



Unincorporated Summit County
Storm Water
Management Plan
December 2016

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0.0 General Information

0.1 Introduction

The Federal Clean Water Act requires that storm water discharges from certain types of facilities be authorized under storm water discharge Permits. (See 40 CFR 122.26.) The goal of the storm water Permits program is to reduce the amount of pollutants entering streams, lakes and rivers as a result of runoff from residential, commercial and industrial areas. The original 1990 regulation (Phase I) covered municipal (i.e., publicly-owned) storm sewer systems for municipalities over 100,000 population. The regulation was expanded in 1999 to include smaller municipalities as well. This expansion of the program to include small MS4s is referred to as Phase II. This Permit serves as a re-issuance or replacement of the previous General Permit for Discharges from Small Municipal Separate Storm Sewers (MS4s), UTR090000, issued December 9, 2002. This Permit is intended to cover new or existing discharges composed entirely of storm water from MS4s required by the State to obtain a Permit.

Unincorporated Summit County was designated a MS4 in a letter dated December 18, 2014 to Summit County from the Department of Environmental Quality (Appendix A). The first step in this process is to submit a Notice of Intent (NOI) to receive confirmation that the MS4 is covered under the general permit. The next step is to prepare a Storm Water Management Plan (SWMP) which should do the following:

1. Reduce the discharge of pollutants from the MS4;
2. Protect water quality; and
3. Satisfy the appropriate water quality requirements of the Utah Water Quality Act.

A SWMP is comprised of six minimum control measures that must be developed and implemented. These measures include:

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

They are discussed in the order given with the Measurable Goals, Implementation Schedule, and Fiscal Ability for each Best Management Practice (BMP). Fiscal Ability is the ability of the County to properly administer the BMP. The measurable goals are mandated by the EPA. A community must be showing improvement over time with these goals. The Implementation Schedule is also included in the section, indicating when the goals will be reached.

To be in compliance with the Utah MS4 program, the County must document all inspections, enforcement actions, and public education activities. Annual reports of financial and employee resources must be submitted to the State of Utah Department of Environmental Quality by or on October 1 of every year.

0.2 Community Information

Summit County is located in the northern part of Utah and occupies a rugged and mountainous area and was named as such due to the presence of 39 of the highest mountain peaks in Utah. As of the 2010 census, the population was 36,234 which are spread across 1,882 square miles. Of this area,

approximately 10 square miles is covered by water. Portions of the Ashley National Forest and the Wasatch National Forest are in Summit County and include the Uinta Mountains, home of the highest peak in Utah. Rockport State Park is located within Summit County and is located on the Weber River which feeds Echo Reservoir. Annual precipitation in Summit County is averaged to be approximately 16 inches per year and snowfall averages 73 inches per year with more snowfall in the higher elevations.

History

Summit County was established in 1854 and Coalville was chosen as the County seat. Summit County was the home of the Northern Shoshone Indians hunting grounds until the arrival of the Mormon pioneers in 1847. The first settlers in Summit County chose their first settlement as Parley's Park and then Wanship in 1854. When coal was discovered near Coalville, the Mormon established a settlement there. The mining of coal was soon overshadowed by the discovery of more valuable minerals in the Wasatch Mountains and Park City was established as a mining town. Mining continued until the 1950's and Park City was on the verge of becoming a ghost town. Due to the rugged terrain and deep snow, the area soon rebounded with the introduction of skiing and the Park City area is now a renowned winter sports destination.

There are two distinct areas of Summit County. The Snyderville Basin consists of the land that is bordered by Salt Lake County on the west and Morgan County on the north. The boundary then heads south to the Silver Creek Junction area which is the intersection of Interstate 80 and US-40 and continues south to the Wasatch County boundary. The boundary then heads west along the Wasatch County border to the Salt Lake County border. The Snyderville Basin is illustrated in Figure 1.

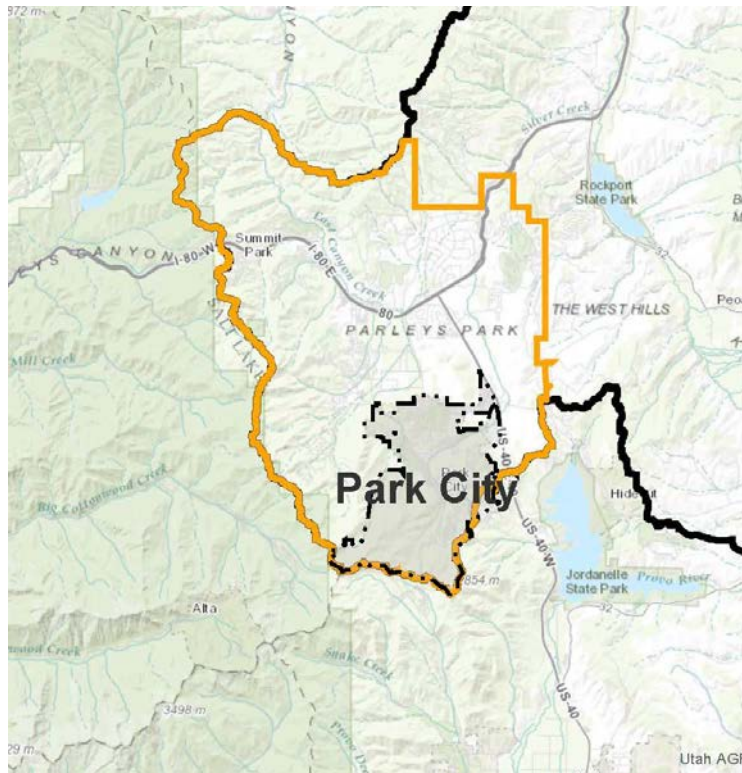


Figure 1: Snyderville Basin Area of Summit County

Eastern Summit County remains very rural with five other municipalities: Francis; Kamas; Oakley; Coalville; and Henefer. Agriculture is the main economic driver in eastern Summit County however recreational opportunities are available with activities such as fly-fishing, cycling, snow-machining, dog-sledding, and other outdoor activities. The high Uintas are part of the Eastern Summit County area and the entire Eastern Summit County is beginning to grow due to the population of the Snyderville Basin wishing for a more rural lifestyle. Eastern Summit County is illustrated in Figure 2.

Storm Drain System

The storm drain system consists of swales and ditches in the majority of Summit County. The exceptions are areas of the Snyderville Basin that include neighborhoods such as the Kimball Junction area, Silver Springs and the Canyons Ski Resort. A majority of storm water from the Snyderville Basin eventually flows into East Canyon Creek which joins the Weber River in Morgan. The remaining storm water flows into silver creek which joins the Weber river in Wanship and flows into Echo Reservoir. Storm water from the Kamas Valley and the south side of the Uinta Mountains flows into either the Weber or Provo Rivers. Storm water also flows from the western portion of the Uinta Mountains into Chalk Creek which joins the Weber River near Coalville above Echo Reservoir. Many tributaries of the Bear river flow from the northern slope of the Uinta mountains and are contained mostly in national forest. Small sections of these tributaries and the Bear River enter unincorporated Summit county before crossing the border into Wyoming.

Sanitary Sewer System

Sanitary sewer service is provided to the Snyderville Basin area by the Snyderville Basin Water Reclamation District (SBWRD). They operate a water treatment plant near the Jeremy Ranch area of the basin and treat all the sanitary waste from Park City and unincorporated Summit County within the geographic region of the Snyderville Basin.

In Eastern Summit County, each of the five municipalities offers a sanitary sewer treatment system. In Henefer, Francis, and Kamas, sanitary waste is treated by the use of sewer lagoons. In Oakley, a membrane bioreactor plant was constructed in 2003 to treat sanitary waste from the City limits, and in Coalville, a mechanical plant is used to treat all sanitary waste generated from areas within the city limits. In unincorporated Summit County, wastewater from resident and commercial areas are treated by septic systems with drain fields.

0.3 Responsible Persons

The responsible persons for the Storm Water System are the current Public Works Director, and the County Engineer:

Derrick Radke, Public Works Director
1775 South Hoytsville Road
Coalville, UT 84017
Office: 435.336.3970

Gary Horton, Summit County Engineer
60 North Main
PO Box 128
Coalville, UT 84017
Office: 435.336.3250

0.4 Threatened or Endangered Species

The construction of storm water facilities in Summit County may result in effects to threatened or endangered (T&E) species. Threatened and endangered species are overseen by the Utah Division of Wildlife Resources. Current lists of T&E Species can be found at the following link:

http://dwrcdc.nr.utah.gov/ucdc/viewreports/te_cnty.pdf

Listed species for Summit County are:

Common Name	Scientific Name	Status
Brown (Grizzly) Bear	Ursus arctos	T
Canada Lynx	Lynx Canadensis	T Extirpated
Greater Sage-grouse	Centrocercus urophasianus	C

Definitions:

T = A taxon that is listed by the United States Fish and Wildlife Service as “threatened” with becoming endangered.

T Extirpated = An “endangered,” “threatened,” or “candidate” taxon that is “extirpated” and considered by the United States Fish and Wildlife Service to no longer occur in Utah.

C = A taxon for which the United States Fish and Wildlife Service has on file sufficient information on biological vulnerability and threats to justify it being a “candidate” for listing as endangered or threatened.

A review of any site considered for storm water improvements should be made for these species during planning, design, and review. If possible impact may occur to these species, contact the Division of Wildlife Resources.

0.5 Historic Properties

The construction of storm water facilities may result in effects to historic properties. Historic properties may include houses, buildings, ditches, headwalls, or other constructed features that are 50 or more years old. Where historic features are potentially affected, a qualified historian must undertake the following:

- Determine the extent and characteristics of the historic property;
- Determine the effect on the historic property; and
- Coordinate findings with the State Historic Preservation Office.

There are many historic properties in Summit County as listed by the Utah Department of Heritage and Arts. They are listed at the link below:

<http://heritage.utah.gov/apps/history/markers/bycounty.php?county=SU>

If further information is needed, contact the State Historic Preservation Office at the following link:

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

0.6 Local Water Quality Concerns

The water quality within Summit County is relatively good. Some of the stream or waterways in the County have been identified as protected under Section 303(d) of the Clean Water Act and the list is provided in the next section. The hope and intent of this SWMP is to possibly improve the water quality.

The storm water in Summit County is transported in swales, ditches, canals, and rivers that allow for large amounts of infiltration. For the most part, the existing system has worked well. Continued growth is expected to put some pressure on canal, ditch and swale capacities. Summit County is currently controlling increased storm water runoff from development with localized detention and retention facilities as a design standard for commercial developments.

Based upon the Total Maximum Daily Loads (TMDLs) of the river and creek listed below, target pollutants for Summit County have been identified as the following:

- Biochemical Oxygen Demand (BOD)
- Nitrate as N
- Total Nitrogen (TN)
- Total Phosphorous (TP)
- Total Dissolved Solids (TDS)
- Total Suspended Solids (TSS)
- E. coli
- Oil and Grease
- Turbidity

Summit County's SWMP has been geared toward small rural applications, targeting the pollutants mentioned. The focus of this plan is meeting the requirements of the Phase II Small Municipal Separate Storm Sewer Systems Permit within the County, trying to stay in harmony with the rural nature and act within the existing budget structure.

0.7 Impaired Waters

The water quality within Summit County is relatively good. Some of the streams or waterways in the County have been identified as protected under Section 303(d) of the Clean Water Act. They are listed in the table below.

Waterway	Impaired Designated Use Group
Kimball Creek	Cause Unknown - Impaired Biota
Weber River	Cause Unknown - Impaired Biota, Nutrients
East Canyon Creek	Cause Unknown - Impaired Biota, Organic Enrichment/Oxygen Depletion, Nutrients
Chalk Creek	Impaired Bio., Nutrients, Sediment, Habitat Alterations
Silver Creek	Metals (other than Mercury), Cause Unknown - Impaired Biota, Salinity/Total Dissolved Solids/Chlorides/Sulfates
Echo Reservoir	Organic Enrichment/Oxygen Depletion, Nutrients
Rockport Reservoir	Organic Enrichment/Oxygen Depletion
Yellow Creek	Cause Unknown - Impaired Biota
China Lake	Organic Enrichment/Oxygen Depletion, Temperature
Marsh Lake	Organic Enrichment/Oxygen Depletion
Bridger Lake	Organic Enrichment/Oxygen Depletion
Lyman Lake	Organic Enrichment/Oxygen Depletion

0.8 Appendices

This Storm Water Management Plan includes several appendices, which are as follows:

1. Appendix A – MS4 Designation Letter
2. Appendix B – BMP Fact Sheets
3. Appendix C – Ordinance 212

1.0 Public Education and Outreach Minimum Control Measure #1

1.1 Overview

The operator of a regulated small MS4 must implement a multimedia public education program to distribute educational materials to certain focus groups as listed below:

- Residents;
- Business, institutions, and commercial facilities;
- Developers and Contractors; and
- Industrial Facilities.

1.2 Summary of Existing Measures

Currently, Summit County contracts with Republic Services to provide garbage collection, waste services, and a recycling program. Educational materials are mailed to residents of Summit County informing them of the trash collection and recycling schedule as well as information on the types of recyclables that are accepted.

Summit County, in cooperation with Recycle Utah and other entities, participates annually in a Water Festival to educate elementary school students on items related to water quality. Summit County provides a model that illustrates the effectiveness of erosion control measures as they related to construction and stabilization of the ground. This continues to be a successful event in which participation and attendance is growing.

1.3 Plan and Implementation Measures

The Utah MS4 permit lists items that must be included in the SWMP. These are listed below with information regarding the targeted pollutant, type of BMP that will be used to satisfy the requirement, the targeted audience, how effectiveness will be measured, and a targeted completion date.

The BMPs that are considered to meet the goal of public education and outreach are listed below along with the associated code that is used in Table 1.

BMP	Code
Educational Materials	EM
Classroom Education on Storm Water	CESW
Use of Media	UM
Employee Training	ET
Public Education and Participation	PEP

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
Trash, yard waste, chemicals	Residents and Businesses	Educate audiences about impacts from storm water discharge, ways to avoid, minimize and reduce impacts of storm water discharge, and actions individuals can take to improve water quality	Support television and radio advertisements, and continue with water festival participation. Post information on website	Ongoing	EM, UM, PEP, and CESW	Water Festival occurs annually, Information will be posted on website and made available at County locations such as the Health	Ongoing
Illicit discharge and waste	General Public	Information is provided to target audiences on prohibitions against illicit discharges and improper disposal of waste including: <ul style="list-style-type: none"> • Maintenance of septic systems • Effects of outdoor activities • Lawn care • Benefits of on-site infiltration of storm water • Effects of automotive work and car-washing on water quality • Disposal of swimming pool water • Proper management of pet wastes 	Include information on the County website	Ongoing	EM, PEP, and UM	Information will be current on County website	Ongoing
Illicit discharge and waste	Businesses and Institutions	Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: <ul style="list-style-type: none"> • Lawn maintenance • Benefits of appropriate on-site infiltration of storm water • Building and equipment maintenance • Use of salt and other de-icing materials • Storage of materials • Management of waste materials and dumpsters • Management of parking lot surfaces 	Include information on the County website and produce and distribute a brochure that is targeted to business and commercial activities when a business license is obtained and renewed	June 2016 and ongoing	EM, PEP, and UM	Information will be current on County website and included on all brochures that are distributed.	Ongoing

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
Illicit discharge and waste	Contractors, Developers and plan review staff	Reduce adverse impacts from development sites	Assemble packets of information on SWPPP and BMPs that the contractor must read and sign when obtaining a building permit	June 2016	EM	Information packets are signed for every new development	June 2016
Illicit discharge and waste	Employees	Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: <ul style="list-style-type: none"> • Equipment inspection to ensure timely maintenance • Benefits of appropriate on-site infiltration of storm water • Minimize use of salt or other de-icing materials • Storage of industrial materials • Management of waste materials and dumpsters • Management of parking lot surfaces 	Have training annually on illicit discharges	Ongoing	ET	Training occurs annually	Ongoing
All pollutants	Permittee engineers, development and plan review staff, land use planners	Training on Low Impact Development (LID), green infrastructure and post-construction BMPs	Require an annual meeting with all development and plan review staff and land use planners to review the County's LID goals.	June 2016	ET	Training occurs annually	June 2016
All pollutants	All Audiences	Evaluate the effectiveness of the public education program by a defined method	Research evaluation methods and select the best one. Implement.	October 2016	PEP	Evaluation method chosen (2016) and implemented (2016)	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All pollutants	All audiences	Document why certain BMPs were chosen for public education program (over others)	Include an explanation in the SWMP	June 2015		Documented rationale included in the	Jun-15

2.0 Public Involvement and Participation ***Minimum Control Measure #2***

2.1 Introduction

Involving the public is key to any successful SWMP. Representatives from stakeholder groups need to have the ability to be involved and participate in the program through various means. Groups that may be involved include:

- Residences;
- Commercial and Industrial Businesses;
- Trade Associations;
- Environmental Groups;
- Homeowner Associations; and
- Education Organizations.

To involve these groups, Summit County currently follows the public notification process for public meetings. This allows members from each of the stakeholder groups to provide input into the SWMP. In addition to this notice, the County has placed the SWMP on the website for public review and comments. Each year after June 30, the County will review any comments on the program operation for the year and implement changes as needed. The County Council will review and approve any changes to the program.

2.2 Summary of Existing Efforts

Jurisdictions within Summit County contract with Republic Services for waste management services which include a recycling program. The program reduces solid waste by recycling and offers proper disposal options for hazardous wastes that can be difficult to dispose of, thereby preventing storm water contamination due to improper disposal of hazardous wastes and solids.

The landfill accepts: cardboard, newspaper, aluminum cans, tin/steel cans, plastic pop bottles, plastic milk jugs, green waste, aluminum scrap, ferrous metals, tires, used oil, oil filters, antifreeze, carpet pad, batteries, wood pallets, and mixed paper on site for recycling.

Summit County in conjunction with Utah State University water quality is implementing a volunteer monitoring program to gain quantitative information related to storm water pollutants and existing creek conditions. The program will involve pre-determined sampling locations and standardized reporting forms to maintain uniformity and congruity throughout the program. Volunteers can also provide real time monitoring and notification if spills are detected.

2.3 Plan and Implementation Measures

In order to help meet the goals and objectives of the SWMP, Summit County has chosen to adopt the following BMPs for use within our County 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 BMP Appendix.

BMP	Code
Community Hotline	CH
Public Education/Participation	PEP
Service Group Participation	SGP
Storm Drain System Signs	SDSS

In order to more fully realize the benefit of the BMP, the County 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 Participation and Involvement.

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	General Public	Have a program or policy in place that allows for the public to provide input	Notify the public 30 days in advance of the County Council meeting when the SWMP will be reviewed	May 2015	PEP	Public was notified	Apr-15
All pollutants	General Public	Have SWMP document available for public review before it is submitted to the State	Have a hard copy of the draft permit available at the County offices	May 2015	PEP	SWMP is available for public a week before public	May 2015
All pollutants	General Public	Have SWMP document available to the public at all times	Post the SWMP on the County website	June 2015	PEP	SWMP is updated and posted on the website	Apr-15
All pollutants	General Public	Make updated SWMP document available to the public annually	Post updated SWMP annually	Ongoing	PEP	SWMP is updated and posted on the website annually	Ongoing
All pollutants	All	Create a list of potential service projects that can improve storm water quality	Develop a list of projects for scout and community service groups	Annually, Ongoing	SPL	Record the number of projects completed	Ongoing
All Pollutants	All	Place storm water information signs at locations throughout the County	Review options for placement of signs at facilities with needed agencies. Explore costs for sign placement. Install signs.	June 2016	SDSS	Number of signs placed throughout the County. Reduced number of illegal dumping and discharge	June 2016

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	All	Establish a community hotline for reporting storm water related incidents	Explore alternatives for establishing the hotline via phone or email. Implement hotline selected alternative	June 2016	CH	Established Hotline	June 2016

3.0 Illicit Discharge Detection and Elimination Minimum Control Measure #3

3.1 Introduction

Illicit discharges are non-storm water discharges that enter into natural water bodies through various methods and means. The Illicit Discharge Detection and Elimination (IDDE) control measure is intended to prevent illicit connections and discharges to natural drainages by monitoring outfalls, performing inspections of County owned facilities and maintaining inventories of storm water infrastructure.

3.2 Summary of Existing Efforts

An existing County ordinance exists that allows the County to charge the negligent party for the cost of cleanup when a hazardous spill occurs.

Currently, reports of spills are handled through 911 Dispatch. When reported to dispatch, spill reports are logged and assessed and addressed by the Summit County Health Department, the Fire District that has jurisdiction in the area of the spill, and other local hazardous material response teams.

The county 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 septic tank overflows, spills from highway accidents, and concrete truck wash out water. Although it has not been documented, it is also suspected that some homeowners dump used oil, antifreeze and household chemicals into ditches.

3.3 Plan and Implementation Measures

In order to help meet the goals and objectives of the SWMP, Summit County has chosen to adopt the following BMPs for use within our County 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 BMP section,

BMP	Code
Community Hotline	CH
Public Education/Participation	PEP
Ordinance Development	OD
Illegal Dumping Controls	IDC
Map Storm Water Drains	MSWD
Non-Storm Water Discharge to Drains	NSWD
Illegal Solids Dumping Controls	ISDC
Employee Training	ET
Used Oil Recycling	UOR
Hazardous Waste Management	HWM
Hazardous Materials Storage Mapping	HMSM
Septic System Controls	SSC

In order to more fully realize the benefits of the BMPs listed above, the County 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.

Initial enforcement of this rule will be by the Summit County Engineering and Health Departments with support from the Summit County Attorney and Sheriff's Office.

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	Contractors, Developers, County Council	Enforcement ability for storm water rules	Adapt existing ordinance to conform with new permit	June 2016	OD	Ordinance is in place and meets the permit requirements	
N/A	Development Services	Maintain Storm Water System Map	Implement a system to map new culverts from development	June 2016	MSWD	System in place for mapping new culverts	June 2016
			Map all new culverts installed with development	October 2016	MSWD	A current map of all new culverts in the County	October 2016
			Map remaining road crossing culverts	October 2016	MSWD	All known crossing culverts are shown on the map	October 2016
			Continue implement policy. Have all map updates done annually	Ongoing	MSWD	90% of all culverts are placed on the map annually	Ongoing
All Pollutants	All Audiences	Develop, implement, and prepare in writing a plan to detect and address non-storm water discharges	Develop systematic written procedures on process	June 2016	NSWD	Have procedure in place	June 2016
All Pollutants	All Audiences	Develop, implement, and prepare in writing a plan to detect and address non-storm water discharges	Conduct dry weather screening of 20% of outfalls each year	Ongoing	NSWD	All planned screenings are done each year	Ongoing
Hazardous Materials	All Audiences	Map locations of hazardous materials in the County	Update Hazardous Waste Map each year	October 2016	HMSM	A maintained current map	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	All Audiences	Develop and implement standard operating procedures (SOP) for characterizing the nature of any illicit discharges found or report to the Permittee by the County Hotline	Create an Incident Response Flow Chart and train personnel	October 2016	IIC, CH	Staff is following flow chart	October 2016
			Review flow chart and SOP with staff and provide training annually	October 2016	IIC, CH	Training completed annually for all staff involved in incident reporting	November 2016
All Pollutants	All Audiences	Develop and implement SOP for ceasing the illicit discharge	Create the Incident Flow Chart and train personnel	October 2016	ISC, ISDC	Incident Flow Chart is created	November 2016
All Pollutants	Public Employees, Businesses, and Residents	Inform public employees, businesses, and general public of hazards associated with illicit discharges and improper disposal of waste	See Section 2.0	October 2016	PEP, ET	See Section 2.0	
Household Hazardous Wastes	Residents	Promote or provide services for the collection of household hazardous wastes	Put the Household Hazardous Waste address and phone number on County website	June 2016	UOR, HWM	Complete	July 2016
Household Hazardous Wastes	Residents	Publicly list and publicize a hotline or other telephone number for public reporting of spills and other illicit discharges	Put the Household Hazardous Waste address and phone number on County website	June 2016	CH	Complete	July 2016
All Pollutants	All Audiences	Adopt and implement procedures for program evaluation and assessment. Include a database for mapping, tracking of spills or illicit discharges identified and inspections conducted	Create a spreadsheet for tracking of illicit discharges	June 2016	IIC, MSWD	Complete	June 2016

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	All Audiences	Prepare plan for non-storm water discharges	Identify high priority outfalls and provide inspection	June 2016	SSC, NSWDC	Complete	June 2016

4.0 Construction Site Runoff Control

Minimum Control Measure #4

4.1 Introduction

Runoff from construction sites can be a large contributing factor to storm water pollution. By controlling construction site runoff through planning, design, and construction BMPs, pollution to natural water bodies can be greatly reduced. Review of erosion control plans, Storm Water Pollution Prevention Plans and regular site inspections aid in implementation of this control measure to reduce non-storm water discharges.

4.2 Summary of Existing Efforts

Summit County has had an erosion control ordinance in place since 2004 for construction site BMP's. This ordinance outlines the requirements of the SWPPP plan, inspections and Acceptable BMP's.

Construction inspectors routinely visit construction sites in Summit County and have the ability to assess citations and notices of violation if there are storm water violations. Large development projects are visited on a weekly basis with SWPPP inspections being conducted bi-weekly for high priority sites and monthly for low priority site.

4.2 Plan and Implementation Measures

In order to help meet the goals and objectives of the SWMP, Summit County has chosen to adopt the following BMPs for use within our County 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 BMP section.

BMP	Code
Erosion Control Plan	ECP
Establish/Compile Design Standards	ECDS
Dust Controls	DC
Silt Fence	SF
Straw Bale Barrier	STB
Temporary Drains and Swales	TDS
Contractor Certification and Inspector Training	CCIT
Stabilized Construction Entrance	SCE
Public Education and Participation	PEP
Portable Toilets	PT
Infrastructure Planning	IP
Concrete Waste Management	CWM
Ordinance Development	OD
Zoning	ZO

In order to more fully realize the benefit of the BMP, Summit County 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.

In order to more fully realize the benefit of the BMP, the County 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.

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Raise awareness of contractors and developers on what is expected on construction sites	Establish minimum required lot size for permit. Require a SWPPP for every construction site over	Ongoing	OD, PEP	95% of all required construction sites have a working	Ongoing
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Develop a written enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism	Amend existing ordinance to include escalating enforcement provisions	June 2016	OD	Complete	June 2016
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers, County Council, Plan	Require construction operators to have a SWPPP and BMPs in place per permit	Draft ordinance to require a SWPPP on every active construction site as determined	May 2015	OD	Ordinance in place and meets the permit requirement	May 2015
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers, County Council, Plan	Documentation and tracking of all enforcement actions	Develop and begin using a construction site enforcement action log/database	June 2016	OD	Create, use, and update log	August 2016
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Develop and implement SOPs for pre- construction SWPPP review for construction sites	Develop checklist and begin to do preconstruction reviews of	May 2015	ECP	Conduct SWPPP reviews	May 2015
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Conduct a pre-construction meeting	Hold pre-construction meetings on all common plans of development and high priority construction sites	Ongoing	PEP	Conduct and document pre-construction meetings	Ongoing

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
Sediment, Construction Site Debris, Hydrocarbons		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	Develop a policy to consider potential water quality impacts on all projects- private or County	September 2016	ZO	Post-construction BMPs in place on 50% of all projects	Ongoing
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Incorporate into the SWPPP review procedures for an evaluation of opportunities for the use of Low Impact Development (LID) and green infrastructure and when the opportunity exists, encourage such BMPs to be incorporated into the site design	Develop a policy to consider Low Impact Development (LID) practices on all projects – private or County	September 2016	ZO	LID practices on 25% of all projects	Ongoing
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Identify priority construction sites, including at a minimum, those construction sites discharging directly into or immediately upstream of waters that the State recognizes as impaired or high	Review construction projects using SWPPP pre- construction review to determine if a site is a priority	June 2016	ECP	Documented pre-construction review	June 2016
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Inspections of required construction sites at least monthly by qualified personnel	Conduct monthly inspections of required construction sites	June 2016	CCIT	90% of required construction sites are inspected	June 2016

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	The County must include 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	Develop a written Notice of Termination (NOT) process for used within the County	September 2016	ECP	95% of all construction sites are terminated appropriately	September 2016
			Train SWPPP inspectors, their supervisors, and any personnel who grant final occupancy permits on the NOT process	September 2016	ECP	95% of all construction sites are terminated appropriately	September 2016
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Conduct bi-weekly inspections on high priority construction sites	Inspect high priority sites bi-weekly	Ongoing	ECP	All high priority construction sites are inspected bi-	Ongoing
Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	Provide training to County staff and third party designers	Develop a County policy to require all SWPPP inspectors to be a qualified inspector per the Construction General Permit within six months	Ongoing	CCIT	Complete	Ongoing

5.0 Long Term Storm Water Management in New Development and Re-Development

Minimum Control Measure #5

5.1 Introduction

The intent of Long Term Storm Water Management is to maintain post-construction runoff conditions to those of pre-construction runoff. This pertains to both quantity and quality. Techniques such as Low Impact Development (LID) are encouraged to be used when designing for Long Term Storm Water Management.

Long Term Storm Water Management applies to sites over one acre in size and sites less than one acre when part of a common plan of development. Applicability of this minimum control measure also pertains to private and public development sites including roads.

When re-development of an area occurs within the community, considerations to reduce storm water runoff and improve water quality must be considered.

5.2 Summary of Existing Efforts

Currently, the County has an existing Storm Water Pollution Prevention Ordinance that requires Storm Water Pollution Prevention Plan (SWPPP) applications and plans. Each is reviewed by Registered Storm Water Inspectors (RSI) and/or engineers and the Engineering Department conducts inspections. The County also collects bonds at the time of building permit and holds them until final stabilization of the site is complete.

Summit County is currently implementing the retentions, detention and infiltration of the 90th percentile storm event. Most developments incorporate a retention pond system with some utilizing injection wells.

5.3 Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP, Summit County has chosen to adopt the following BMPs for use within our County 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 BMP section.

BMP	Code
Educational Materials	EM
Ordinance Development	OD
Land Use Planning/Management	LUPM
Zoning	ZO
Seeding and Planting	SP
Map Storm Water Drains	MSWD
Riprap	RR
Rock Check Dams	CD
Infrastructure Planning	IPL
BMP Inspection and Maintenance	BMPIM
Infiltration	IN

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	All Audiences	Develop and adopt an ordinance or other regulatory mechanism that requires long-term post-construction storm water controls at new development and re-development sites.	Amend ordinance that meets requirements of the new permit	June 2016	OD	Reviews are complete	Ongoing
All Pollutants	All Audiences	Develop and adopt an ordinance or other regulatory mechanism that requires long-term post-construction storm water controls at new development and re-development sites.	Amend ordinance	June 2016	OD	Successful passage of ordinance	Ongoing
All Pollutants	All Audiences	Documentation of how the requirements of the ordinance or other regulatory mechanism will protect water quality and reduce the discharge of pollutants to the MS4	Develop a checklist of targeted BMPs for selection and their	June 2016	IPL	Draft is complete by milestone date	Ongoing
			Adopt revised standard	September 2016	IPL		Ongoing
All Pollutants	All Audiences	Develop a process to evaluate and encourage a LID approach	Review implementing LID approaches in the development review	September 2016	IPL	Inclusion of LID in the development review process	
All Pollutants	MS4 Staff, County Council	The Permittee must develop a plan to retrofit existing develop sites that are adversely impacting water	Review water quality standards at re-developing sites	September 2016	IPL	Improvement storm water facilities to re-developed sites	September 2016
All Pollutants	MS4 Staff, Contractors and Developers	Each Permittee shall develop and define specific hydrologic method or methods for calculating runoff volumes and flow rates, etc.	Review existing design standards to see if they meet new permit requirements	September 2016	IPL	Standards have been reviewed and comments documented	September 2016
			Update design standards to meet permit	September 2016	IPL	Updated standards have	Ongoing

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff, Contractors and Developers	Review Storm Water Pollution Prevention Plans (SWPPPs)	See goals from Section 4.0	September 2016		Plans reviewed for permit compliance	June 2016
All Pollutants	MS4 Staff, Contractors and Developers	Permittees shall provide developer and contractors with preferred design specifications to more effectively treat storm water for projects located in, adjacent to, or discharging to environmentally sensitive areas	Locate and map environmentally sensitive areas within the MS4	September 2016	IPL	Completed map identifying environmentally sensitive areas	Ongoing
			Review map of sensitive areas and identify preferred method(s) of treating storm water to discharge to those areas	September 2016	IPL	List of preferred method(s)	Ongoing
All Pollutants	MS4 Staff, Contractors and Developers	Permittees shall keep a representative copy of information that is provided to design professionals, the dates of the mailings, and the list of recipients	Keep a revision log for information in Appendix A – Supplemental Guide to Contractors and	June 2016	EM	Revision log is complete	
			Log name and date of distribution of Supplemental Guide to Contractors and	June 2016	EM	Log is current	
All Pollutants	MS4 Staff, Contractors and Developers	All Permittees shall adopt and implement SOPs or similar types of documents for site inspection and enforcement of post-construction storm water control measures	Review and customize SOPs for inspection and enforcement of post-construction control measures	June 2016	LIP	Inspection and enforcement SOPs are current and utilized	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff, Contractors and Developers	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.	Draft a maintenance agreement template	September 2016	BMPI, M	Draft is complete by milestone date	
			Adopt a maintenance agreement template	September 2016	BMPI, M	Template is adopted and used by milestone date	
All Pollutants	MS4 Staff, Contractors and Developers	Inspections and any necessary maintenance must be conducted annually by either the Permittee or through a maintenance agreement with 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.	Inventory post-construction	June 2017	BMPI	Inventory is complete	
			Identify responsible person to inspect and/or maintain each post-construction BMP	June 2017	BMPI, M	List identifies person responsible for inspections and maintenance	
			Develop inspection report form for post-construction BMPs	June 2017	BMPI, M	Form is completed	
			Conduct inspections annually for county owned BMPs	June 2017	BMPI, M	Completed inspection reports are properly filed	
			Conduct inspections on privately owned BMPs on at least 20% of BMPs per year	June 2017	BMPI, M	Complete inspection reports are properly filed	
All Pollutants	MS4 Staff	Permittees shall provide adequate training for all staff involved in post- construction storm water management, planning and review, and inspections and enforcements.	Schedule and conduct training for appropriate personnel	September 2016	BMPI, M	If all appropriate personnel are trained	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff	Maintain an inventory of post-construction BMPs	Inventory log updated annually	June 2017		Lot is updated annually	

6.0 Pollution Prevention/Good Housekeeping Minimum Control Measure #6

6.1 Introduction

The intent of the Pollution Prevention/Good Housekeeping control measure is to maintain and construct County owned facilities in such a way to prevent pollutants from entering into the storm water system. This is accomplished by developing and implementing an operation and maintenance program, outlining standard operation procedures (SOPs) and defining roles and responsibilities of staff overseeing the SWMP.

6.2 Summary of Existing Efforts

The County currently maintains catch basins, detention ponds, and pipes and culverts as needed. Summit County also participates in a recycling program and provides recycling containers for residents to use at the curb.

Summit County operates with a limited amount of equipment. This equipment is primarily cleaned and maintained at the Public Works Department facility located in Wanship. Equipment is fueled at this location as well. The County also stores equipment and materials at the Wanship facility and other facilities throughout the County. Salt and sand are stored under cover to reduce transport of pollutants during rain events.

Table 6-1 provides a list of activities potential sources of pollutants that result from the activities.

Table 6-1

Activity	Pollutant	Potential Source
Construction	Sediment	Poor erosion control practices on hillsides, undeveloped property, right-of-way for construction sites
Residential and Parks	Nutrients	Yard debris, garbage, fertilizer and pesticide use, rat poison, pyrotechnics
Transportation and Commercial	Metals	Paint, plastics, pottery pigments and glazes, automobile tires, common galvanized coatings, pesticide use, root killer application on sewer lines, old lead paint an glazes, wood preservatives, batteries
Residential	Oxygen demanding Substances	Yard debris, animal wastes, organic chemical use
Parks and Residential	Bacteria and Viruses	Human and animal (pets and aquatic life) waste, sanitary sewer infiltration into storm drain system, decomposing yard waste
Commercial and Residential	Oil, Grease, and Hydrocarbons	Asphalt surface leaching, spills, leaks, construction activities
Residential and Parks	Floatables	Street refuse, industrial yard waste

6.3 Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP, Summit County has chosen to adopt the following BMPs for use within our County 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 BMP section.

BMP	Code
BMP Inspection and Maintenance	BMPIM
Long Term Operation and Maintenance	LTOM
Street Cleaning (Parking Lots)	SC
Catch Basin Cleaning	CBC
Employee Training	ET
Building and Grounds Maintenance	BGM
Area Control Procedures	ACP
De-Icing Chemical Use Storage	DCUS
Material Use	MU
Housekeeping Practices	HP
Infrastructure Planning	IPL
Animal Carcass Planning	ACR
Concrete Waste Management	CWM
Establish/Compile Design Standards	ECDS
Illegal Dumping Control	IDC
Inspection and Maintenance	IM
Portable Toilets	PT
Sorbents	SO
Used Oil Recycling	UOR

In order to more fully realize the benefit of the BMP, the County 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.

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff	All components of an operations and maintenance (O&M) program shall be included in the SWMP document and must identify the department, and were appropriate, the specific staff responsible for performing each activity described in this section	Complete organizational chart and define specific responsibilities for all departments shown	September 2016	HP	Organization chart is complete and up to date	
All Pollutants	MS4 Staff	Permittees shall develop and keep a written inventory current of permittee- owned or operated facilities	Complete listing of MS4 owned/operated facilities	September 2016	HP	List is complete	May 2016
All Pollutants	MS4 Staff	All permittees must initially assess the written inventory of permittee-owned and operated facilities, operations, and storm water controls identified above for the potential to discharge urban	Complete assessments and identify "high priority" facilities	September 2016	HP	Assessments are complete and documentation recorded in SWMP	May 2016
All Pollutants	MS4 Staff	Each "high priority" facility identified above must develop a facility-specific SOPs or similar type of documents	Review, customize and update appropriate SOPs	September 2016	HP	SOPs are updated and current	
All Pollutants	MS4 Staff	Permittee must perform weekly visual inspections of high-priority facilities in accordance with developed SOPs to minimize the potential for pollutant discharge	Develop weekly inspection forms and log	September 2016	HP	Completed inspection form and log	
			Conduct weekly inspections	June 2017	HP	At annual review, all weekly inspections are logged and reports completed	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff	At least once per quarter, a comprehensive inspection of high-priority facilities, including all storm water controls, must be performed	Develop quarterly inspection form and log	September 2016	HP	Complete inspection form and log	September 2016
			Conduct quarterly comprehensive inspections	June 2017	HP	At annual review, all quarterly inspections are logged and reports completed	
All Pollutants	MS4 Staff	At least once per quarter, the permittee must visually observe the quality of the storm water discharges from the high-priority	Conduct quarterly visual observations of storm water discharges at high priority facilities	June 2017	HP	At annual review, all quarterly visual monitoring is complete, logged, and reports	
All Pollutants	MS4 Staff, Contractors and Developers	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	Draft a policy/process to assess water quality impacts on all new flood control projects	September 2016	HP	A draft is prepared and ready for internal review	September 2016
			Have policy approved	June 2017	IPL	Policy is approved and adopted	
All Pollutants	MS4 Staff	Existing flood management structural controls must be assessed to determine whether changes or additions should be made to improve water quality	See Section 5.0 for goals	September 2016			
All Pollutants	MS4 Staff	Permittee shall provide training for all employees who have primary construction, operation, or maintenance job functions that are likely to impact storm water quality	See individual training goals within other Sections	June 2017			
			Develop a training schedule	June 2017	ET, HP	Schedule is complete	

Target		Desired Result	Measurable Goal	Milestone Date	BMP	Measure of Success	Goal Completed
Pollutant(s)	Audience(s)						
All Pollutants	MS4 Staff	Permitee shall provide training for all employees who have primary construction, operation, or maintenance job functions that are likely to impact storm water quality	Conduct ongoing training according to schedule	June 2017	ET, HP	Training is complete and documented according to schedule at annual evaluation	

GLOSSARY OF TERMS

Authorized Enforcement Agency: Employees or designees of the director of the municipal agency designated to enforce this ordinance.

Berm: An earthen mound used to direct the flow of runoff around or through a structure.

Best Management Practices (BMPs): Includes schedules of activities, prohibitions of practices, maintenance procedures, design standards, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly into the waters of the United States. BMPs also include treatment requirements, operating procedures, educational activities, and practices to control plant site runoff spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bio-chemical Oxygen Demand in 5 (BOD5): A measure of the amount of oxygen that is consumed by bacteria as it breaks down organic matter in a sample during a five day period under standardized conditions. It is generally considered to be a measure of organic material in the water.

Capital Improvement Plan (CIP): A plan developed by the County to identify and prioritize improvements that need to be made in upcoming years.

Clean Water Act (CWA): The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Code of Federal Regulations (CFR): Annual edition is the codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal Regulations.

Construction Activity: Activities subject to the National Pollutant Discharge Elimination System (NPDES) Construction Permits. These include construction projects resulting in land disturbance of 5,000 square feet or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolitions.

Conveyance System: Any channel or pipe for collecting and directing the storm water.

Culvert: A covered channel or large diameter pipe that directs water flow below the ground surface.

Degradation: Biological or chemical degradation is the breakdown of chemical compounds into simpler substances, usually less harmful than the original compound, as with the degradation of a persistent pesticide. Geological degradation is the wearing down by erosion. Water degradation is the lowering of water quality of a watercourse by an increase in the amount of pollutants.

Dike: An embankment to confine or control water, often built along the banks of a river to prevent overflow of lowlands; a levee.

Directly Connected Impervious Areas (DCIA) Impervious surfaces that are directly connected to the storm drainage conveyance system. Directly connected means that there is no chance for infiltration or evapotranspiration before entering the conveyance system.

Discharge: The release of storm water or other substance from a conveyance system or storage container.

Drainage: Refers to the collection, conveyance, containment, and/or discharge of surface and storm water runoff.

Dry Weather Screening (DWS): The act of inspecting a storm drain system during dry weather to evaluate if there are any discharges to the system besides storm water.

Erosion: The wearing away of land surface by wind or water. Erosion control occurs naturally from weather or runoff but can be intensified by land-clearing practices related to farming, residential, or industrial development, road building, or timber cutting.

Fill: A deposit of earth material placed by artificial means.

First Flush: The delivery of a disproportionately large load of pollutants during the early part of storms due to the rapid runoff of accumulated pollutants.

General Permit: A permit issued under the NPDES program to cover a class or category of storm water discharges.

Grading: The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Waste: By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possess at least one of four characteristics (flammable, corrosivity, reactivity, or toxicity), or appears on special Environmental Protection Agency (EPA) lists.

Heavy Metals: Metals of high specific gravity, present in municipal and industrial wastes that pose long-term environmental hazards. Such metals include cadmium, chromium, cobalt, copper, lead, mercury, nickel, and zinc.

Illicit Connection: Any physical connection to a publicly maintained storm water system allowing discharge of non-storm water which has not been permitted by the public entity responsible for the operation and maintenance of the system.

Illicit Discharge: Any direct or indirect non-storm water discharge to the storm water system, except discharges from firefighting activities and other discharges exempted in this ordinance.

Illicit Discharge Detection and Elimination (IDDE): A program that the County develops to identify and eliminate any illicit discharges they might have within their collection system.

Impervious Surface: A surface which prevents or retards the penetration of water into the ground including, but not limited to, roofs, sidewalks, patios, driveways, parking lots, concrete, and asphalt paving, gravel, compacted native surfaces and earthen materials, and oiled macadam, or other surfaces which similarly impede the natural infiltration of storm water.

Individual Permit: A permit issued under the NPDES program for a specific facility, whereby the unique characteristics of that facility may be addressed through the imposition of special conditions or requirements.

Infiltration: The downward movement of water from the surface to the subsoil. The infiltration capacity is expressed in terms of inches/hour.

Ingress/Egress: The points of access to and from a property.

Inlet: An entrance into a ditch, storm sewer, or other waterway.

Low Impact Development (LID): This term is used to describe means and methods that can be utilized to reduce the impact of development on the environment.

Minimum Control Measure (MCM): The EPA has identified six areas of focus for MS4s in developing a program to minimize the potential for pollutants to leave a jurisdiction and to enter the waters of the United States. The six areas of focus are called Minimum Control Measures (MCMs) and they include:

1. Public Education and Outreach;
2. Public Involvement;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Storm Water Control;
5. Post Construction Storm Water Control; and
6. Pollution Prevention and Good Housekeeping.

Municipal Separate Storm Sewer System (MS4): A municipally owned and operated storm water collection system that may consist of any or all of the following: curb and gutter, drainage swales, piping, ditches, canals, detention basins, inlet boxes, or any other system used to convey storm water that discharges into canals, ditches, streams, rivers, or lakes not owned and operated by that municipality.

Mulch: A natural or artificial layer of plant residue or other materials covering the land surface which conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes temperature fluctuations.

National Pollutant Discharge Elimination System (NPDES): EPA's program to control the discharge of pollutants to waters of the United States.

Non-point Source: Pollution caused by diffuse sources (not a single location such as a pipe) such as agricultural or urban runoff.

NPDES Permit: An authorization, or license, or equivalent control document issued by EPA or an approved state agency to implement the requirements of the NPDES program.

Off-site: Any area lying upstream of the site that drains onto the site and any area lying downstream of the site to which the site drains.

On-site: The entire property that includes the property development.

Outfall: The point, location, or structure where wastewater or drainage discharges from a sewer pipe, ditch, or other conveyance to a receiving body of water.

Point Source: Any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

Plat: A map or representation of a subdivision showing the division of a tract or parcel of land into lots, blocks, streets, or other divisions and dedications.

Pollutant: Generally, any substance introduced into the environment that adversely affects the usefulness of a resource. Pollutants may include, but are not limited to: paints, varnishes and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations such that may cause or contribute to pollution floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from construction a building or structure; and noxious or offensive matter of any kind.

Receiving Waters: Bodies of water or surface water systems receiving water from upstream constructed (or natural) systems.

Retention: The holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass.

Riparian: A relatively narrow strip of land that borders a stream or river.

Runon: Storm water surface flow or other surface flow which enters property other than that where it originated.

Runoff: That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface water that can carry pollutants from the air and land into the receiving waters.

Sedimentation: The process of depositing soil particles, clays, sands, or other sediments that were picked up by runoff.

Sheet Flow: Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

Source Control: A practice or structural measure to prevent pollutants from entering storm water runoff or other environmental media.

Stabilization: The proper placing, grading and/or covering of soil, rock, or earth to ensure its resistance to erosion, sliding, or other movement.

Standard Operating Procedure (SOP): A written description of the standard method of performing a given task which can include a step-by-step description. SOPs are developed in an effort to bring consistency to a program and to clearly define the expectations of that program. They should be the basis of training programs for municipal employees.

Storm Drain: A slotted opening leading to an underground pipe or open ditch for carrying surface runoff.

Storm Water: Rainfall runoff, snow melt runoff, and drainage. It excludes infiltration.

Storm Water Management Plan (SWMP): A document which describes the BMPs and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to storm water, storm water conveyance systems, and/or receiving waters.

Storm Water Pollution Prevention Plan (SWPPP): A document which describes the general plan for addressing storm water pollutants at a given site. The plan characterizes the nature of the potential pollutants, describes methods and concepts for controlling those pollutants and identifies those responsible for the plan.

Swale: An elongated depression in the land surface that is at least seasonally wet, is usually heavily vegetated, and is normally without flowing water. Swales direct storm water flows into drainage channels and allow some of the storm water to infiltrate into the ground surface.

Total Maximum Daily Load (TMDL): In this permit, it refers to a study that accomplishes the following:

1. Quantifies the amount of a pollutant in a stream;
2. Identifies the sources of the pollutant; and
3. Recommends regulatory or other actions that may need to be taken in order for the impaired water body to meet water quality standards.

Total Suspended Solids (TSS): An analytical measure of the amount of sediment suspended in water. TSS is typically comprised of larger sediment particles and does not include fine clays and silts that might be dissolved.

Treatment Control BMP: A BMP that is intended to remove pollutants from storm water.

Underground Injection Wells (UIW): A hole receiving storm water whose top dimension is narrower than the depth.

Utah Pollutant Discharge Elimination System (UPDES): The State of Utah's program to control the discharge of pollutants to the water of the United States.

Waters of the State: Surface waters and ground waters within the boundaries of the State of Utah and subject to its jurisdiction.

Waters of the United States: Surface watercourses and water bodies as defined in 40 CFR § 122.2, including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry storm water at and during all times and seasons.

Wetlands: An area that is regularly saturated by surface or ground water and subsequently characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, marshes, and estuaries.

Appendix A

Appendix B

Appendix C