year Budget	2010-11 Current year Actual	2011-11 Current year Projected actual	2011-12 Future year Budget
STORM WATER FUND						
STORM WATER REVENUE						
53-39-1000	STORM WATER FEES	220,574.90	220,000.00	202,444.00	221,060.00	220,000.00
Budget notes:						
	$2.20 per ESU or residence per month					
53-39-3000	TRANSFER FROM OTHER FUNDS	.00	113,650.00	.00	227,300.00	.00
53-39-3100	MISCELLANEOUS REVENUE	.00	.00	.00	.00	.00
53-39-3500	CONTRIBUTIONS FROM DEVELOPER	58,872.00	.00	.00	.00	.00
53-39-6100	INTEREST REVENUE	7,310.56	7,500.00	4,778.68	5,520.00	6,000.00
Total STORM WATER REVENUE:		286,757.46	341,150.00	207,222.68	453,880.00	226,000.00

Account Number	Account Title	2009-10 Prior year Actual	2010-11 Current year Budget	2010-11 Current year Actual	2011-11 Current year Projected actual	2011-12 Future year Budget
STORM WATER EXPENSES						
53-60-3200	ENGINEERING	31,870.16	15,000.00	9,449.80	12,481.00	15,000.00
53-60-3300	PROFESSIONAL SERVICES	8,459.70	5,000.00	487.50	.00	5,000.00
53-60-3700	INSPECTION SERVICES	.00	.00	.00	.00	.00
53-60-4500	SPECIAL DEPARTMENT EXPENSES	1,233.03	12,400.00	5,959.67	5,572.00	6,000.00
Budget notes:						
	Includes $1,000 for dumping of street sweepings					
53-60-4600	MISCELLANEOUS	88.30	500.00	526.04	701.00	500.00
53-60-5300	DEPRECIATION EXPENSE	32,054.00	24,000.00	22,000.00	24,000.00	40,000.00
53-60-5600	INFO TECHNOLOGY PAYMENTS	2,004.00	2,000.00	1,837.00	2,004.00	2,000.00
53-60-6200	CAPITAL OUTLAY	.00	1,232,500.00	696,156.14	880,000.00	349,500.00
Budget notes:						
	Project 3 - 4350 S. Street - Piping and Collection Improvements $6,700					
	Project 5 - 5175 S. - 1200 W, Intersection - Piping and Collection Improvements $86,400					
	Project 6 - 4800 S. - 1700 W. Intersection - Piping and Collection Improvements $21,100					
	Project 7 - Cherry Drive, Piping Upgrade Improvements $163,700					
	Project 8 - 4300 S. 700 W. - Inter. - Piping and Collection Improvements $22,300					
	Project 9 - 1150 W. - 5500 S. Intersect & 1106 W. 5475 S. - Improvements $49,300					
	Total STORM WATER EXPENSES:	75,709.19	1,291,400.00	736,416.15	924,758.00	418,000.00
	STORM WATER FUND Revenue Total:	286,757.46	341,150.00	207,222.68	453,880.00	226,000.00
	STORM WATER FUND Expenditure Total:	75,709.19	1,291,400.00	736,416.15	924,758.00	418,000.00
	Net Total STORM WATER FUND:	211,048.27	950,250.00-	529,193.47-	470,878.00-	192,000.00-

Special Environmental Considerations

Discharges to Water Quality Impaired Waters

Riverdale City has determined that there is no discharge from any part of the MS4 that conctributes to a 303(d) listed waterbody.

The 303(d) list of impaired waterbodies is found at:
http://www.waterquality.utah.gov/TMDL/index.htm

Threatened or Endangered Species

Where applicable, compliance efforts to this law shall be reflected in the SWMP document. (Small MS4 General UPDES Permit 3.2) The following web sites are helpful in determining the status of any species of interest.

http://wildlife.utah.gov/habitat/pdf/endgspec.pdf.

http://www.fws.gov/endangered/

Historic Properties

Where applicable, compliance efforts to this law shall be reflected in the SWMP document. (Small MS4 General UPDES Permit 3.2) Web sites include the following, along with possible county and city listings:

http://history.utah.gov/historic_buildings/index.html

HYDROLOGIC METHODS AND DESIGN STANDARDS

4.2.5.3. The Permittee's new development/redevelopment program must have requirements or standards to ensure that any storm water controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.

4.2.5.3.4 Each Permittee shall develop and define specific hydrologic method or methods for calculating runoff volumes and flow rates to ensure consistent sizing of structural BMPs in their jurisdiction and to facilitate plan review. Specific criteria which require that Best Management Practices (BMPs) are designed to treat the water from a specific design storm (e.g., the 2-year, 24-hour event) must be incorporated into the permittee's post-construction minimum control measure and documented in the SWMP. Permittees may allow other unique or complex methodologies.

DESIGN STANDARDS SHOULD INCLUDE:
In developing/revising standards you are encourage (not required) to work with neighboring communities to develop consistency with analytical methods within the same watershed. The following subjects should be addressed.

1. Hydrology
    a. Design storm (frequency and duration) for peak flows
    b. Design storm for piping (____yr- ____hr event)
    c. Design storm for storage (____yr- ____hr event)
    d. Design storm for construction site BMPs (____yr- ____hr event)
    e. Storm hydrograph (unit hydrograph, Farmer-Fletcher, etc…)
2. Hydrologic methods
    a. See handouts for options and applications
3. Storage
    a. Peak discharge allowances
        i. 0.2 cfs per acre?? (should not be a standard)
        ii. Match predevelopment runoff hydrograph
    b. Minimum storage requirements
    c. Freeboard requirements
    d. Maximum depths
    e. Dimensional requirements (length/width ratios)
    f. Water quality requirements
4. System policies
    a. No stormwater in irrigation ditches and canals
    b. On-site detention required
    c. Deal with storm water at the source
    d. Underground Injection Wells (UIW)
5. Permitting requirements
    a. Possible Storm Water Utility Credits
    b. Activity and Connection Permits
    c. Possible Permits from others: 404, Stream Alteration

Low-Impact Development Techniques

The permit requires that MS4's consider Low Impact Developments (LID's) for your community referenced in 4.2.5.3.2, 4.2.6.4, and 4.2.4.3.3. The following 7 categories with associated links are intended to assist communities in proper planning and Construction to encourage LID practices.

Bio-Retention areas: designed for site specific conditions to optimize the effectiveness of water filtration and retention. There is no standard. Creativity, ingenuity and dedication are the key to success.

- Aquatic Buffers
- Green Parking Lots
- Bioretention
- Soil Amendments
- Soil Restoration
- Created Wetlands
- Dispersal Trench
- Conveyance Furrow
- Urban Forestry
- Vegetation Restoration
- Biofiltration
- Stormwater Planters

Green Roofs: A bio retention area as well as a form of rain water collection; it also adds a public place and social element.

- Green Roofs
- Biofiltration

Permeable Pavements: allow for water to permeate through the surface, yet still give a hard surface for pedestrian and vehicular traffic.

- Break Up Flow Directions From Paved Surfaces
- Use Alternative Surfaces
- Green Parking Lots

Rain water collection: Utah law allows for re-use on site. For larger buildings such as offices and malls this is an impact that could greatly reduce storm drain usage in the area.

- Water Harvesting and Reuse
- Parking Lot and Street Storage
- Dispersal Trench
- Pop-Up Emitter

Riparian Buffers: Applied along a watershed by restricting development along creeks, streams, washes, ect. This keeps the natural flow of water, mitigates erosion and contamination, as well as provides an interconnected habitat for animals, and recreation opportunities.

- Protect Natural Site Functions
- Preserve Natural Corridors
- Aquatic Buffers

Green Street System: Includes the different aspects of rain gardens and swales along roads into an incorporated system for retention and filtration of storm water.

- Reduced Clearing and Grading
- Functional Grading
- Locate Impervious Surfaces to Drain to Natural Systems
- Minimize Directly Connected Impervious Areas
- Break Up Flow Directions From Paved Surfaces
- Trail and Path Network
- Narrow Roadways
- Reconfigure Driveways
- Alternative Turnarounds
- Green Parking Lots
- Stormwater Planters
- Urban Forestry
- Alternative Street Layouts
- Eliminate Curb and Gutter

Zoning/Alternative Development Configurations and Standards: creative zoning and development standards directed towards minimizing disturbances of the natural habitat and hydrology of the area.

- Site Fingerprinting
- Fit Development to Natural Gradient
- Alternative Development Configurations
- Define Development Envelope
- Identify Sensitive Areas
- Alternative Lot Configuration
- Reconfigure Driveways
- Alternative Turnarounds
- Reduced Sidewalk Application
- Alternative Street Layouts
- Eliminate Curb and Gutter
- Large lot sizes – higher impervious area percentage
- Cluster Zoning – consolidating development – fewer impacted areas
- Development credits – limiting overall development in a community
- Considering conservation easements
- Limit maximum Directly Connected Impervious Areas (DCIA)

References:

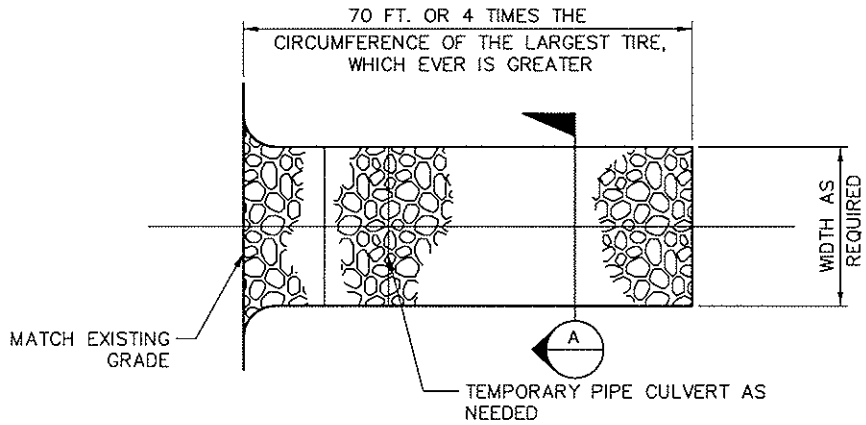
www.lid-stormwater.net (Tool created through Cooperative Assistance Agreement under the US EPA Office of Water 104b(3) Program)

http://www.epa.gov/owow/NPS/lid/lid.pdf

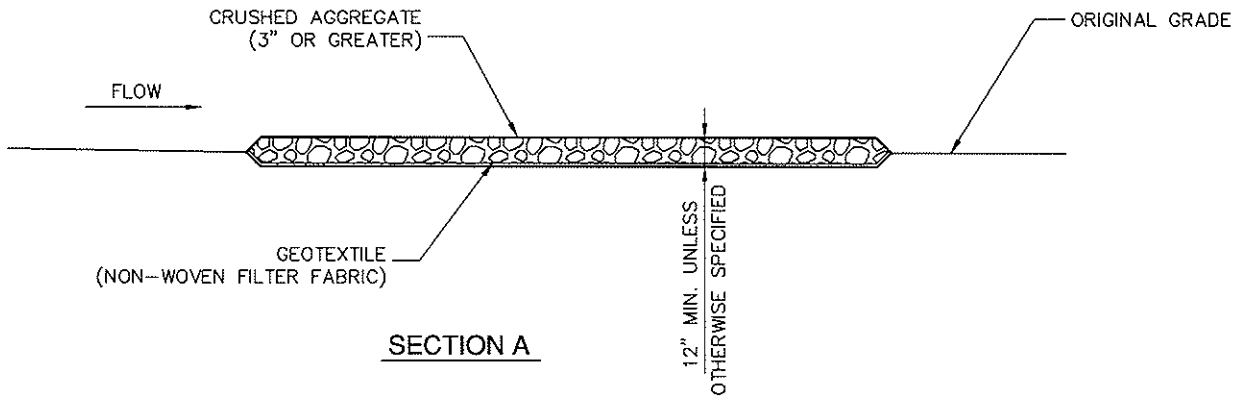
http://www.deq.idaho.gov/water/data_reports/storm_water/catalog/sec_3/text.pdf

SWMP Update 2010

Permit Reference #: 4.2.5.3.2, 4.2.6.4, 4.2.4.3.3



PLAN VIEW

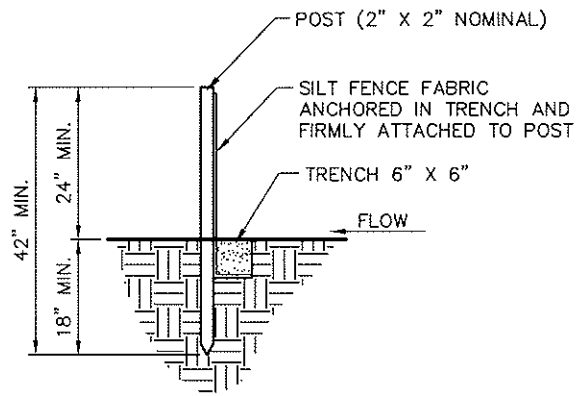


SECTION A

STABILIZED CONSTRUCTION ENTRANCE DETAIL

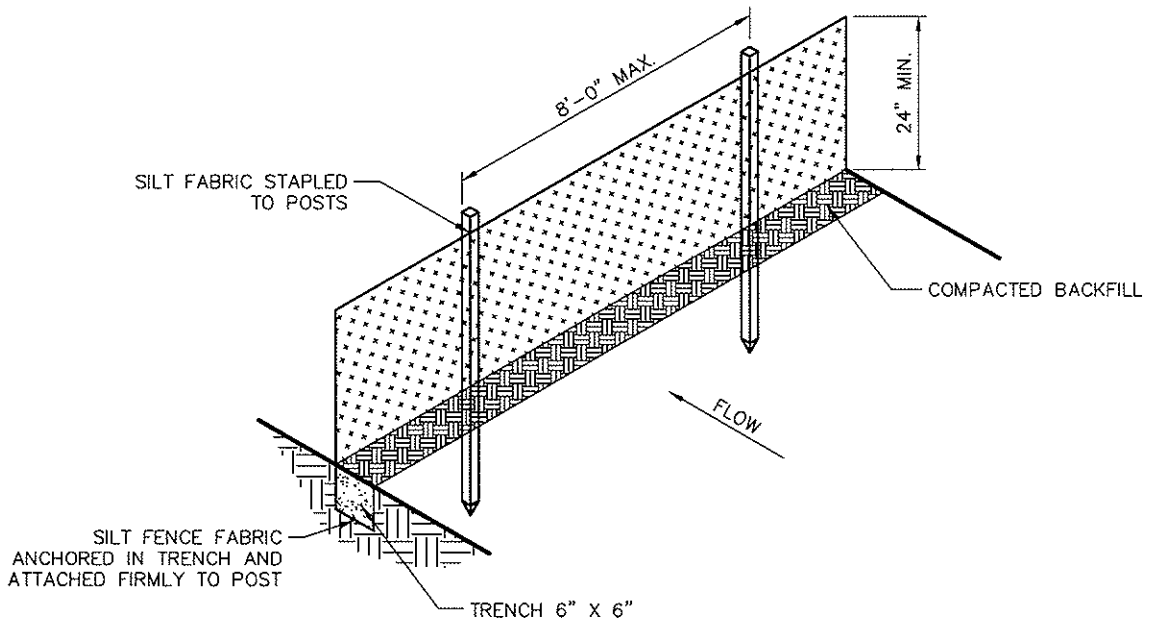
1

SCALE: N. T. S.



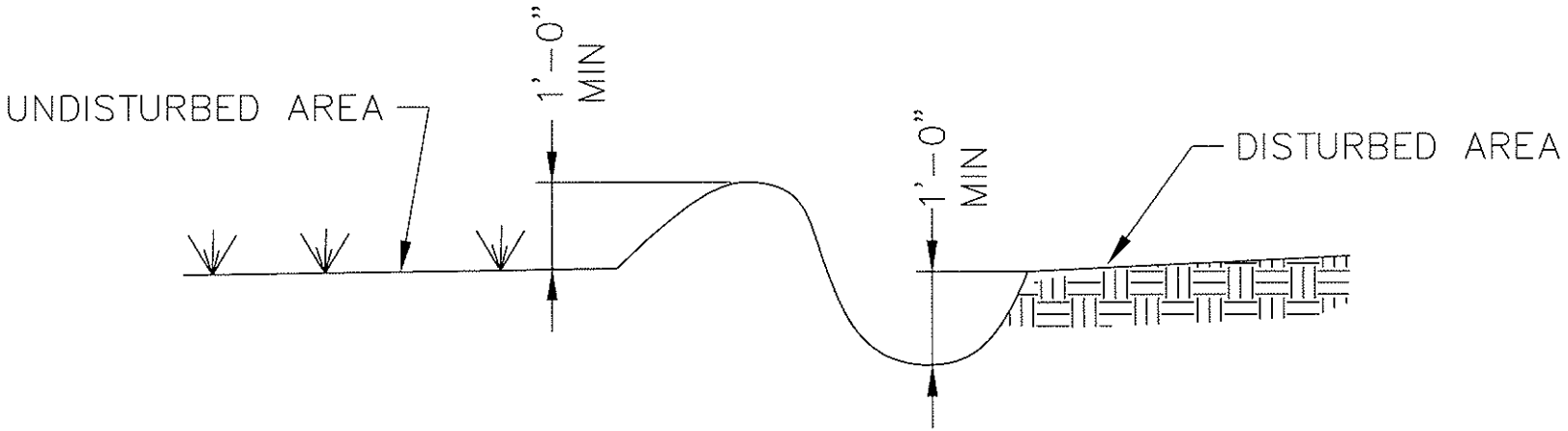
NOTES:

1. MINIMUM FILTER FABRIC HEIGHT SHALL BE 24".
2. POSTS FOR SILT FENCES SHALL BE METAL OR HARD WOOD WITH A MINIMUM LENGTH OF 36". WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION OF 2". METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 LBS/FOOT.
3. DRIVE POSTS VERTICALLY INTO THE GROUND TO A MINIMUM DEPTH OF 18", AND EXCAVATE A TRENCH APPROXIMATELY 6" WIDE AND 6" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. NO LESS THAN THE BOTTOM 1 FOOT OF THE FABRIC SHALL BE BURIED INTO THIS TRENCH.
4. THE FILTER FABRIC MATERIALS SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO THE WOOD POSTS WITH ¾" LONG #9 HEAVY DUTY STAPLES.
5. POSTS SHALL BE SPACED A MAXIMUM OF 8 FEET APART.



SILT FENCE DETAIL 2

SCALE: N. T. S.

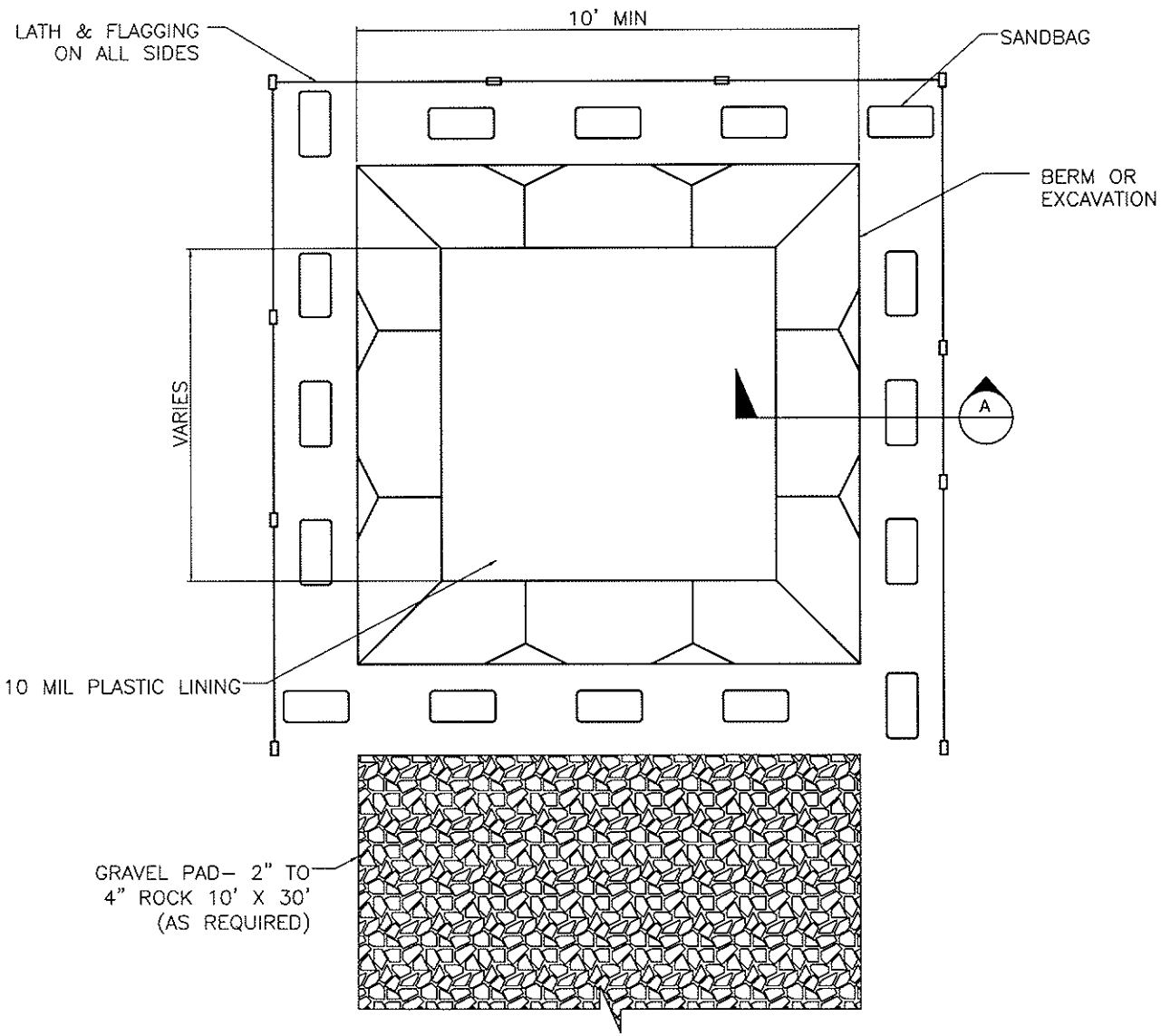


SWALE / BERM DETAIL 3

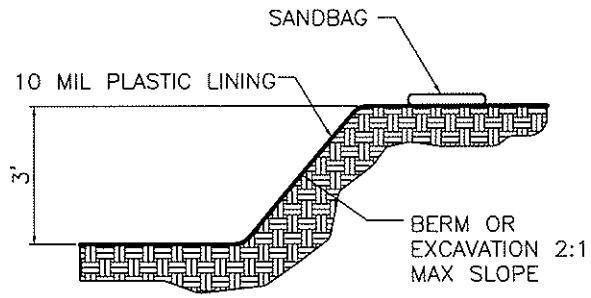
SCALE: N. T. S.

LAST UPDATE: 9/27/2010
PLOT DATE: 9/27/2010
FILE: BERM-SWALE DETAIL

J-U-B ENGINEERS, INC.



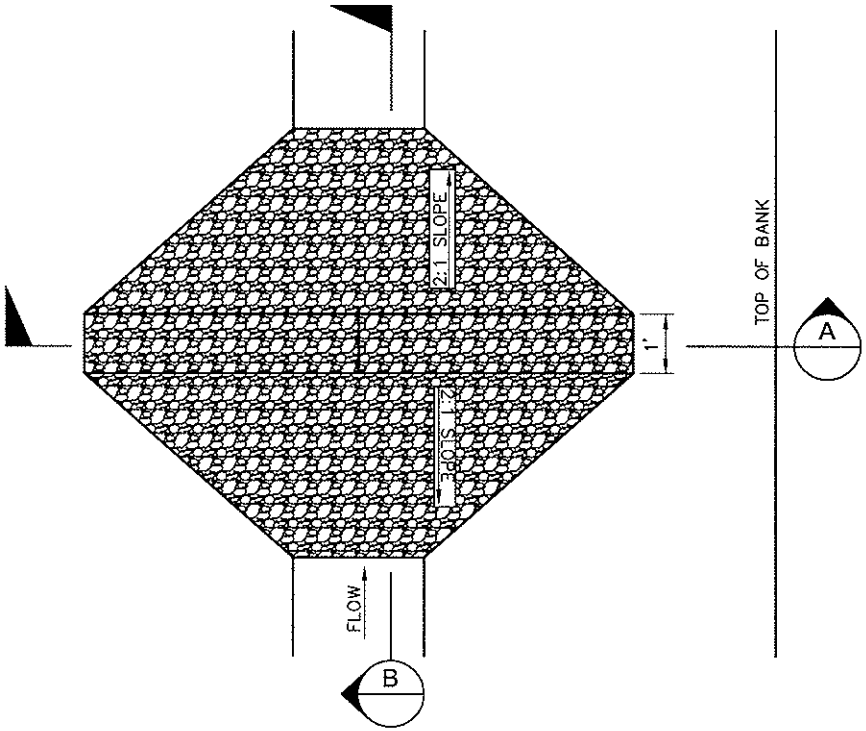
PLAN



SECTION A

NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. WASHOUT NEEDS TO BE EMPTIED AND REPAIRED WHEN 75% OF STORAGE CAPACITY IS FILLED.
4. DEVELOPER/CONTRACTOR RESPONSIBLE FOR REMOVAL & PROPER DISPOSAL OF CONCRETE PRIOR TO FILING N.O.T

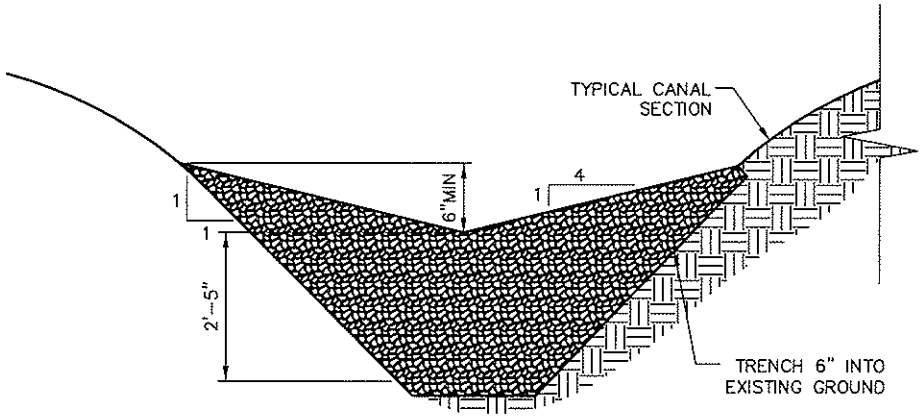
CONCRETE WASHOUT DETAIL 4
SCALE: N. T. S.



PLAN VIEW

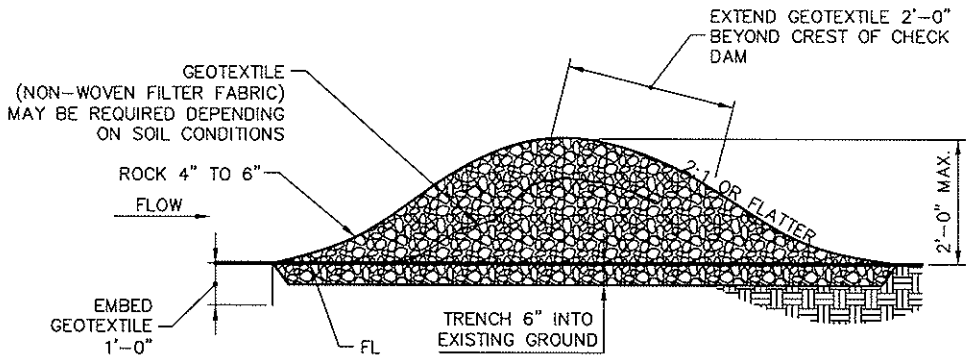
DITCH ROCK CHECK DAM 5

SCALE: N.T.S.



SECTION A

SCALE: N.T.S.

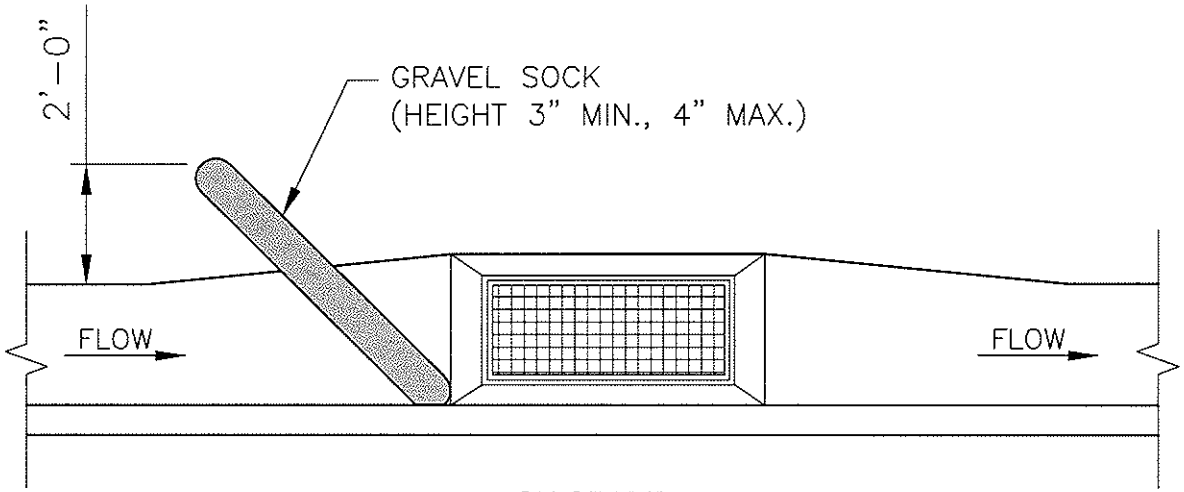


SECTION B

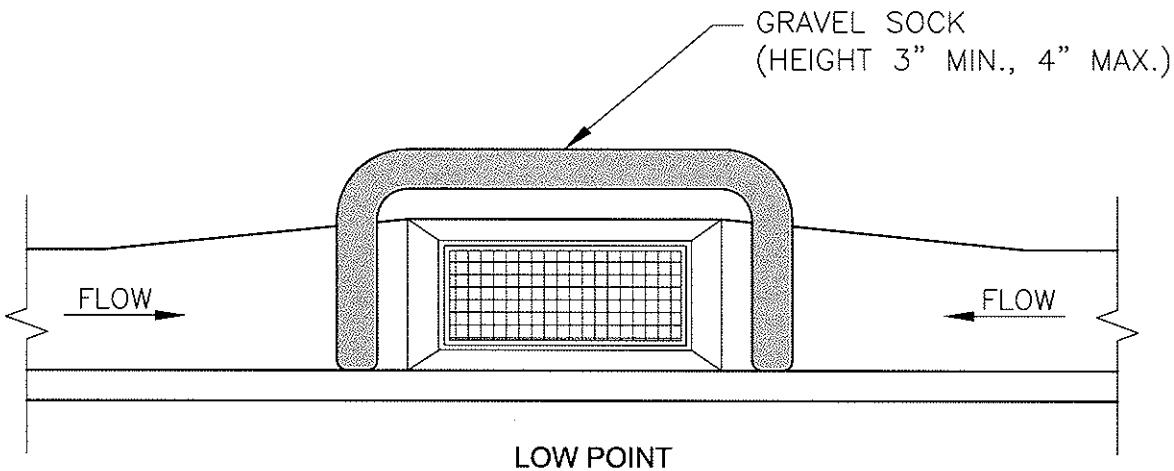
SCALE: N.T.S.

J-U-B ENGINEERS, INC.

LAST UPDATE: 9/27/2010
PLOT DATE: 9/27/2010
FILE: ROCK CHECK DAM - DITCH



ON GRADE



LOW POINT

6 INLET PROTECTION DETAIL
SCALE:N.T.S.

SWPPP Inspection Checklist

Pre-inspection Items

- ☐ Contact Site Superintendant or Project Manager
- ☐ Review previous inspections – are there reoccurring problems?
- ☐ Proper equipment
  - Hard hat
  - Vest
  - Safety shoes
  - Safety glasses
  - Camera
  - GPS unit?
  - Inspector credentials

On-Site before inspecting

- ☐ Review SWPPP – updates and changes
- ☐ Review any specific concerns
- ☐ Check contractors inspection forms/issues

Inspection

- ☐ Use State Form – keep notes
- ☐ Check outfalls
- ☐ Check perimeter control
- ☐ Check entrances/exits
- ☐ Check erosion control BMPs
- ☐ Check sediment control BMPs
- ☐ Check for mud tracking
- ☐ Check stockpile/storage areas
- ☐ Check staging areas
- ☐ Take photos of good and bad
- ☐ Keep photo log
- ☐ Review findings with superintendant/project manager

Post Inspection

- ☐ Review form, complete and clarify as needed
- ☐ File inspection form and photos
- ☐ Send copy of form to State – can be done monthly

Name of Development_____

Developer_____Phone:_____

Responsible Contact_____Phone:_____

Submittal Date _____ Reviewed Date _____ Reviewed by _____

References are given from both the Small MS4 General UPDES Permit (section 4.2) and the Construction General Permit (section 3.5).

I- SWPPP Document (4.2.4.3.1)

Site Description

- ☐ Nature of activity or project – 3.5.1.a

_____

- ☐ Intended sequence of major soil disturbing activities – 3.5.1.b

_____

- ☐ Total area of site, area to be disturbed – 3.5.1.c _____
- ☐ Runoff coefficient – 3.5.1.d
  - Pre-construction _____
  - Post-construction_____
- ☐ General location map – 3.5.1.e
  - Existing drainage patterns and slopes
  - Final drainage patterns and slopes
  - Construction boundaries
  - Existing vegetation description
  - Areas of soil disturbance
  - Areas of no soil disturbance
  - BMP locations
  - Off-site areas used for construction support (may be non-applicable)
  - Final stabilization treatment
  - Discharge locations
- ☐ Description and location of discharges associated with <u>off-site</u> facilities (portable asphalt or concrete plants, stockpile areas, etc…) – 3.5.1.f

_____

_____

- ☐ Name and location of receiving waters – 3.5.1.g _____
- ☐ Area and boundary of any associated wetlands (may be non-applicable) – 3.5.1.g
- ☐ Copy of the current General Permit for Construction Activities

<u>Erosion and Sediment Controls</u> - 3.5.2.a.1

- ☐ Control measures for each major soil disturbing activity
  - Activity_____
  - Control Measure to be used_____
  - Timing_____
  - Installation details
  - Anticipated maintenance requirements

<u>Stabilization Practices</u> – 3.5.2.a.2

- ☐ Site specific stabilization
  - Interim stabilization practices – including timing
  - Permanent stabilization practices – including timing

<u>Structural Controls</u> - 3.5.2.a.3

- ☐ Flow control
  - Description of flow diversion BMPs

Name of Development_____

_____

- Description of flow storage BMPs

_____

- If site is 10 acres are more – Sediment Basin required
  - Basin sized for 3,600 cf/acre or 10-yr 24 hour storm

Post-Construction BMPs – 3.5.2.b

- ☐ Description of how pollutants are controlled after construction. (ie. permanent detention or retention basins, flow attenuation swales, infiltration, combination of BMPs, etc.)

_____

_____

- ☐ Technical basis for selecting post-construction BMPs

_____

- ☐ Velocity dissipation devices at discharge points (as necessary)

Other Controls – 3.5.2.c

- ☐ Waste Disposal – location and practices to control
- ☐ Off-Site Tracking – off-site tracking and dust control
- ☐ Septic, Waste and Sanitary Sewer Disposal – location and practices to control
- ☐ Vehicle/Equip. maintenance areas and controls.
- ☐ Exposure to construction materials – inventory, storage practices, locations, spill response, and practices to control
- ☐ Off-site support area controls (if applicable)

Maintenance – 3.5.3

- ☐ Maintenance requirements and schedules
- ☐ Maintenance Agreements

Non-Storm Water Discharges – 3.5.5

- ☐ Identify non-storm water discharges that may be associated with project (water used to clean or flush improvements, etc…)

_____

- ☐ Describe measures to be taken to implement pollution prevention for non-storm water discharges

_____

Inspections – 3.5.4

- ☐ Inspection requirements (at least once every 7 days, or once every 14 days and within 24 hours after a storm of 0.5 inches or greater)
- ☐ Qualifications of the inspector
- ☐ Linear project inspection requirements (0.25 miles above and below each access point)
- ☐ Inspection report forms
  - Inspection date
  - Name, title and qualifications of inspector
  - Weather information since last inspection
  - Current weather information
  - Locations of pollutant discharges
  - Locations of BMPs needing maintenance
  - Locations of BMPs that aren't working
  - Locations where additional BMPs are needed

Name of Development_____

- Any corrective actions that may be required, including changes that need to be made to the SWPPP – with implementation dates

☐ Requirements to keep records as part of SWPPP for at least 5 years

II- Water Quality Review (4.2.4.3.2)

☐ Urban Pollutants of Concern
- Sediments
- Nutrients (Phosphorus, Nitrogen…)
- Metals
- Hydrocarbons/oils
- Pesticides
- Chlorides
- Trash and Debris
- Bacteria
- Organics matter
- Others_____

☐ Consider options to include water quality aspects to this project.

☐ Identify any highly impacted areas.

☐ Identify and limit directly connected impervious areas (DCIA) on this project.

☐ Identify measures to minimize runoff.

III- Low Impact Development Design (4.2.4.3.3)

☐ Identify any low-impact development concepts and ideas that might work for this project. Consider the following LID Techniques:
- Bio-Retention Areas
- Green Roof
- Permeable Pavements
- Rain Water Collection
- Riparian Buffers
- Green Street System
- Non Structural

IV- Sensitive Areas (4.2.4.3.4)(3.5.2.d)

List any of the following within the proximity:

☐ Impaired water bodies
☐ High Quality Waters
☐ TMDL
☐ Wetlands
☐ Wildlife issues (Threatened & Endangered Species)
☐ Historic
☐ Priority Construction sites (7.36)
☐ Other_____

Any variance of Permit_____

Comments: _____

_____

_____

_____

This document and attachments must be maintained by the MS4 for a period of five years or until construction is completed, whichever is longer. (4.2.4.3)

UPDES STORM WATER INSPECTION EVALUATION FORM FOR SWPPP COMPLIANCE

BACKGROUND INFORMATION

Site Name:	UPDES Permit #:
Site Address:	
Local Jurisdiction or County:	
Permit Effective Date:	Permit Expiration Date:
Total Project Area:	Total Disturbed Area:

Project Type: (circle) *Subdivision* *Commercial* *Industrial* *Linear (Road/Pipe/Power)* *Land Disturbance*

OPERATOR CONTACT INFORMATION

	NAMES	PHONE NUMBERS	E-MAIL
Operator:			
Onsite Facility Contact:			
Important Contacts:			
Important Contacts:			

SWPPP PRE-SITE REVIEW INFORMATION	YES	NO
1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency?		
2. Are contact names and telephone numbers listed in the SWPPP?		
3. Does the SWPPP include a site map showing storm drains, slopes/surface drainage patterns, SW discharge points, construction boundaries, limits of disturbance, surface waters (name of receiving water), structural controls, and does it define/explain non-structural controls?		
4. Does the SWPPP have an estimate of the area to be disturbed, a sequence of construction activities, the SW runoff coefficient for after completion, a description of the soil types, controls for discharges from (asphalt/concrete) batch plants if any, show wetland areas, and have a desription of the nature of the construction activity?		
5. Does the SWPPP and site map show erosion and sediment controls placement & details (e.g. erosion blankets, mulch, slope drains, check dams, sediment basins, grass-lined channels, fiber rolls, sediment traps, silt fence, inlet protection, curb cut-back, dust control, etc?)		
6. Does the SWPPP and site map show and describe good housekepping controls (e.g. track out pad, street sweeping, material storage, construction waste containment and removal, sanitary waste, concrete washout pits, etc)		
7. Are post-construction elements included in the SWPPP? (i.e. grass swales, detention basins, vegetated filter strips, infiltration, depression storage, landscaping/xeriscaping, discontinuous concrete or hard surface SW conveyance, etc.)		
8. Does the SWPPP address endangered species and historic preservation?		
9. Is the SWPPP signed by a responsible corporate officer with the certification statement (see permit part 5.16.c.)?		
10. Are the NOI and a copy of the State permit in the SWPPP?		

NOTICE OF TERMINATION (NOT) INSPECTION

Site Name:	Date of Evaluation:
Site Address:	
Inspected By:	Title\Organization:

	YES	NO	COMMENTS:
1. Has the site been properly stabilized according to permit requirements?			
2. Have all temporary BMPs been removed?			
3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings?			
4. Is the site acceptably clean?			

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 manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of.fine and imprisonment for knowing violations.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

(Print Name) (Title) (Signature) (Date)

modified 8/12/10

(Attach additional sheets of narrative, pictures and checklists, as necessary)

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Site Name:	Date of Evaluation:	Page	of
Site Address:			

EPA Form 3560-3 SEV Codes and Descriptions					
DOR11		Discharge without a permit	BR19B		Failure to properly operate and maintain BMP's
DOR18		Failure to apply for a Notice of Termination	BR19A		Failure to properly install/implement BMP's
BOR12		Failure to conduct inspections	EOR16		Failure to submit required report (non-DMR)
BOC17		Failure to develop any or adequate SWPPP/SWMP	AOR22		Narrative effluent violation
BOC18		Failure to implement SWPPP/SWMP	DOR12		Failure to submit required permit information
BOR41		Failure to maintain records	AOR12		Numeric effluent violation
COR11		Failure to monitor	BOR42		Violation of a milestone in an order

SWPPP COMPLIANCE INSPECTION FORM

Project Name:	Address:	Date:
Owner:	Contractor (Gen/Sub):	Start time:
Site Contact:	Phone:	Stop time:
UPDES Permit #: Expiration:	Weather: Sunny Cloudy Raining Snowing Other:	
Date of last rain event:	Duration:	Approx. Rainfall (in):
Inspected By (Print):	Local Jurisdiction or County:	
Reason for Inspection: Scheduled Complaint/Tip Random	Receiving Waters:	
Inspection Code (circle): SW sampling / SW non-sampling	Inspector Code (circle): (S) State / (L) Local	Type Code (circle): 1 - Municipal 2 - Industrial 3 - State

SWPPP, EROSION, SEDIMENT AND HOUSEKEEPING BMP's INFORMATION	YES	NO	N/A
1. Is the SWPPP on site and accessible, or is the SWPPP location posted in an obvious place and reasonably accessible (in a short time)?			
2. Are erosion control, sediment control, and good housekeeping BMP's installed on the site as shown in the SWPPP?			
3. Has the SWPPP been updated to reflect the current site conditions (modifications dated & initialed on site map, new BMPs on site map, discontinued BMPs crossed off site map, new BMP details & spec's in SWPPP, SWPPP amendment Log, etc.)?			
4. Are on-site inspections being performed and recorded by a qualified person on a weekly or biweekly basis, reporting items required by permit? (Inspector name &qualifications, weather, problems/repairs, corrective action, new BMPs, removed BMPs, discharges, etc.)			
5. Have all corrective action items from previous inspections been addressed and documented within the time frame allotted by the inspector?			
6. Are SW flows entering and leaving the construction site controlled, managed, or diverted around the site? (e.g. perimeter controls, berms, silt fence, upgradient boundary diversion, down gradient boundary sediment control, etc.)			
7. Is there evidence of sediment discharge such as mud flows or soil deposits from the construction site in downstream locations?			
8. Is there evidence of vehicles tracking soil off the construction site?			
9. Is there soil, construction material, landscaping items, or other debris piled on impervious surfaces (roads, drives) that could be washed with SW to a storm drain or water body?			
10. Is there a need to repair, maintain, or improve erosion control BMPs (temporary stabilization, erosion blankets, mulch, vegetated strips, rip rap, surface roughening, pipe slope drain, dust control, etc)?			
11. Is there a need to repair, maintain, or improve sediment control BMPs (silt fence, check dams, fiber rolls, sediment trap/basin, inlet protection, waddles, straw bails, curb cut-back, etc?			
12. Is there a need to repair, maintain, or improve good housekeeping controls (clean track out pad, sweeping, construction materials management, litter/trash control, port-o-potties staked down, fueling areas, concrete wash out area, proper curb ramps, spill prevention, etc)?			
13. Are there disturbed areas that have not had construction activities for 14 to 21 days without stabilization? (except snow or frozen ground)?			
14. Are there places where BMPs are needed and should be installed or not needed and should be removed?			

COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Identify the problem and its location. If appropriate, describe (in general terms) what needs to be completed. However, only if qualified (e.g., you are a designer) should you be mandating specific BMPs to install. Include the date when corrections are made.

Inspector, please list all applicable SEV codes:

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 manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of.fine and imprisonment for knowing violations.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

modified 8/12/10 (Print Name) (Title) (Signature) (Date)

(Attach additional sheets of narrative, pictures and checklists, as necessary)

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

In Riverdale City re

Site Name:	Date of Evaluation:	Page of
Site Address:		

EPA Form 3560-3 SEV Codes and Descriptions

DOR11		Discharge without a permit	BR19B		Failure to properly operate and maintain BMP's
DOR18		Failure to apply for a Notice of Termination	BR19A		Failure to properly install/implement BMP's
BOR12		Failure to conduct inspections	EOR16		Failure to submit required report (non-DMR)
BOC17		Failure to develop any or adequate SWPPP/SWMP	AOR22		Narrative effluent violation
BOC18		Failure to implement SWPPP/SWMP	DOR12		Failure to submit required permit information
BOR41		Failure to maintain records	AOR12		Numeric effluent violation
COR11		Failure to monitor	BOR42		Violation of a milestone in an order

NOTICE OF TERMINATION PROCESS

The Notice of Termination has been a topic of discussion for some time on the State level. The Notice of Termination formally brings to a close the temporary permit to discharge stormwater from construction sites. This is a permit issued by the State and as such the State of Utah is the entity that grants a termination to that permit. However, the State of Utah does not have the resources or man-power required to ensure that all construction sites meet the requirements necessary to obtain an NOT and are leaning on MS4s state-wide to aid in the process. In this light the 2010 MS4 permit states:

4.2.4.4.2 The Permittee must inspect all phases of construction: prior to land disturbance, during active construction, and following active construction. The Permittee must include in its SWMP document a procedure for being notified by construction operators/owners of their completion of active construction so that verification of final stabilization and removal of all temporary control measures may be conducted.

Possible Steps for Terminating the Discharge of Water Associated with Construction Activities

When a Construction Site is nearing completion and the permittee is desirous of terminating their permit with the State of Utah for discharging water associated with construction activities the following steps should be taken:

1. The Contractor's SWPPP coordinator for the project should notify the city storm water inspector that they are ready for final inspection.
2. The city storm water inspector visits the site to determine if the site has reached final stabilization as determined by the UPDES Storm Water General Permit for Construction Activities, UTR300000. The city storm water inspector also checks to see if all temporary BMP have been removed.
3. If there is work still to be completed they are included in the Additional Comments and Corrective Actions for SWPPP Compliance portion of the State's UPDES Storm Water Inspection Evaluation Form for SWPPP Compliance (State's inspection form) and provides a copy for the SWPPP coordinator.
4. When the city storm water inspector is satisfied that all requirements have been met, the city storm water inspector uses the State's inspection form and completes the Notice of Termination (NOT) Inspection section of that form and sends a copy to the State for their records.
5. *(This step is not currently needed, but may become effective in January 2011).* The city storm water inspector or designated individual then needs to log into the State's database and change the status of the permit for the given permit.
6. Once the State has received confirmation that the site meets all the requirements the NOT is granted.

4.2.6.7. The Permittee must develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls that are associated with the Permittee or that discharge to the MS4. This process must include consideration of controls that can be used to minimize the impacts to site water quality and hydrology while still meeting project objectives. A description of this process must be included in the SWMP document

4.2.6.8. Construction Projects. Public construction projects shall comply with the requirements applied to private projects. All construction projects disturbing 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, owned or operated by the Permittee are required to be covered under the General UPDES Permit for Storm Water Discharges Associated with Construction Activities. All public projects approved after the effective date of this Permit shall include construction and post-construction controls selected and implemented pursuant to the requirements in Parts 4.2.4. and 4.2.5.

Ideas for including water quality on all projects

1. Review Storm Drain Master Plan for opportunities to include water quality projects or water quality aspects to Capital Improvement Projects.
2. Update Master Plan to include water quality issues.
3. During conceptual design review meetings – ask the questions –
    a. *Is there opportunity to include water quality aspects to this project?*
    b. *Are there any highly impacted areas?*
    c. *Are there low-impact development concepts and ideas that might work for this project?*
    d. *Can we limit directly connected impervious areas (DCIA) on this project?*
    e. *What could be done to minimize runoff?*
4. Train all employees, contractors and developers on SOP's and BMP's for all projects.
5. Include SWPPP discussion as part of the agenda for preconstruction meetings for all projects.
6. Look for "green money" funding options for water quality aspects of all projects.
7. Follow normal SWPPP review process/checklist review for all projects.

BMP: BMP Inspection and Maintenance

BMPIM

APPLICATIONS

- ☐ Manufacturing
- ☒ Material Handling
- ☒ Vehicle Maintenance
- ☐ Construction
- ☐ Commercial Activities
- ☐ Roadways
- ☒ Waste Containment
- ☒ Housekeeping Practices

DESCRIPTION:

Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

APPROACH:

Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.

- Annual inspections.
- Prioritize maintenance to clean, maintain, and repair or replace structures in areas beginning with the highest pollutant loading.
- Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- Keep accurate logs of what structures were maintained and when they were maintained.
- Record the amount of waste collected.

LIMITATIONS:

- Cost
- Availability of trained staff

Riverdale City

TARGETED POLLUTANTS

- ■ Sediment
- ■ Nutrients
- ☐ Heavy Metals
- ■ Toxic Materials
- ☐ Oxygen Demanding Substances
- ■ Oil & Grease
- ■ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- ■ Capital Costs
- ■ O&M Costs
- ☒ Maintenance
- ☒ Staffing
- ☐ Training
- ☐ Administrative

■ High ☒ Medium ☐ Low

BMP: Classroom Education On Storm Water

CESW

APPLICATIONS

☐ Manufacturing
☒ Material Handling
☐ Vehicle Maintenance
☐ Construction
☐ Commercial Activities
☐ Roadways
☒ Waste Containment
☒ Housekeeping Practices

DESCRIPTION:

Classroom education is an integral part of any storm water pollution outreach program. Providing storm water education through schools exposes the message not only to students but to their parents as well. Topics can include Water conservation, proper lawn and garden care, and proper disposal of hazardous household wastes.

APPROACH:

- Building a strong relationship with the school district is the most important step in getting storm water education into the schools.
- When developing an outreach message for children, choose the age ranges to target.
- Many additional classroom materials are available for use free of cost. Educational materials available for downloading from the Internet at www.csu.org/water/watereducation/watereducation.html.
- Should make students aware of the potential impacts of hazardous household materials on water quality and inform residents of ways to properly store, handle, and dispose of the chemicals
- Water usage in the home can easily be reduced by 15 to 20 percent—without major discomfort—by implementing a program to conserve water in the home.
- Lawn and garden activities can result in contamination of storm water through pesticide, soil, and fertilizer runoff. Proper landscape management, however, can effectively reduce water use and contaminant runoff and enhance the aesthetics of a property.

LIMITATIONS:

- One of the limitations of classroom education is being able to incorporate storm water issues into the school curricula. With so many subjects to teach, environmental issues might be viewed as less important.

MAINTENANCE:

- Programs and educational materials can be re-used, but they must be presented on a continual basis.

Riverdale City

TARGETED POLLUTANTS

■ Sediment
■ Nutrients
■ Heavy Metals
■ Toxic Materials
■ Oxygen Demanding Substances
■ Oil & Grease
■ Floatable Materials
■ Bacteria & Viruses

■ High Impact
☒ Medium Impact
☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

☒ Capital Costs
☐ O&M Costs
☐ Maintenance
☐ Training

■ High ☒ Medium ☐ Low

BMP: Contractor Certification &Inspector Training

CCIT

Municipalities can establish training programs to educate contractors about erosion and sediment control practices

Construction reviewers periodically inspect construction sites to ensure that contractors have installed and maintained their erosion and sediment controls properly (Source: University of Connecticut Cooperative Extension System, 2000)

APPLICATIONS

- ☐ Manufacturing
- ☒ Material Handling
- ☐ Vehicle Maintenance
- ☒ Construction
- ☐ Commercial Activities
- ☐ Roadways
- ☒ Waste Containment
- ☐ Housekeeping Practices

DESCRIPTION:

One of the most important factors determining whether or not erosion and sediment controls will be properly installed and maintained on a construction site is the knowledge and experience of the contractor. Many communities require certification for key on-site employees who are responsible for implementing the ESC plan. Several states have contractor certification programs. The State of Delaware requires that at least one person on any construction project be formally certified. The Delaware program requires certification for any foreman or superintendent who is in charge of onsite clearing and land-disturbing activities for sediment and runoff control associated with a construction project.

APPROACH:

- Training and certification will help to ensure that the plans are properly implemented and that best management practices are properly installed and maintained.
- Inspector training programs are appropriate for municipalities with limited funding and resources for ESC program implementation.
- Contractor certification can be accomplished through municipally sponsored training courses, or more informally, municipalities can hold mandatory pre-construction or pre-wintering meetings and conduct regular and final inspection visits to transfer information to contractors (Brown and Caraco, 1997).
- To implement an inspector training program, the governing agency would need to establish a certification course with periodic recertification, review reports submitted by private inspectors, conduct spot checks for accuracy, and institute fines or other penalties for noncompliance.
- Curb systems should be maintained through curb repair (patching and replacement).
- To minimize the amount of spilled material tracked outside of the area by personnel, grade within the curbing to direct the spilled materials to a down-slope side of the curbing, thus keeping the spilled materials away from personnel and equipment. Grading will also facilitate clean-up.

LIMITATIONS:

- Contractor certification and inspector training programs require a substantial amount of effort on the part of the municipality or regulatory agency.
- They need to develop curricula for training courses, dedicate staff to teach courses, and maintain a report review and site inspection staff to ensure that both contractors and inspectors are fulfilling their obligations and complying with the ESC program.

Riverdale City

TARGETED POLLUTANTS

- ■ Sediment
- ■ Nutrients
- ☐ Heavy Metals
- ■ Toxic Materials
- ☐ Oxygen Demanding Substances
- ■ Oil & Grease
- ■ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- ■ Capital Costs
- ■ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Educational Materials

EM

DESCRIPTION:

Educational Materials to present information to the public on storm water issues and water quality awareness is an integral part of any storm water education program. Providing storm water education by sending out information with bills, newsletters, or presented at city activities, in city offices, schools, and fair booths, exposes the message to a wide variety of people, if not city-wide. Topics can include Water conservation, proper lawn and garden care, and proper disposal of hazardous household wastes. Many educational materials can be used for city personnel, contractors as well as homeowners or businesses.

APPROACH:

- Building a strong relationship with citizens is the most important step in getting storm water education city-wide.
- Educational materials can be tailored to all different age groups and technical background.
- Should make people aware of the potential impacts of hazardous household materials on water quality and inform residents of ways to properly store, handle, and dispose of the chemicals
- Water usage in the home can easily be reduced by 15 to 20 percent—without major discomfort—by implementing a program to conserve water in the home.
- Lawn and garden activities can result in contamination of storm water through pesticide, soil, and fertilizer runoff. Proper landscape management, however, can effectively reduce water use and contaminant runoff and enhance the aesthetics of a property.

LIMITATIONS:

- Not everyone will actually read or incorporate the information into their lives.
- Budgets need to have sufficient funds to obtain educational materials and their distribution.

MAINTENANCE:

- Programs and educational materials can be re-used, but they must be presented on a continual basis.

APPLICATIONS

☒ Manufacturing
☒ Material Handling
☒ Vehicle Maintenance
☒ Construction
☒ Commercial Activities
☒ Roadways
☒ Waste Containment
☒ Housekeeping Practices

Riverdale City

TARGETED POLLUTANTS

■ Sediment
■ Nutrients
■ Heavy Metals
■ Toxic Materials
■ Oxygen Demanding Substances
■ Oil & Grease
■ Floatable Materials
■ Bacteria & Viruses

■ High Impact
☒ Medium Impact
☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

☒ Capital Costs
☐ O&M Costs
☐ Maintenance
☐ Training

■ High ☒ Medium ☐ Low

BMP: Employee Training

ET

DESCRIPTION:

Employee training, like equipment maintenance, is a method by which to implement BMPs. Employee training should be used in conjunction with all other BMPs as part of the facility=s SWPPP.

The specific employee training aspects of each of the source controls are highlighted in the individual information sheets. The focus of this information sheet is more general, and includes the overall objectives and approach for assuring employee training in stormwater pollution prevention. Accordingly, the organization of this information sheet differs somewhat from the other information sheets in this chapter.

OBJECTIVES:

Employee training should be based on four objectives:

< Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
< Identify solutions (BMPs);
< Promote employee ownership of the problems and the solutions; and
< Integrate employee feedback into training and BMP implementation.

APPROACH:

< Integrate training regarding stormwater quality management with existing training programs that may be required for other regulations.
< Employee training is a vital component of many of the individual source control BMPs included in this manual.

PROGRAM ELEMENTS

: New Development
: Residential
: Commercial Activities
: Industrial Activities
: Municipal Facilities
: Illegal Discharges

Riverdale City

TARGETED POLLUTANTS

Sediment
Nutrients
Heavy Metals
Toxic Materials
Oxygen Demanding Substances
Oil & Grease
Floatable Materials
Bacteria & Viruses

■ High Impact
☒ Medium Impact
☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

: Capital Costs
: O&M Costs
9 Regulatory
Training
: Staffing
: Administrative

■ High ☒ Medium ☐ Low

BMP: Erosion Control Plan

ECP

Diversion dikes can be used to contain storm water onsite

DESCRIPTION:

Erosion and sediment control are generally two of the biggest problems on construction sites. Erosion control measures must be taken during a construction project. An Erosion Control Plan will be submitted and approved before work can begin on the project. An Erosion Control Plan describes what erosion control BMPs will be implemented, when and where, during the project. Erosion and sediment control measures should be installed before other construction activities begin.

APPROACH:

- Create a list of possible erosion control BMPs that could be implemented in any given project.
- Require submittal of erosion & sediment control plans for projects that are on 1 acre and larger sites.
- Develop a review checklist for plan review personnel.
- Provide the review checklist to contractors/developers so they know what is expected.
- Provide inspectors with a copy of the approved plans.
- Check to make sure erosion control measures are properly installed before beginning other construction activities.

LIMITATIONS:

- Must be enforced to be affective.
- Sometimes site conditions are different than planned on and the plans have to be modified.
- The erosion control measures have to be maintained.
- The BMPs have to be installed early on in the project.
- The BMPs have to be removed after the threat of erosion is no longer present.

APPLICATIONS

- ☐ Manufacturing
- ☐ Material Handling
- ☐ Vehicle Maintenance
- ■ Construction
- ☐ Commercial Activities
- ☒ Roadways
- ☐ Waste Containment
- ☐ Housekeeping Practices

Riverdale City

TARGETED POLLUTANTS

- ■ Sediment
- ☒ Nutrients
- ☐ Heavy Metals
- ☐ Toxic Materials
- ☐ Oxygen Demanding Substances
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- ☒ Capital Costs
- ☒ O&M Costs
- ☐ Maintenance
- ☒ Training

BMP: Housekeeping Practices

HP

DESCRIPTION:

Promote efficient and safe housekeeping practices (storage, use, and cleanup) when handling potentially harmful materials such as fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals.

APPROACH:

< Pattern a new program after the many established programs from municipalities around the country. Integrate this best management practice as much as possible with existing programs at your municipality.

< This BMP has two key audiences: municipal employees and the general public.

< For the general public, municipalities should establish a public education program that provides information on such items as storm water pollution and beneficial effects of proper disposal on water quality; reading product labels; safer alternative products; safe storage, handling, and disposal of hazardous products; list of local agencies; and emergency phone numbers. The programs listed below have provided this information through brochures or booklets that are available at a variety of locations including municipal offices, household hazardous waste collection events or facilities, and public information fairs.

Municipal facilities should develop controls on the application of pesticides, herbicides, and fertilizers in public right-of-ways and at municipal facilities. Controls may include:

< List of approved pesticides and selected uses.

< Product and application information for users.

< Equipment use and maintenance procedures.

< Record keeping and public notice procedures.

LIMITATIONS:

There are no major limitations to this best management practice.

PROGRAM ELEMENTS

☐ New Development
☒ Residential
☐ Commercial Activities
☐ Industrial Activities
☒ Municipal Facilities
☐ Illegal Discharges

Riverdale City

TARGETED POLLUTANTS

Sediment
Nutrients
9 Heavy Metals
Toxic Materials
Oxygen Demanding Substances
Oil & Grease
9 Floatable Materials
9 Bacteria & Viruses

■ High Impact
☒ Medium Impact
☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

9 Capital Costs
: O&M Costs
9 Regulatory
Training
: Staffing
9 Administrative

■ High ☒ Medium ☐ Low

BMP: Infrastructure Planning

IPL

Developers can design streets and pedestrian paths to maximize convenience and safety while at the same time minimizing impervious surface area (Source: The Rouse Company, no date)

APPLICATIONS

- ☐ Manufacturing
- ☐ Material Handling
- ☐ Vehicle Maintenance
- ☒ Construction
- ☒ Commercial Activities
- ☒ Roadways
- ☐ Waste Containment
- ☐ Housekeeping Practices

DESCRIPTION:

This practice requires changes in the regional growth planning process to contain sprawl development. Sprawl development is the expansion of low-density development into previously undeveloped land. The American Farmland Trust has estimated that the United States is losing about 50 acres an hour to suburban and exurban development (Longman, 1998). This sprawl development requires local governments to extend public services to new residential communities whose tax payments often do not cover the cost of providing those services. For example, in Prince William County, Virginia, officials have estimated that the costs of providing services to new residential homes exceeds what is brought in from taxes and other fees by $1,600 per home (Shear and Casey, 1996).

Infrastructure planning makes wise decisions to locate public services—water, sewer, roads, schools, and emergency services—in the suburban fringe and direct new growth into previously developed areas, discouraging

Low-density development. Generally, this is done by drawing a boundary or envelope around a community, beyond which major public infrastructure investments are discouraged or not subsidized. Meanwhile, economic and other incentives are provided within the boundary to encourage growth in existing neighborhoods.

APPROACH:

- Sprawl development negatively impacts water quality in several ways. The most significant impact comes from the increase in impervious cover that is associated with sprawl growth. In addition to rooftop impervious area from new development, extension of road systems and additions of paved surface from driveways create an overall increase in imperviousness.
- *Urban Growth Boundaries*. This planning tool establishes a dividing line that defines where a growth limit is to occur and where agricultural or rural land is to be preserved. Often, an urban services area is included in this boundary that creates a zone where public services will not be extended.
- *Infill/Community Redevelopment*. This practice encourages new development in unused or underutilized land in existing urban areas. Communities may offer tax breaks or other economic incentives to developers to promote the redevelopment of properties that are vacant or damaged.

LIMITATIONS:

- Intense development of existing areas can create a new set of challenges for storm water program managers. Storm water management solutions are often more difficult and complex in ultra-urban areas than in suburban areas
- Infrastructure planning is often done on a regional scale and requires a cooperative effort between all the communities within a given region in order to be successful.

Riverdale City

TARGETED POLLUTANTS

- ☒ Sediment
- ☐ Nutrients
- ☐ Heavy Metals
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- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Landscape & Irrigation Plan

LIP

DESCRIPTION:

All developers are required to submit a landscape and irrigation plan for their developments. Lawn and garden activities can result in contamination of storm water through pesticide, soil, and fertilizer runoff. Proper landscape management, however, can effectively reduce water use and contaminant runoff as well as enhance the aesthetics of a property.

APPROACH:

- Develop landscape and irrigation plan preparation guidelines.
- Require a landscape and irrigation plan for each new commercial development.
- Educate local developers on how to create effective landscape and irrigation plans for their new developments.
- Educate municipal staff to review property landscape and irrigation plans to minimize runoff.
- Check all new irrigation plans to ensure that there will be no overspray onto impervious surfaces and that the irrigation water will be contained on site.
- Uniform coverage for sprinkler systems should be checked to help minimize over watering.

LIMITATIONS:

- More time and effort will be required of the municipal staff to review new development plans.
- Some communities do note have the expertise to complete proper reviews in-house.

MAINTENANCE:

- Programs and educational materials can be repeatedly sent out or emphasized. Extension service continues to research and provide current data.

APPLICATIONS

- ☒ Manufacturing
- ☐ Material Handling
- ☐ Vehicle Maintenance
- ■ Construction
- ☒ Commercial Activities
- ☐ Roadways
- ☐ Waste Containment
- ☒ Housekeeping Practices

Riverdale City

TARGETED POLLUTANTS

- ☐ Sediment
- ■ Nutrients
- ☐ Heavy Metals
- ☐ Toxic Materials
- ☐ Oxygen Demanding Substances
- ☒ Oil & Grease
- ☐ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- ☒ Capital Costs
- ☒ O&M Costs
- ☐ Maintenance
- ☒ Training

BMP: Ordinance Development

OD

APPLICATIONS

- ☒ Manufacturing
- ☒ Material Handling
- ☒ Vehicle Maintenance
- ☒ Construction
- ☒ Commercial Activities
- ☒ Roadways
- ☒ Waste Containment
- ☒ Housekeeping Practices

DESCRIPTION:

Existing ordinances relating to storm water are reviewed for compliance. New ordinances are written to prohibit non-storm water discharges into the Municipal Separate Storm Sewer System (MS4), require proper erosion and sediment controls on construction sites, require the implementation of post-construction runoff controls, and to ensure proper planning/zoning protections.

APPROACH:

- Review existing storm drain ordinances for consistency and compliance with state and federal regulations and make improvements, if necessary. Ensure that no conflicts will occur with new ordinances that will be written and adopted.
- Write and adopt an ordinance that prohibits (to the extent allowable under State, Tribal, or local law) the discharge of non-storm water discharges into the MS4 with appropriate enforcement procedures and actions.
- Write and adopt an ordinance, with sanctions to ensure compliance, requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites.
- Write and adopt an ordinance requiring the implementation of post-construction runoff controls to the extent allowable under State, Tribal, or local law.
- Educate the public about the new ordinances.
- Enforce the new ordinances.

LIMITATIONS:

- Wording of ordinances is often difficult. It should be specific to serve the intended purpose, but not too specific to cause potential conflicts with other ordinances or situations.
- Once an ordinance is adopted, it can be difficult to modify ordinances to meet changing needs.
- Ordinances have to be enforced to be beneficial.
- Ordinances take time to change.

Riverdale City

TARGETED POLLUTANTS

- ☒ Sediment
- ☒ Nutrients
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- ☒ Floatable Materials
- ☒ Bacteria & Viruses

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- ☒ Medium Impact
- ☐ Low or Unknown Impact

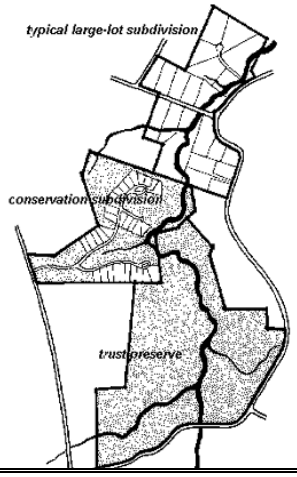
IMPLEMENTATION REQUIREMENTS

- ■ Capital Costs
- ☐ O&M Costs
- ☐ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Zoning

ZO



APPLICATIONS

- ☐ Manufacturing
- ☐ Material Handling
- ☐ Vehicle Maintenance
- ☒ Construction
- ☒ Commercial Activities
- ☐ Roadways
- ☐ Waste Containment
- ☐ Housekeeping Practices

DESCRIPTION:

Zoning is a classification scheme for land use planning. Zoning can serve numerous functions and can help mitigate storm water runoff problems by facilitating better site designs. By correctly applying the right zoning technique, development can be targeted into specific areas, limiting development in other areas and providing protection for the most important land conservation areas.

APPROACH:

- Impervious Overlay Zoning: This type of overlay zoning limits future impervious areas.
- Incentive Zoning: This planning technique relies on bonuses or incentives for developers to encourage the creation of certain amenities or land use designs. A developer is granted the right to build more intensively on a property or given some other bonus in exchange for an amenity or a design that the community considers beneficial.
- Performance Zoning: Performance zoning is a flexible approach that has been employed in a variety of fashions in several different communities across the country. Some performance factors include traffic or noise generation limits, lighting requirements, storm water runoff quality and quantity criteria, protection of wildlife and vegetation, and even architectural style criteria
- Urban Growth Boundaries: Urban growth boundaries are sometimes called development service districts and include areas where public services are already provided (e.g., sewer, water, roads, police, fire, and schools).

LIMITATIONS:

- Some zoning techniques may be limited by economic and political acceptance and should be evaluated on these criteria as well as storm water management goals.

Riverdale City

TARGETED POLLUTANTS

- ☒ Sediment
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- ☒ Medium Impact
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IMPLEMENTATION REQUIREMENTS

- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

See Appendix B for Standard Operating Procedures

Maintenance Agreements and Arrangements

The Small MS4 General UPDES Permit (4.2.5.5.1) requires the use of Maintenance Agreements between developer and the MS4 for any post construction BMP or Stormwater Treatment Practices (STP).

> 4.2.5.5.1 The ordinance or other regulatory mechanism shall include provisions for both construction-phase and post-construction access for Permittees to inspect storm water control measures on private properties that discharge to the MS4 to ensure that adequate maintenance is being performed. The ordinance or other regulatory mechanism may, in lieu of requiring that the Permittee's staff inspect and maintain storm water controls on private property, instead require private property owner/operators or qualified third parties to conduct maintenance and provide annual certification that adequate maintenance has been performed and the structural controls are operating as designed to protect water quality. In this case, the Permittee must require a maintenance agreement addressing maintenance requirements for any control measures installed on site. The agreement must allow the Permittee to conduct oversight inspections of the storm water control measures and also account for transfer of responsibility in leases and/or deeds. The agreement must also allow the Permittee to perform necessary maintenance or corrective actions neglected by the property owner/operator, and bill or recoup costs from the property owner/operator as needed.

A stormwater maintenance agreement is a formal contract between a local government and a property owner designed to guarantee that specific maintenance functions are performed in exchange for permission to develop that property. Local governments benefit from these agreements in that responsibility for regular maintenance of the Stormwater Treatment Practice (STP) can be placed upon the property owner or other legally recognized party, allowing agency staff more time for plan review and inspection.

Maintenance agreements can be an effective tool for ensuring long-term maintenance of on-site STPs. The most important aspect of creating these maintenance agreements is to clearly define the responsibilities of each party entering into the agreement. Basic language that should be incorporated into an agreement includes the following:

1. Performance of routine maintenance
Local governments often find it easier to have a property owner perform all maintenance according to the requirements of a Design Manual. Other communities require that property owners do aesthetic maintenance (i.e., mowing, vegetation removal) and implement pollution prevention plans, but elect to perform structural maintenance and sediment removal themselves.

2. Maintenance schedules
Maintenance requirements may vary, but usually governments require that all STP owners perform at least an annual inspection and document the maintenance and repairs performed. An annual report must then be submitted to the government, who may then choose to perform an inspection of the facility.

3. Inspection requirements
Local governments may obligate themselves to performing an annual inspection of an STP, or may choose to inspect when deemed necessary instead. Local governments may also wish to include language allowing maintenance requirements to be increased if deemed necessary to ensure proper functioning of the STP.

4. Access to STPs
The agreement should grant permission to a local government or its authorized agent to enter onto property to inspect STPs. If deficiencies are noted, the government should then provide a copy of the inspection report to the property owner, and provide a timeline for repair of these deficiencies.

5. Failure to maintain
In the maintenance agreement, the government should repeat the steps available for addressing a failure to maintain situation. Language allowing access to STPs cited as not properly maintained is essential, along with the right to charge any costs for repairs back to the property owner. The government may wish to include deadlines for repayment of maintenance costs, and provide for liens against property up to the cost of the maintenance plus interest.

6. Recording of the maintenance agreement
An important aspects to the recording of the maintenance agreement is that the agreement be recorded into the local deed records. This helps ensure that the maintenance agreement is bound to the property in perpetuity.

Finally, some communities elect to include easement requirements into their maintenance agreements. While easement agreements are often secured through a separate legal agreement, recording public access easements for maintenance in a maintenance agreement reinforces a local government's right to enter and inspect an STP

Source including additional examples:
http://www.stormwatercenter.net/Manual_Builder/Maintenance_Manual/4Maintenance_Agreements/Maintenance%20Agreements%20Introduction.htm