

# **CITY OF CENTERVILLE**

## **STORM WATER MANAGEMENT PLAN**

**Submitted to:**

**State of Utah  
Department of Environmental Quality  
Division of Water Quality**



**Submitted by:**

**Centerville City, Public Works Department  
Drainage Utility Division  
655 North 1250 West  
Centerville, Utah 84014**

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## **PREFACE**

The U.S. Congress passed the Clean Water Act in 1972 with a stated objective to restore and maintain the chemical, physical, and biological integrity of the nation's waters through point source and non-point source controls. The method to achieve this restoration process is through the implementation of "Best Management Practices" (BMPs). An effective tool to achieve compliance with the Proposed Storm water National Pollution Discharge Elimination Systems (NPDES) Phase I and Phase II Regulation is the implementation of a storm water utility. The NPDES program was created to ensure that permitted discharges meet applicable water quality requirements. The Phase I and Phase II permitting process involves primarily urban communities of a specific size and population. Phase I of the process requires cities (100,000 population or greater) to secure a NPDES permit. The Phase II process requires smaller municipalities and other urbanized areas to secure a NPDES permit. The City of Centerville is required to comply with the requirements of the Phase II permitting process based on its location in the Wasatch Front Urbanized Area. The City of Centerville felt that the creation of a drainage utility (storm water utility) was one of the most important steps to take in order to ensure that the overall storm water management program could be successfully implemented. The Utility is an example of a nonstructural BMP that has been implemented for the sole purpose of generating revenues for storm water related improvements. This plan summarized the important aspects associated with Centerville's effort to implement an effective Drainage Utility and Storm Water Management Program.

## **SECTION 1 – INTRODUCTION**

### **1.1. Overview of the Storm Water Management Plan**

This Storm Water Management Plan (SWMP) provides an overview of integrated storm water management, floodplain management, and technologies utilized by the City of Centerville for implementing the storm water management program. Additionally, this plan is designed to provide guidance for developers, contractors, and the general public based on the basic principles of effective urban storm water management in the State of Utah. The Storm Water Management Plan will be implemented to limit, to the maximum extent practicable (MEP), the discharge of pollutants from the City of Centerville’s storm drain system.

### **1.2. Storm Water Management Plan Coordination**

Agency: City of Centerville – Drainage Utility Division

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#### **1.2.1 Davis County Storm Water Coalition**

The Davis County Storm Water Coalition (DCSWC) consists of representatives from 15 cities and Davis County, whose purpose is to minimize pollutants entering the storm drains and receiving water bodies, to comply with storm water regulations, and to receive input from stakeholders. Representatives from other entities such as Hill Air Force Base, consultants, vendors, and contractors are also invited to participate. The coalition meets regularly, and plans to continue regular meetings during the coming years to discuss storm water issues and coordinate activities.

The Coalition member entities initially entered into an interlocal agreement to jointly implement a portion of the SWMP in 2002. Coalition members have continued to perform coalition activities, and have committed to continue conducting and supporting ongoing Coalition activities. As a member of the Davis County Storm Water Coalition, the City of Centerville will continue to work with other Municipalities in Davis County for Coalition purposes. It is anticipated that the entities will jointly perform the following responsibilities:

1. Jointly purchase educational and training materials, as determined by the Coalition, for distribution to:
  - a. Residents
  - b. Businesses
  - c. Developers/contractors

- d. Municipal Separate Storm Sewer System (MS4) Industrial facilities
2. Use the Coalition as a county-wide committee to:
  - a. train personnel
  - b. create partnerships
  - c. obtain input and feedback from special interest groups
3. Annually contribute updated storm drain system information for county-wide mapping purposes
4. Jointly prepare and promote a model ordinance that addresses:
  - a. Illicit discharges
  - b. Construction site storm water runoff
  - c. Long-term storm water management
5. Jointly arrange for and provide education about hydrologic methods and criteria for sizing post construction BMPs
6. Jointly participate to develop Standard Operating Procedures

### **1.3. Storm Water Management Plan Purpose and Goals**

The purpose of this Storm Water Management Plan is to facilitate and improve the management of storm water in the City of Centerville with the intent of improving water quality. The goals for the plan are as follows:

1. Comply with the six minimum control measures as identified by the EPA NPDES Phase II requirements and UPDES permit, which include:
  - a. Public education and outreach activities to increase public participation in addressing storm water issues and Best Management Practices (BMPs).
  - b. Minimizing illicit discharges through education and implementing a detection program.
  - c. Minimizing construction site runoff by education contractors and implementing practical institutional controls.
  - d. Improve and promote pollution prevention and good housekeeping practices.
  - e. Improve and promote practical and achievable “BMPs” and measurable goals.
  - f. Improve storm water quality and comply with applicable local public notice requirements.
2. Increase protection from flooding through better floodplain management practices and to increase the City’s rating in the National Flood Insurance Program (NFIP) Community Rating System (CRS).

### **1.4. Staffing and Resource Allocations**

Management and oversight of the Storm water Management Plan is funded by Centerville City through the City’s Drainage Utility Fund. The revenue source of this fund is a utility fee assessed City-wide.

Much of the implementation of the Storm water Management Plan is performed by the Drainage Utility Division. Some parts of the plan will be implemented by other departments within the City as outlined in the plan.

### **1.5. Creation of the Drainage Utility Division**

In 1997, the City Council appointed a citizen advisory committee to review the City's drainage problems and recommend solutions. The committee initially focused on subsurface drainage problems, but concluded that the City needed to address both surface (i.e. storm water) and subsurface drainage in a comprehensive, integrated manner. The committee recommended a regular maintenance program for publicly owned drainage facilities and recommended the creation of a drainage utility enterprise funded by monthly user fees.

In 1999, the City of Centerville, assisted by a consultant with nationwide experience established a Storm water Utility. As a result of the establishment of the utility, the City created the Drainage Utility Division of the Department of Public Works. The purpose of the Drainage Utility Division is to manage the operation and maintenance of the City's drainage infrastructure and to achieve compliance with the Environmental Protection Agency NPDES Phase II regulations.

The drainage utility provides the City of Centerville with a financial mechanism from which to address both water quantity and water quality issues associated with Phase II requirements and permitting process. The City of Centerville considers the utility to be a viable nonstructural BMP that will enable the City to generate revenues for storm water related improvements. The City has made the decision that the implementation of the utility is an integral part of an effective storm water management program. The Utility will also be instrumental in meeting the requirements of Phase II permitting process and will allow the City to develop best management practices (storm water management practices) to address non-point source pollution and flood control management (via infrastructure improvements) that, when implemented together, will ensure protection of our community's resources.

### **1.6. Drainage Utility Mission Statement**

The mission of the City of Centerville's Drainage Utility and storm water management program is to develop, implement, operate, and adequately and equitably fund the acquisition, construction, operation, maintenance, and regulation of storm water and subsurface water drainage systems. The program shall safely and efficiently control runoff, enhance public health and safety, facilitate mobility and access to homes and businesses during and after storm events, protect lives and property, complement and support other City programs and priorities, reduce the discharge of pollutants to receiving waters, and enhance the natural resources of the community.

## **1.7. Stakeholders**

The success of any plan depends on the support and involvement of the storm water plans stakeholders. Stakeholders should be cognizant of their involvement and how they can play an important role in the storm water management plan success. **Table 1** lists the stakeholders and their interest in the plan.

## **1.8. Overall Environmental Concerns**

### **1.8.1 General**

The overall program goal is to implement the storm water program according to the SWMP and permit requirements. Annually reviewing the status of each program implemented, according to the goals, will provide a way to measure the effectiveness of the program in general.

Storm water runoff from the City of Centerville is received by five creeks: Lone Pine Creek, Ricks Creek, Barnard Creek, Parrish Creek, and Deuel Creek. Each of these creeks ultimately discharge to the Great Salt Lake. None of the portions of these streams receiving the city's storm water discharge are listed as impaired (per CWA 303d list of approved TMDLs on DWQ website) or as "high quality" streams (per UAC R317-2-12 and R317-2-13.7B). Oversight and maintenance of these streams fall under the jurisdiction of the Davis County Public Works Department.

### **1.8.2 Threatened and/or Endangered Species**

Based upon information from the US Fish and Wildlife Services website, there are no official listings of threatened or endangered species in the City of Centerville. However, it is noteworthy that the Mountain Plover is proposed to be considered as a threatened species, and that the Arctic Peregrine Falcon is listed as a recovering species.

### **1.8.3 Historic Properties**

The City of Centerville will comply with current law as it pertains to storm water construction activities adjacent to historic properties. City projects supported by federal, state or Redevelopment Agency funds which impact a Historic Property (listed on the National Register of Historic Properties, or at least 50 years old) will allow a 30 day advance evaluation period of the project and affected site by the State Historic Properties Officer prior to any modification being made. The City will notify the State Historic Preservation Officer in writing.

**Table 1. Stakeholders involved in the Storm Water Management Plan**

<b>Stakeholder</b>	<b>Interest</b>
Centerville City Department of Planning & Community Development	Preparation and development of ordinances related to land use and construction of storm water controls on new and re-developed properties. Building inspectors will be involved in enforcement and compliance of ordinances. Construction permits are issued through this department.
Centerville City Department of Public Works	Oversees the operations of the Drainage Utility Division in preparing and implementing the Storm water Management Plan. Coordination with Streets and Water Divisions on storm water related issues, as well as, participation in pollution prevention and good housekeeping activities.
Centerville City Department of Parks and Recreation	Management and maintenance of City owned open space. Use of BMPs and participation in pollution prevention and good housekeeping activities.
Business Owners	Minimizing the impacts to storm water by employing “Best Management Practices” and participation in pollution prevention and good housekeeping activities. Pay fees associated with the drainage utility.
Contractors and Builders	Minimizing the impacts to storm water by employing “Best Management Practices” and participation in pollution prevention and good housekeeping activities. Obtains storm water permits from City of Centerville.
Centerville City Residents	Minimizing the impacts to storm water by employing “Best Management Practices” and participation in pollution prevention and good housekeeping activities. Pay fees associated with the drainage utility. Identification of storm water management issues and the development of new ideas.
Davis County	Coordination of storm water management activities, such as public education and monitoring of creeks. Partner in protecting the watershed and water resources of the community. Identification of storm water management issues and the development of new ideas.
Davis County Storm Water Coalition	Coordination of storm water management activities, such as public and municipal education. Identification of storm water management issues and the development of new ideas.

## **SECTION 2 – AUTHORITY & BACKGROUND**

The City of Centerville’s policies must be consistent with the regulatory requirements of local, county, state, and federal entities. Several of the entities and the requirements they impose are described in the following sections.

### **2.1 Federal**

#### **2.1.1 Clean Water Act – 33 U.S.C. Chapter 26**

In 1972, Congress enacted the first comprehensive national clean water legislation in response to growing public concern for serious and widespread water pollution. The Clean Water Act (CWA) is the primary federal law that protects our nation’s waters, including lakes, rivers, aquifers, and coastal areas. The CWA provides the backbone for the national approach to water quality policy and action.

The objective of this federal law is the total elimination of the discharge of pollutants in to the nation’s navigable waters and to restore and maintain the integrity of the nation’s waters. This objective translates into two fundamental national goals:

1. eliminate the discharge of pollutants in the nation’s waters, and
2. achieve water quality levels that are fishable and swimmable.

The CWA focuses on improving the quality of the nation’s waters. It provides a comprehensive framework of standards, technical tools and financial assistance to address the many causes of pollution and poor water quality, including municipal and industrial wastewater discharges, polluted runoff from urban and rural areas, and habitat destruction. For example, the CWA:

1. requires major industries, to meet performance standards to ensure pollution control;
2. charges states and tribes with setting specific water quality criteria appropriate for their waters and developing pollution control programs to meet them;
3. provides funding to states and communities to help them meet their clean water infrastructure needs;
4. protects valuable wetlands and other aquatic habitats through a permitting process that ensures development and other activities are conducted in an environmentally sound manner.

Two types of discharges are defined in the CWA: point and non-point source discharges. The CWA has three main requirements as follows:

1. Municipalities are required to effectively prohibit non-storm water discharges into the publicly owned or operated storm drain system.
2. Municipalities are required to control discharge of pollution into the storm drain system to the maximum extent practicable.

3. Municipalities are required to have one system-wide permit rather than individual discharge permits for each point.

Although pollutants entering the storm and surface water systems are primarily non-point in nature, discharges from the storm and surface water systems have been defined as point sources (40 CFR Section 122.45). As a result, storm and surface water systems are subject to the permitting process of the CWA's National Pollutant Discharge Elimination System (NPDES).

After 30 years, the Act continues to provide a clear path for clean water and a solid foundation for an effective national water program.

### 2.1.2 NPDES Phase II Storm Water Permit

The NPDES Phase II Storm water Permit focuses on small municipalities and is issued by the Environmental protection Agency (EPA). The program's main objective is to control non-point source pollution of waterways in urban areas to the maximum extent practicable (MEP). The application deadline for Phase II municipalities is March of 2003. The Phase II permit requires the community to prepare a Notice of Intent (NOI) which describes the BMPs to be implemented to fulfill EPA's goal of public education and outreach on storm water impacts, public involvement and participation, illicit discharge detection and elimination, construction site runoff control, post-construction storm water management in development and re-development, and pollution prevention and good housekeeping of municipal operations.

### 2.1.3 Federal Emergency Management Agency (FEMA)

The FEMA was created to provide accountability for all federal emergency preparedness, mitigation, and response activities. FEMA is organized to strengthen the multiple use of emergency preparedness and response resources at the Federal, state, and local levels of government in preparing for and responding to the full range of emergencies and to integrate into a comprehensive framework activities concerned with hazard mitigation, preparedness planning, relief operations, and recovery assistance.

FEMA oversees the National Flood Insurance Program (NFIP). The NFIP is a Federal program enabling property owners in participating communities to purchase insurance protection against flooding.

The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Act of 1994, signed into law on September 23, 1994. The NFIP is administered by the Federal Insurance Administration and the Mitigation Directorate (MT), which are components of FEMA. The full requirements of the NFIP can be found in Chapter 44 of the CFR Parts 59, 60, 65, and 70.

Participation is based on an agreement between local communities and the Federal government that states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the Federal Government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to building and their contents caused by floods.

Communities which meet and exceed the minimum requirements of the NFIP may participate in the Community Rating Systems (CRS). The CRS encourages the development and implementation of storm water management plans, drainage system maintenance, and floodplain preservation. The program also supports activities which increase public information and participation, public involvement, and public outreach activities.

The City of Centerville participates in both the NFIP and CRS programs.

#### 2.1.4 Protection of U.S. Waters

The United States Army Corps of Engineers (ACE) of the Department of Defense manages and constructs civil works programs which include research and development, planning, design, construction, operation and maintenance, and real estate activities related to rivers, harbors, and waters as well. ACE administers laws for protection and preservation of navigable waters and related resources such as wetlands. ACE's authority for protection of navigable waters falls under section 404 of the U.S. Rivers and Harbors Act of 1899. Section 10 of that act prohibits any obstruction or alteration of navigable waters without an ACE permit. The term navigable waters has a broad definition, which states that wetlands are included along with streams having average annual flows greater than 5 cubic feet per second. ACE also assists in recovery from natural disasters.

## 2.2 State

The State of Utah has a Department of Environmental Quality whose mission is to *“[p]rotect, maintain and enhance the quality of Utah’s surface and underground waters for appropriate beneficial uses; and to protect the public health through elimination and preventing water related health hazards which can occur as a result of improper disposal of human, animal or industrial wastes while giving reasonable consideration to the economic impact.”*

The State Department of Environmental quality is responsible to oversee the EPA NPDES Phase I and Phase II storm water regulations and issue Utah Pollutant Discharge Elimination Systems (UPDES) permits in the State of Utah. The Utah Administrative Code Title R317 – Environmental Quality, Water Quality sets forth the requirements and procedures needed for compliance with state law. Utah Code Title R317-8.3.9 specifically lists the requirements for municipalities to obtain a UPDES permit from the

State of Utah. The UPDES permit will be issued in compliance with the provision of the Utah Water Quality Act, Title 19 chapter 5, Utah Code Annotated 1953, as amended.

## **2.3 County**

Davis County is responsible for flood control and maintenance of the creeks that transverse through Centerville. Davis County ordinance 01-87 and 02-98 sets forth the policy and procedures used by the County to provide this service. Coordination must be made with the county on projects that affect any of the creeks or right-of-way issues related to them.

## **2.4 Local**

Currently, the City of Centerville has several ordinances that pertain to various aspects of storm water management. Some of these ordinances have been modified to meet compliance with the new Federal and State laws associated with the NPDES and UPDES permit requirements and to be more effective in improving the quality of storm water runoff. With the implementation of this storm water plan, additional ordinances may be required.

The following is intended as a brief overview of the ordinances currently enacted. A more detailed analysis and application of these ordinances will be included when needed to describe their application to the Storm Water Management Plan.

### **2.4.1 TITLE 16 Storm Water**

### **2.4.2 TITLE 10 Fire, Health, Safety, and Welfare**

#### **2.4.2.1 Chapters 10-400, 10-500, 10-600**

Chapters 10-400 and 10-500 address garbage and litter issues such as collection, transportation and proper disposal of hazardous materials and other wastes. Chapter 10-600 addresses Natural Resource Excavations, which can have a significant effect on storm water quality.

### **2.4.3 TITLE 11 Streets and Public Ways**

#### **2.4.3.1 Chapter 11-300, Parts 11-362 and 11-355**

Part 11-362 prohibits placing trash or other obstruction in streets, gutters or sidewalks. Part 11-355 prohibits placing or mixing sand or gravel on a paved street or sidewalk. Such restrictions can help avoid adding large amounts of sediments to storm water during storm events.

## 2.4.4 TITLE 12 Planning and Zoning

### 2.4.4.1 Chapters 12-200, 12-300, 12-400

These chapters set forth subdivision standards and specification, the planning and zoning ordinances and the general plan. The codes found in these regulations include provisions for hillside development, general land use, sediment and erosion controls, construction standards and specifications, zoning issues and provides for inspection and enforcement of these activities.

## 2.4.5 TITLE 15 Land Development

Title 15 is also known as the “Centerville Subdivision Ordinance” or as the “Land Development Code”. It provides rules, regulations, standards and specifications which regulate growth and development in the City. The Community Development and Planning Department is the primary overseer of the majority of the requirements found in this section as well as those in Title 12.

## **SECTION 3 – NPDES PHASE II REQUIREMENTS**

### **3.1 Public Education and Outreach**

#### 3.1.1 Requirements

**REQUIRED:** Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

An informed and knowledgeable community is crucial to the success of the storm water management program since it helps to ensure the following:

1. Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important.
2. Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

The basic requirement of the public education and outreach control measure is to communicate the impacts of storm water discharges and the steps to reduce storm water pollution. The EPA requires that a public education program be implemented to distribute education materials to the community, or to conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution. The EPA also requires that appropriate BMPs and measurable goals be included as a part of the program.

Based on recommendations from the EPA and requirements of the State of Utah the following goals have been considered when determining which BMPs the City of Centerville will implement as part of the storm water management plan.

### 3.1.2 Goals

1. Inform the public of need for storm water management and what role they play in it.
2. Develop a program that promotes, publicizes and facilitates public reporting of the presence of illicit discharges or improper disposal of materials.
3. Develop a program that promotes, publicizes and facilitates the proper management and disposal of used oil and household hazardous wastes.
4. Inform public employees, businesses, and the general public about the hazards associated with the illegal discharges and disposal of wastes.
5. Encourage the proper use, application, and disposal of pesticides, herbicides, and fertilizers by commercial and private applicators and distributors.

The BMPs that the City of Centerville has elected to implement are based on recommendations by the EPA and the State of Utah. Many NPDES Phase I communities have instituted similar activities with much success. The three main areas that the City of Centerville will implement the public education and outreach activities include:

1. forming partnerships
2. using appropriate educational materials and strategies, and
3. reaching diverse audiences.

### 3.1.3 Forming Partnerships

It would be too expensive for the City of Centerville to create an education and outreach program on its own. With this restriction in mind, the City of Centerville will pursue partnerships with other communities and entities where possible and practicable. There is already an existing program in both Salt Lake and Davis Counties which reaches residents in our community.

### 3.1.4 Proposed BMPs

1. Continue participation with the Salt Lake County Storm water Advisory Committee (SWAC) and Davis County Storm Water Coalition.
  - a. SWAC provides the opportunity to meet with Utah State officials who monitor and regulate construction sites, industrial sites, and Municipal Separate Storm Sewer Systems (MS4s). Participation and collaboration allows Centerville to remain aware of current storm water concerns.
  - b. Participate with the Davis County Storm water Coalition. Centerville pays an annual fee to the Davis County Storm water Coalition to pay a portion of the costs associated with their program. In return, Centerville City

receives materials to use in its own community. This partnership eliminates duplication of services and provides opportunities that the City could not otherwise afford. Davis County Storm water Coalition consists of representatives from 15 cities including Davis County and Hill Air Force Base. The Coalition's purpose is to reduce the load of pollutants entering the storm drains and receiving water bodies and to comply with storm water regulations. The coalition meets monthly and coordinates the purchase of educational material, school program presentations, municipal and construction site training opportunities, and compliance with State storm water regulations.

2. Continue purchasing brochures and TV advertisements. Part of the fees paid to the Davis County Storm Water Coalition is applied to the purchase of brochures and TV advertisements. Brochures are used to tag doors in neighborhoods where storm water pollution is found. Brochures are also used when service projects apply storm drain stencils to catch basins. There are currently two TV advertisements that inform Centerville residents about storm water.
3. Continue public information presentations. The Davis County Storm Water Coalition pays for one teacher to educate all of the 4<sup>th</sup> grade students within Davis County concerning storm water. The Coalition also participates in Water Fairs and each year provides an educational booth at the Davis County Water Fair. The Coalition has also conducted both construction site storm water training for contractors and municipal site storm water training for municipal employees.
4. Create economic incentives for businesses and new development. Centerville is considering offering a drainage utility discount for businesses who participate in storm water educational opportunities or who install specific storm water treatment devices and structural or nonstructural BMPs.
5. Target commercial businesses. Commercial businesses contribute to storm water pollution through the use of bad housekeeping procedures. The City plans on inspecting commercial businesses and then providing them with options for structural and nonstructural BMPs.
6. Develop annual storm water insert for City Newsletter. The Centerville City newsletter is an effective way of reaching the public. Each year a storm water insert will be included in the newsletter informing the public about storm water concerns and what they can do to prevent storm water pollution.
7. Promote low impact development. Low impact development techniques help to reduce storm water pollution. Low impact development depends on coordination with the Department of Community Development.

See **Table 2** for Status of Measurable Goals for Public Education and Outreach.

### 3.1.5 Funding

Funding to participate with existing coalitions will be an expense of the City's Drainage Utility Fund. Coalition funding has varied per year dependent upon activities and participation of other Cities.

## 3.2 Educational Materials and Strategies

There are many sources to obtain existing educational materials. Many of these materials can be used as is, or can be modified to meet our specific local needs. Participation with other organizations, such as county coalitions, reduces the cost of some materials due to scale of economy.

### 3.2.1 Proposed BMPs

1. Develop and maintain a library of education materials for the community and school groups. This collection of information will be used to prepare brochures, handouts, the website, and other materials used in promoting the storm water management plan.
2. Develop brochures and/or fact sheets for the general public that provide information on the City's storm drain system, flood control activities and other storm water related issues. These brochures should emphasize the impact of storm water discharges on our local water bodies and steps that can be taken to reduce or eliminate pollutants from entering storm water runoff.
3. Develop and maintain a website related to our storm water program and storm water issues.
4. Continue publication of the storm water hotline that is used to answer questions and concerns from the public as well as providing information. The storm water hotline also facilitates reporting the presence of illicit discharges or the improper disposal of materials into the storm drain system.
5. Continue the storm drain stenciling program.
6. Continue the educational program for school-age children (fourth graders) as managed by the Davis County Storm water Coalition.
7. Development of alternative information sources, such as bumper stickers, refrigerator magnets, posters, key chains, etc. which will promote public awareness and participation.

### 3.2.2 Funding

Funding for the proposed BMPs in Section 3.2.1 will be an expense of the City's Drainage Utility Fund. The associated costs to participate have yet to be determined as some of these activities will be dependent upon the City's participation in the Salt Lake County and Davis County Storm Water Coalitions.

See **Table 3** for Status of Measurable Goals for Education Materials and Strategies.

**Table 2. Status of Measurable Goals for Public Education and Outreach**

<b>Target Date</b>	<b>Activity/Goal/BMP</b>	<b>Responsible Entity</b>	<b>Cost</b>	<b>Funding Source</b>	<b>Status</b>	<b>Implementation Date</b>	<b>Assessment</b>
Year 1	Prepare agreements to participate with the existing Salt Lake County Storm water Coalition	Drainage Utility	Unknown	Drainage Utility Fund	Active	2003	Agreements are active and reoccurring.
Year 1	Prepare agreements to participate with the existing Davis County Storm water Coalition	Drainage Utility	Unknown	Drainage Utility Fund	Active	2003	Agreements are active and reoccur annually.
Year 1	Develop a Centerville Storm water Committee	Drainage Utility, Mayor/City Manager	Volunteers	None	Dropped	n/a	Interest for this committee never materialized. Will reconsider at a later date.
Year 2-5	Participation with Salt Lake County and Davis County Storm water Coalitions	Drainage Utility	Averaged Cost approximately \$3,500 per year.	Drainage Utility Fund	Active	2003	Active participation has allowed the City to gain valuable knowledge in regards to local, State, and Federal Storm water Regulations.
Year 2-5	Storm water Committee reviews storm water management plan and other activities and suggest appropriate changes and modifications annually	Drainage Utility	Unknown	Drainage Utility Fund	Dropped	n/a	Interest for this committee never materialized.

**Table 3. Status of Measurable Goals for Education Materials and Strategies**

Target Date	Activity/Goal/BMP	Responsible Entity	Cost	Funding Source	Status	Implementation Date	Assessment
Year 1	Prepare and include a survey in the city newsletter to gauge the knowledge of citizens in regard to storm water issues.	Drainage Utility Supervisor Centerville Storm water Committee	>\$100	Drainage Utility Fund Centerville City	Active	2007	Results from the survey will be compiled and used as a base for comparisons with future surveys. Too soon to determine effectiveness.
Year 2-5	Develop brochures and/or fact sheets for the general public that provide information on the City's storm drain system, flood control activities and other storm water related issues.	Drainage Utility Supervisor Centerville Storm water Committee	>\$100	Drainage Utility Fund Storm water Coalition	Planned	n/a	Was not completed in 2003-2008.  Brochures are purchased through the Davis County Storm water Coalition. See 3.1.3.4
Year 2-5	Mail one brochure with information on storm water related issues through the City newsletter. (The newsletter is distributed to all postal customers in the city.)	Drainage Utility Supervisor Centerville Storm water Committee	Unknown	Drainage Utility Fund	Active	2007	Completed in Year 5 of 2003-2008. Included in 2008-2013 SWMP.
Year 3	Implement a storm water hotline for information and reporting	Drainage Utility Supervisor Centerville Storm water Committee	Unknown	Drainage Utility Fund	Active	2003	Completed. Included in the 2008-2013 SWMP under Illicit Discharge Detection and Elimination.
							(continued)

Year 3-5	Start a storm drain stenciling program	Drainage Utility Supervisor  Centerville Storm water Committee	To be determined	Drainage Utility Fund	Active	2003	Storm drain stenciling continues.
Year 3-5	Develop or participate in an educational program for school-age children	Drainage Utility  Centerville Storm water Committee	To be determined	Drainage Utility Fund	Active	2003	Ongoing through the Davis County Storm water Coalition.
Year 3-5	Distribute specific pollution prevention information to target groups such as businesses, churches, schools, etc.	Drainage Utility Supervisor  Centerville Storm water Committee	To be determined	Drainage Utility Fund	Active	2007	Year 5 included distribution of materials to businesses and schools.
Year 3-5 (or as available by the Coalitions)	Development of alternative information sources, such as bumper stickers, refrigerator magnets, posters, key chains, etc.	Drainage Utility Supervisor  Centerville Storm water Committee	To be determined	Drainage Utility Fund	Dropped	n/a	Some materials distributed through the Storm water Coalition.

### 3.3 Reaching Diverse Audiences

To be the most effective, our outreach program must address the viewpoints and concerns of a variety of audiences, including minority and disadvantaged communities, as well as children.

#### 3.3.1 Proposed BMPs

1. Diversify the materials and strategies used.
2. Specifically target different audiences with appropriate brochures or activities. This includes focusing on specific business types such as gas stations, greenhouses, car washes, etc. and other groups or entities which may impact storm water runoff in the community.
3. Distribute the materials through the City newsletter, local schools, the Neighborhood Network and other civic groups.

#### 3.3.2 BMPs/Activities being implemented by Davis County and the Davis County Storm water Coalition

##### CURB MARKERS

The County has coordinated the purchase of curb markers with both a common countywide logo and each City logo on the stencil. The markers are available for community groups, such as civic, PTA, service organizations, and scouts to place them on curb inlets throughout each City.

##### TEACHING AT PUBLIC SCHOOLS

The Davis County Storm water Coalition has contracted an independent teacher to give presentations to all fourth grade classes in all 51 elementary schools within Davis County.

Materials used in the school demonstration have been jointly purchased and are owned by the Cities and County. The materials and supplies are stored in the County Public Works office and are made available to each City on a reservation basis.

##### COORDINATION WITH UTAH STATE UNIVERISTY EXTENTSION SERVICE

Representatives from the Davis County Storm water Coalition will:

1. Make a presentation to the master gardener class which runs each year from Jan-Mar, after which master gardeners could mention storm water protection—pesticides, fertilizer, etc. when giving gardening talks in the community.
2. Demonstrate the storm water model at Extension school agriculture field day in April or May to over 1,000 elementary school students.
3. Display storm water pamphlets at the Utah House and pavilion at Utah Botanical Center in Kaysville.

4. Promote education tours for groups to visit botanical center ponds, which are fed by storm water.
5. Provide articles on storm water in USU Extensions newsletter which goes out every month to over 1,000 people.
6. Add storm water bulletins to Extension bulletin display in courthouse.

#### DEMONSTRATION DETENTION POND

Davis County has constructed a small detention pond and grass swales at the Public Works facilities in Fruit Heights. This facility demonstrates how water from shops and parking lots can be treated before it leaves the site.

#### NEWSPAPER ARTICLES

At least once per year, County personnel will prepare news articles to be published in the regional newspapers. The news articles will relate current activities in the County, which demonstrate the progress being made to reduce the pollution of our streams.

Suggestions will be given concerning lawn fertilization, excess lawn watering, and dumping toxic waste and sand into the curb. Directions will be given as to properly disposing of used oil, antifreeze and paints.

#### COMMUNITY AND RESIDENTIAL PROGRAMS

Promote public reporting of illegal dumping and illicit discharges. The purpose of public reporting is to enable the County or the Davis County Health Department to respond to citizen complaints regarding water quality. Reports may be called into phone number 451-3296. Procedures for formal complaints are in place. As necessary, Davis County Public Works will assist the Health Department to investigate the source of the pollution. Investigations and enforcement measures will be documented by the County.

Information booths will be on display at each City and County office Building. The booth display will include the model used in the schools illustrating the hydrologic cycle in an urban setting and is accompanied by a series of pamphlets or other educational materials that explain how the public can help reduce pollutants exposed to rainfall. The materials that are handed out at the booths primarily consist of the current information developed by the Davis County Storm Water Coalition.

### 3.3.3 Funding

Funding for the proposed BMPs in Section 3.3.1 will be an expense of the City's Drainage Utility Fund. The associated costs to participate have yet to be determined as some of these activities will be dependent upon the City's participation in the Salt Lake County and Davis County Storm water Coalitions.

See **Table 4** for Status of Measurable Goals for Reaching Diverse Audiences.

**Table 4. Status of Measurable Goals for Reaching Diverse Audiences**

<b>Target Date</b>	<b>Activity/Goal/BMP</b>	<b>Responsible Entity</b>	<b>Cost</b>	<b>Funding Source</b>	<b>Status</b>	<b>Implementation Date</b>	<b>Assessment</b>
Year 1	Identify different target groups and appropriate materials to be used with each group	Drainage Utility	>\$100	Drainage Utility Fund	Planned		Prepare list of various target groups and outline of plan to address related issues developed.
Year 2-5	Develop brochures and/or fact sheets for the general public that provide specific information on storm water related issues for each target group.	Drainage Utility	>\$100	Drainage Utility Fund	Active	2007	Develop one brochure or fact sheet each year. Mailed in City Newsletter addressing storm water issues for residents.
Year 2-5	Mail one brochure with information on storm water related issues to each target group.	Davis County Storm Water Coalition	>\$100	Drainage Utility Fund	Active	2007	Mail one brochure to every target group identified. Mailed informational brochures to Industrial Park businesses in 2007.

### **3.4 Public Involvement/Participation**

#### **3.4.1 Requirements**

**REQUIRED:** Comply with State and local public notice requirements when implementing a public involvement/participation program. Public involvement/participation programs should include steps to foster and include public input in developing, implanting, and reviewing storm water management programs.

An active and involved community is crucial to the success of the storm water management program because it allows for:

1. Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implantation.
2. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers.
3. A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource.
4. A conduit to other programs as citizens involved in a storm water program development process provide important cross connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by the EPA.

The basic requirement of the public participation/involvement is to be in compliance with all applicable State and local public notice requirements. The EPA also requires that appropriate BMPs and measurable goals be included as a part of the program. The EPA recommends that the municipality provide opportunities for the public to participate in activities such as a local storm water management panel or committee, volunteer monitoring, stream clean-up days, etc.

Based on recommendations from the EPA and requirements of the State of Utah the following goals have been considered when determining which BMPs the City of Centerville will implement as part of the storm water management plan.

#### **3.4.2 Goals**

1. Make efforts to reach out and engage all economic and ethnic groups in the community.
2. Provide opportunities for members of the public to participate in the development and implementation including serving as a citizen representative on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with pre-existing programs, or participating in volunteer monitoring efforts.

3. Promote, publicize and facilitate other information community and industrial help projects like stream watch programs, workshops, speaking engagements, inlet stenciling programs, brochures, public service announcements, and/or other outreach measures (surveys, counts, or other feedback may measure the success of these programs).

The BMPs that the city of Centerville has elected to implement are based on recommendations by the EPA and the State of Utah.

### 3.4.3 Proposed BMPs

1. Full compliance with State and local laws regarding the advertisement and notification of public hearings and other related meetings regarding the development and implementation of the storm water management plan.
2. Develop and implant a Centerville Storm water Committee to give input, feedback and recommendations the implementation of the storm water management plan.
3. Use the Centerville Storm water Committee to develop and promote the BMPs associated with the Public Information and Outreach part of the storm water management plan.
4. Continue the storm drain stenciling program.
5. Involve the community in community clean-ups along local creeks, ditches, swales, and other drainage areas.
6. Develop a citizen watch group and/or adopt a storm drain program to encourage individuals or groups to keep storm drains free from debris and aid local officials in identifying polluters and monitor what is entering the local water ways through the storm drain system.

### 3.4.4 Funding

Funding for the proposed BMPs in Section 3.4.3 will be an expense of the City's Drainage Utility Fund.

See **Table 5** for Status of Measurable Goals for Public Involvement/Participation.

**Table 5. Status of Measurable Goals for Public Involvement/Participation**

Target Date	Activity/Goal/BMP	Responsible Entity	Cost	Funding Source	Status	Implementation Date	Assessment
Year 1	Establish guidance for full compliance with State and local laws regarding the advertisement and notification of public hearings.	Drainage Utility Supervisor City Recorder	>\$100	Drainage Utility Fund	Active	2007	Document all public hearings held in regards to storm water.
Year 1	Develop a Centerville Storm water Committee.	Drainage Utility Supervisor, Mayor, City Manager	Volunteers	None	Dropped	n/a	Dropped from plan due to lack of participation. Will reconsider in the future.
Year 2-5	Use the Centerville Storm water Committee to develop and promote the BMPs associated with the Public Information and Outreach part of the SWMP.	Drainage Utility Supervisor Centerville Storm water Committee	>\$100	Drainage Utility Fund	Dropped	n/a	Dropped from plan due to lack of participation. Will reconsider in the future.
Year 2-5	Schedule at least one community clean-up day or other volunteer project to clean up local drainage ways.	Drainage Utility Supervisor Centerville Storm water Committee	Unknown	Drainage Utility Fund	Planned		Document the date and activity held.
Year 3-5	Implement a citizen's watch group.	Drainage Utility Supervisor Centerville Storm water Committee	Unknown	Drainage Utility Fund Centerville City	Dropped	n/a	Dropped from plan due to lack of participation. Will reconsider in the future.

Year 4-5	Implement an adopt-a-storm drain program.	Drainage Utility Centerville Storm water Committee	Unknown	Drainage Utility Fund	Planned		Track the number of Storm drains adopted and track the maintenance performed.
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## 3.5 Illicit Discharge Detection and Elimination

### 3.5.1 Requirements

REQUIRED: Develop, implement and enforce a program to detect and eliminate illicit discharges and improper dumping into the MS4, (as defined in 40 CFR 122.26(b)(2)).

1. Develop a storm water system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls;
2. To the maximum extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the system and implement appropriate enforcement procedures and actions;
3. Develop and implement a plan to detect and address non-storm water discharges including illegal dumping into the system;
4. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;
5. Promote, publicize and coordinate or assist in the coordination of the establishment or availability of programs to collect used motor vehicle fluids (including oil and antifreeze) and to collect household hazardous waste materials (including point, pesticides, herbicides and other hazardous wastes) for recycle and reuse;
6. Unless identified by the permittee or the Executive Secretary as significant source of pollutants to waters of the state, the following non-storm water discharges need not be prohibited from entering the MS4, provided appropriate control measures, (if needed) to minimize the impacts, are developed and implemented under the SWMP:
  - a. Water line flushing or other potable water sources;
  - b. Landscape irrigation or lawn watering;
  - c. Approved diverted stream flows;
  - d. Ground water infiltration to storm drains;
  - e. Air conditioning condensation;
  - f. Natural riparian habitat or wetland flows;
  - g. Emergency firefighting activities;
  - h. Swimming pools (only if de-chlorinated in accordance with federal regulations to less than 0.4 PPM chlorine); or
  - i. Discharges specified in writing by the Public Works Director as being necessary to protect public health and safety;
  - j. Promote and publicize a hotline for reporting illicit discharges.

Illicit discharges are considered illicit because MS4s are not designed to accept, process, or discharge such non-storm water wastes. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration from cracked sanitary systems, spills collected by drain outlets or other contaminants dumped directly into a storm drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and

bacteria into receiving water bodies. These increased pollutant levels can be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Based on recommendations from the EPA and requirements of the State of Utah the following goals have been considered when determining which BMPs the City of Centerville will implement as part of the storm water management plan.

### 3.5.2 Goals

1. Develop a storm water system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls.
2. Develop ordinance language that prohibits non-storm water discharges into the storm drain system and provides for appropriate enforcement procedures and actions.
3. Develop a plan to detect and address non-storm water discharges, including illegal dumping.
4. Educate public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.

### 3.5.3 Proposed BMPs

1. Centerville's storm drainage system is mapped and includes storm drains, sub drains, ditches, swales, culverts, creeks, catch basins, and manholes. Future plans include continuing to update storm drainage maps to include new development as well as improving the accuracy of existing infrastructure. The mapping system should be utilized to record illicit connections, cleanings, and video inspections and to track problem areas or systems that need to be re-inspected at the end of two year warranties.
2. Centerville's Title 16 Storm water Ordinance was adopted July 1, 2007. Chapter 16-04 Prohibited Actions and Chapter 16-05 Violations and Enforcement regulates and identifies non-storm water discharges and enforcement options. Future plans include applying the ordinance in the field and presenting improvements and/or modification to increase its effectiveness and enforceability.
3. Developing a plan to detect and address non-storm water discharges will consist of four parts:
  - a. Locating Problem Areas – Centerville City will continue to video inspect its piped portion of the storm drain system to identify and illicit or illegal connections. The City also plans to work with appropriate agencies, such as Davis County Department of Health to identify other sources of illegal discharges. This may include sampling and monitoring of manholes, creeks, and/or other drainage ways, dye testing and/or smoke testing.
  - b. Finding the Source – Where applicable the City will perform testing or other investigations to determine the source of illicit discharges or dumping into the storm drain system.

- c. Removing/Correcting Illicit Connections – If illegal connections are identified, the offenders will be notified and directed to correct the problem. Education efforts will also be used to train and resolve problems before taking legal action.
  - d. Documentation of the Actions Taken – All actions associated with identifying and correcting illegal discharges will be documented, including information such as: number of outfalls screened; complaints received and corrected; number of discharges and quantity of flows eliminated; number of tests performed, etc.
4. The City has begun both commercial and construction site inspections to identify non-storm water discharges. The City also video inspects storm drain lines in existing and new development to ensure illicit connections have not been made. Building inspectors and the City Engineers have been informed about illicit roof drain to sub drain connections. Future goals include improving the inspection and reporting process by increasing regularity and number of inspections and recording inspections utilizing software that allows tracking and queries.
  5. Educational outreach will be implemented under activities in section 3.1 of this plan. Public Works employees receive annual safety training in regards to storm water pollution and types of illicit discharges. Some commercial businesses have been sent a BMP educational brochure that reviews storm water pollution and various types of illicit discharges. The general public receives an annual City Newsletter that also reviews storm water pollution and various types of illicit discharges. Future goals include reaching out to all of the businesses within Centerville by purchasing and mailing a storm water brochure that specifically targets commercial sites.
  6. The City Newsletter publicizes the phone number for the Solid Waste District which accepts many common household hazardous wastes. Future goals include researching the feasibility of an annual City wide cleanup day for hazardous waste to include the collection of paint, oil, antifreeze pesticides, herbicides, and other hazardous wastes.
  7. Centerville’s Title 16 Storm water Ordinance identifies non-storm water discharges that are allowed. Future goals include monitoring discharges and adjusting the list of non-storm water discharges as needed.

The BMPs that the City of Centerville has elected to implement are based on recommendations by the EPA and the State of Utah.

#### 3.5.4 Funding

Funding for the proposed BMPs in Section 3.5.3 will be an expense of the City’s Drainage Utility Fund.

See **Table 6** for Status of Measurable Goals for Illicit Discharge and Elimination

**Table 6. Status of Measurable Goals for Illicit Discharge and Elimination**

Target Date	Activity/Goal/BMP	Responsible Entity	Cost	Funding Source	Status	Implementation Date	Assessment
Year 1	Map development.	Drainage Utility Supervisor, GIS Specialist	Unknown	Drainage Utility Fund	Active	2003	Map development continues as new systems are installed and old systems are cleaned and verified.
Year 1-3	Video inspections.	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Active	2003	Inspect entire system.
Year 2	Establish ordinance.	Drainage Utility Supervisor, City Council	>\$100	Drainage Utility Fund	Completed	2007	Ordinance adopted by City Council.
Year 3	Completion of video inspection of all drain lines.	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Active	2003	In progress.
Year 4-5	Promotion of proper Hazardous Waste Disposal and hotline to report dumping violations.	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Active	2007	

### 3.5.5 Spill Incident Response and Reporting

The following spill incident reporting chart will be used to respond to spills and report them to appropriate agencies:

- 
- Spill is observed or Report of Spill comes in
    - Does the incident pose an immediate threat to life or health?
      - Yes – Call 911 (give description of material, amount, and extent)
        - describe incident in spill log
      - No – move to next step
    - Are you able to safely contain the spill with tools and/or material at hand?
      - Yes – Contain the spill and secure the area, then ensure clean-up is done
        - report according to the reporting list below, and
        - describe incident in spill log
      - No – move to next step
    - Is it during regular working hours?
      - No – Call 911 (give description of material, amount, and extent)
        - describe incident in spill log
        - on next working day report according to reporting list below
      - Yes – report according to reporting list below
        - describe incident in spill log
- 

#### **Pollutant Description**

Pollutant releases to water (surface or ground water)  
 Hydrocarbons (fuel, oil), release of 25 gallons or more  
 Radiological Materials, any spill or release  
 Extremely Hazardous chemicals, 2.2 lb. or more  
 (e.g. Cyanides, Arsenic, Chlorine)  
 Other Hazardous chemicals, 220 lb. or more  
 Underground Storage Tank, any leaking or release

#### **Report to:**

Davis Co., UDEQ, & NRC  
 Davis Co. and UDEQ  
 Davis Co. and UDEQ  
 Davis Co. and UDEQ  
 Davis Co. and UDEQ  
 UDEQ

*Other spills, particularly those contained and cleaned up, do not need to be reported*

#### **Phone Contact List:**

Emergency	911
Davis County Environmental Health	801-525-5100
National Response Center (NRC)	800-424-8820 (24 hour)
Utah Dept. of Environmental Quality (UDEQ)	801-536-4123 (24 hour)
Utah Division of Solid and Hazardous Waste	801-538-6170
Utah Hazmat Response Officer	801-538-3745 (24 hour)

## **3.6 Construction Site Runoff Control**

### **3.6.1 Requirements**

REQUIRED: Develop, implement, and enforce a program to reduce pollutants in storm water runoff from construction activities that result in a land disturbance greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction is part of a larger common plan of development that would disturb one acre or more. Minimum requirements include:

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

### **3.6.2 Goals**

The BMPs that the City of Centerville has elected to implement are based on recommendations by the EPA and the State of Utah.

The Construction Site Storm water Runoff Control Program section of the SWMP addresses water quality concerns for construction sites greater than or equal to one acre. Polluted storm water runoff from construction sites often flow to storm drains and into receiving waters. This runoff can contribute more sediment to receiving waters than can be deposited naturally during several decades. The resulting siltation can cause physical, chemical and biological harm to receiving waters. The BMPs described in this section of the SWMP includes the development of a construction site program designed to reduce pollutants in storm water runoff from construction activities. This program will include procedures for construction site plan review, site inspections, public reporting, contractor education, and notification of permit requirements to all construction site owners/operators.

This program will also be integrated with other facts of the SWMP to provide information and up-to-date BMPs to the end user. The following BMPs describe implementation tasks to be completed by Centerville City for the Construction Site Storm water Runoff Control Program.

### 3.6.3 Proposed BMPs

Centerville City will develop an ordinance with requirements for construction operators to use erosion and sediment controls and maintain appropriate structural and non-structural BMPs to reduce pollutants discharged during times of soil disturbances or excavation activities, along with penalties to enforce and ensure compliance. In addition, develop requirements for operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the site that may cause adverse impacts to water quality.

A construction site permit will be required for construction activities in accordance with the proposed ordinance. For the purposed of this permit, construction activities are defined as activities that change the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil,, placement of fill materials, paving, construction, substantial removal of vegetation or any activity which bares soil or rock or involves the diversion or piping f any natural or man-made watercourse.

An erosion control plan must be submitted for review and approval prior to commencing grading operations. The plan is intended to prevent erosion during the construction phase by implementing various erosion control measures as appropriate. Such measures may include temporary silt or sediment fences, sediment traps, and detention ponds, temporary and permanent vegetation, or other approved BMP.

In addition, the permit requires operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste, and other construction-related pollutants at the site that may cause adverse impacts to water quality.

#### CONSTRUCTION SITE PERMIT APPLICATION

A Storm water Pollution Prevention Plan must be submitted with the Permit application. The SWPPP shall include the following information:

##### A. General Information

1. A site description (including a map with spot elevations and contour lines) which include a description of the nature and location of the construction activity, a description of the intended sequence of major activities which will disturb soils for major portions of the site (e.g. grubbing, excavation, grading, utilities, and infrastructure installation, etc.), and estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other activities;
2. A description of the proposed measures and controls that will be implemented during construction activity and/or while the site is not stable. The SWPPP must clearly describe the times during the construction process that the measures will be implemented for each major activity identified pursuant to subsection (1). The SWPPP shall also state the name

and phone number of the persons or entity responsible for implementation of each control measure.

## B. Goals and Criteria

1. The proposed measures and controls shall be designed to prevent or minimize, to the maximum extent practicable (MEP) the discharge of sediment, debris, and other construction-related pollutants from the construction site by storm water runoff into the storm drain system.
2. The proposed measures and controls shall be designed to prevent or minimize, to the MEP, the deposit, discharge, tracking by construction vehicles, or dropping of mud, sediment, debris, or other potential pollutants onto public streets and rights-of-way. Any such discharge shall be cleaned up and removed immediately upon notification to the Permittee or when it otherwise comes to the attention of the Permittee. At a minimum, the deposit or discharge shall be cleaned and removed at the end of the work shift in which the deposit occurred, or at the end of the work day, whichever comes first.
3. The proposed measures and controls shall consist of BMPs available at the time that the SWPPP is submitted. BMPs may include, but shall not be limited to, temporary silt or sediment fences, sediment traps and detention ponds, gravel construction entrances and wash down pads to reduce or eliminate off-site tracking, straw bale sediment barriers, establishment of temporary grasses and permanent vegetative cover, use of straw mulch as a temporary ground cover, erosion control blankets, temporary interceptor dikes and swales, storm drain inlet protection, check dams, subsurface drains, pipe slope drains, level spreaders, rock outlet protection, reinforced soil retains systems, and gabions.
4. The proposed measures and controls shall be designed to preserve existing vegetation, where possible. Disturbed portions of the site shall be stabilized. Stabilization practices may include temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Use of impervious surfaces for stabilization should be avoided. Stabilization measures shall be initiated as soon as practicable in disturbed portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased, except under the following circumstances:
  - a. If the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity temporarily or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable; or

- b. If construction activity on a portion of the site is temporarily ceased, and earth disturbing will resume within 21 days, temporary stabilization measures need not be initiated on that portion of the site.
5. The proposed measures and controls shall be employed to minimize the risk of discharge of construction-related pollutants (such as point, thinners, solvents and other chemicals) from the construction site. Such measures may include implementation of storage practices to minimize exposure of the material to storm water as well as spill prevention and response.

#### SITE PLAN REVIEW

Centerville City will conduct site plan reviews, which incorporate considerations for potential short and long-term water quality impacts and minimizes these impacts, to the MEP. The site plan review shall include requirements for operators to control other wastes such as discarded building materials, concrete truck washout chemicals, litter, and sanitary waste that may adversely impact water quality.

Centerville's Storm water Ordinance supplies the framework for the Construction Site Storm water program as well as the regulatory jurisdiction for enforcement. Site plan review and approval procedures have been developed. A checklist created from the requirements of the general permit for construction activities is used to review plans.

Site plans will incorporate specific BMPs for erosion and sediment control purposes and other waste control measures. Consideration for proper operation and maintenance of control measures will be incorporated into the plan review process.

Centerville City personnel who currently review site plans will evaluate storm water controls. Guidelines for appropriate erosion and sediment control measures are part of the personnel training.

#### SITE INSPECTIONS

Centerville City has developed procedures for site inspection and enforcement of erosion control measures at construction sites to deter infractions. Procedures include steps to identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography and the characteristics of soils and receiving water quality.

Centerville's Storm water Ordinance supplies the framework for the Construction Site Storm water program as well as the regulatory jurisdiction for enforcement. Regular inspections by qualified personnel will help to ensure erosion and sediment controls are operating properly and to identify problem areas. Procedures for site inspections and follow-up activities will be developed.

## PUBLIC REPORTING

The public can play a crucial role in identifying instance of noncompliance. Public reporting can provide important assistance in preventing storm water pollution during construction activities. Maintain procedures for the receipt and consideration of public inquiries, concerns and information submitted regarding storm water runoff from local construction activities.

As noted in the education section of the SWMP, Davis County will promote public reporting of illegal dumping and illicit discharges. The purpose of public reporting is to enable the county or the Davis County health Department to respond to citizen complaints regarding water quality. Reports may be called into phone number 451-3296. Procedures for formal complaints are in place. As necessary, Davis County Public Works will assist the health Department to investigate the source of the pollution. Davis County will document all investigations and enforcement measures, including any fee penalties.

## CONTRACTOR EDUCATION

Develop and distribute appropriate education and training materials for construction site operators. Contractor education on storm water issues will be crucial in minimizing storm water pollution during construction activities.

Guidance Document for Storm Water Management: Salt Lake County has developed a guidance document of BMPs which includes a chapter specifically for construction site BMPs. **The document is available from SLCo's website:**

The Davis County Storm water Coalition has also created a guidance document of BMPs for construction sites: *A Guide to Storm Water Best Management Practices* **which is available on the City's website:**

Additional Guidance Documents: EPA's *A Storm water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices* and other appropriate publication will be made available.

## UPDES CONSTRUCTION PERMIT NOTIFICATION

Notify all construction permit applicants of their potential responsibilities under the UDES permitting program for construction site runoff. Procedures for notification of UPDES permit requirements will be developed. Making construction permit applicants aware of UPDES permit requirements for construction activities will be beneficial in minimizing storm water pollutant runoff from such sites.

The table below represents measurable goals that are to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness.

### 3.6.4 Funding

Funding for the proposed BMPs in Section 3.6.3 will be an expense of the City's drainage utility fund. Other sources of funding may include fees imposed on contractors, builders, developers, or costs incurred by them while implementing the selected BMPs in conjunction with their permits.

See **Table 7** for Status of Measurable Goals for Construction Site Runoff Control.

**Table 7. Status of Measurable Goals for Construction Site Runoff Control**

<b>Target Date</b>	<b>Activity/Goal/BMP</b>	<b>Responsible Entity</b>	<b>Cost</b>	<b>Funding Source</b>	<b>Status</b>	<b>Implementation Date</b>	<b>Assessment</b>
Year 1	Review existing ordinances.	Drainage Utility Supervisor City Attorney	Unknown		Completed	2007	
Year 1-2	Modify existing ordinances or develop new ordinances regarding pollution prevention on construction sites.	Drainage Utility Supervisor City Attorney City Council	Unknown		Completed	2007	
Year 2	Complete selection of approved BMPs and develop a book to be used by the city and contractors.	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Completed	2008	
Year 3	Train personnel and contractors/develop education program	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Active	2007	
Year 4-5	Enforcement of ordinance	Drainage Utility Supervisor	Unknown		Active	2007	

## 3.7 Post Construction Runoff Control

### 3.7.1 Requirements

REQUIRED: The permittee must:

1. Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale or that have been designated to protect water quality, that discharge into the MS4. The program must ensure that controls are in place that will protect water quality that discharge into the MS4. The program must ensure that controls are in place that will protect water quality and reduce the discharge of pollutants to the maximum extent practicable.
2. Develop and implement strategies which include a combination of structural and/or non-structural BMPs

#### Pollution Prevention/Good Housekeeping

REQUIRED: The permittee must:

1. Develop and implement an operation and maintenance program that includes a training component and is designed to reduce the discharge of pollutants to the maximum extent practicable, and
2. Include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

The Pollution Prevention/Good Housekeeping portion of the Storm Water Management Plan addresses routine activities in the operation and maintenance for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm drain systems. The program will implement BMPs to address specific roadway practices which include snow removal, deicing, salt pile management, and road crew training. This program will also focus on storm drainage system maintenance, structural floatable controls, maintenance yard practices, flood control projects, litter ordinance development, pesticide, herbicide and fertilizer program, and spill prevention and response.

This program will also be integrated with the Public Education and Outreach, Public Involvement/Participation, and Illicit Discharges and Improper Disposal Programs to promote awareness of water quality concerns in performing routine roadway maintenance and operation, and other practices. The following BMPs describe implementation tasks and assessment tasks to

be completed by Davis County for the Pollution Prevention/Good Housekeeping Program.

### 3.7.2 Goals

The BMPs that the City of Centerville has elected to implement are based on recommendations by the EPA and State of Utah.

### 3.7.3 Proposed BMPs

#### STORM DRAIN SYSTEM MAINTENANCE

Maintain existing drainage system operation, maintenance, and cleaning procedures for the purpose of reducing pollutants in storm water runoff. Identify areas of chronic problems and develop and implement corrective actions for these areas. Personnel training is a component of this program. Proper system maintenance and employee training will help to reduce storm water impacts from such activities as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

#### SNOW REMOVAL

Review and assess current snow removal and disposal procedures for prevention and reduction in storm water pollution. Centerville City has a policy to keep all roads open and free of snow or ice pack during every storm. The salt application rate is based on the temperature and snow pack conditions on the road surface accordingly. It is the objective of the City to operate snow removal procedures in a manner to reduce the discharge of pollutants to the MEP, without compromising motorist's safety.

#### STORM DRAIN SYSTEM WASTE DISPOSAL

Review and assess current disposal procedures for waste removed from the storm drain system. Such wastes include dredge spoil, accumulated sediments, floatables, and other debris. Controls for reducing or eliminating the discharge of pollutants from areas such as roads and parking lots, maintenance and storage yards and waste transfer stations will help to reduce the discharge of pollutants to receiving water bodies.

It is the intention of Davis County to work with communities to create a countywide disposal system for the proper removal and disposal of waste from the storm drains system to reduce the discharge of pollutants to the MEP. This site could also provide disposal for household hazardous materials like paint, pesticides, and oils as stated on page 14, concerning illicit discharges.

#### ROAD CREW TRAINING

Educate public employees regarding pollutants that may be discharged to storm drain system and potential impacts. Proper training can reduce pollutants from such activities as tack oil application, excess concrete, concrete truck washout and spill clean-up. Road crew training will occur at a minimum of once per permit term as part of a City-wide storm water training program. The purpose of the training is to update public employees

on storm water issues and to provide a platform for a roundtable discussion on current practices and procedures and how they impact storm water quality.

#### **POLLUTION PREVENTION PRACTICES FOR MAINTENANCE YARDS**

Pollution prevention measures at equipment yards and maintenance facilities. Proper controls and procedure at these locations will help to control polluted runoff. The shops and washing bays will drain into an oil and grease separator before flowing into the detention pond. Alternative BMPs will be implemented as appropriate to minimize pollutants entering storm drain system from these facilities.

#### **FLOOD CONTROL PROJECTS**

Assess new and existing flood control projects with respect to water quality concerns and modify capital improvement projects as necessary. In order to accomplish this, the flood control permit checklist will contain a section for water quality review. Incorporate additional BMPs to reduce storm water pollutants as appropriate. Personnel training will be a component of this program.

#### **PESTICIDE, HERBICIDE, AND FERTILIZER PROGRAM**

Maintain current inventory, evaluate pesticide, herbicide, and fertilizer usage on Centerville City properties by municipal employees. Current BMPs will be evaluated and implemented as appropriate to reduce the discharge of pollutants related to the application of pesticides, herbicides, and fertilizers applied by municipal employees or contractors to public right-of-ways, parks, and other municipal facilities.

Centerville City will assess and evaluate application procedures, rates, and implement BMPs to reduce the discharge of pollutants related to these activities. Potential alternative PHFs will be evaluated to minimize the discharge of pollutants to storm water from PHF procedures and practices.

#### **SPILL PREVENTION AND RESPONSE PROGRAM**

Maintain current Emergency Response Program. Maintain personnel on call to respond to reports of spills or discharges and to the MEP, identify and investigate the source of the discharge and use the regulatory authority to take enforcement actions against violators to correct the illicit discharge activity. Local fire departments are also equipped to respond to spills, to mitigate spills and to eliminate the danger to human health. The current program will be evaluated for effectiveness, and will be modified as necessary. Personnel training is an important component to this program.

#### **MONITORING, RECORD KEEPING, AND REPORTING**

The streams and channels located in David County do not have TMDL approved limits. Davis County Environment Health Department in cooperation with Weber Basin Water Quality Laboratory, currently monitors sixteen streams or discharge points on a quarterly schedule. The sampling points are described as follows:

Lower Millcreek  
Lower Farmington Creek

Lower Stone Creek  
Lower Kays Creek

Lower Kays Creek near Hill Field Drain  
North Davis Sewer Discharge Canal  
Upper Holmes Creek  
Upper Stone Creek  
Upper Barnard Creek  
Storet #49901

North Davis Sewer Plant  
West Gentile Drain  
Upper Millcreek  
Upper Deuel Creek  
Upper Farmington Creek  
Storet #49902

The samples are analyzed for Total Dissolved and Suspended Solids, turbidity, Total Organic Carbon, Nitrate-Nitrite, Dissolved Orthophosphate, and Total Phosphorus.

The County has archived the sampling results, which provides a base line reference for future investigations. As the storm water management plans are implemented the sampling results may be reviewed and water quality trends established.

The Davis County Health staff will conduct periodic visual water quality monitoring and if obvious illicit discharges are noted, further investigation measures will be implemented to locate the source.

The sampling records are kept in the offices of the Davis County Environmental Health Department, located at 99 South Main, Farmington, Utah 84025.

#### 3.7.4 Funding

Funding for the proposed BMPs in Section 3.7.3 will be an expense of the City's Drainage Utility Fund.

**Table 8. Status of Measurable Goals for Post Construction Site Runoff Control**

Target Date	Activity/Goal/BMP	Responsible Entity	Cost	Funding Source	Status	Implementation Date	Assessment
Year 1	Review existing ordinances.	Drainage Utility Supervisor City Attorney	Unknown		Completed	2007	
Year 1-2	Modify existing ordinances or develop new ordinances regarding pollution prevention on construction sites.	Drainage Utility Supervisor City Attorney City Council	Unknown		Completed	2007	
Year 2	Complete selection of approved BMPs and develop a book to be used by the city and contractors.	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Completed	2008	
Year 3	Train personnel and contractors/develop education program	Drainage Utility Supervisor	Unknown	Drainage Utility Fund	Active	2007	
Year 4-5	Enforcement of ordinance	Drainage Utility Supervisor	Unknown		Active	2007	

## **SECTION 4 - APPENDICES**

### **4.1 List of Acronyms**

ACOE	United States Army Corps of Engineers
BMP	Best Management Practices
CRS	Community Rating System
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
UPDES	Utah Pollutant Discharge Elimination System
SLCO	Salt Lake County
SWMP	Storm Water Management Plan

## 4.1 Glossary of Terms

**BEST MANAGEMENT PRACTICES (BMP):** includes schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment, requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage and good housekeeping solutions that include the proper handling, storage, and disposal of toxic materials to prevent storm water pollution.

**CATCH BASINS:** Curbside opening that collects rainwater from streets and serves as an entry point to the storm drain system.

**FIRST FLUSH:** The first big rain after an extended dry period, which flushes out the accumulated pollutants in the storm drain system.

**FLOOD CONTROL CHANNEL:** The open portions (often concrete-lined) of the storm drain system.

**GUTTER:** The edge of a street (below the curb) designed to drain water runoff from streets, driveways, and parking lots into catch basins.

**HOUSEHOLD HAZARDOUS WASTE:** Common everyday products that people use in and around their homes including paint, paint thinner, herbicides, and pesticides that due to their chemical nature, can be hazardous if not properly disposed.

**ILLICIT CONNECTION:** Any man-made conveyance connecting to the storm drain system that is not permitted and/or allows an illicit discharge directly to a municipal separate storm sewer, or any legitimate connection that is used for illegal discharge.

**ILLICIT DISCHARGE:** Any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to an UPDES permit and discharges related to firefighting activities.

**MAXIMUM EXTENT PRACTICABLE (MEP):** Technology based discharge standard for Municipal Separate Storm Sewer Systems established by the Clean Water Act 402

**NON-POINT SOURCE POLLUTION:** Pollution that does not come from a single, identifiable source; includes materials that wash from roofs, streets, yards, driveways, sidewalks, and other land areas. Collectively, this is the largest source of storm water pollution.

**OUTFALL:** A flow of water from one drainage system into a larger system or into a body of water like a bay or lake.

**POINT SOURCE POLLUTION:** Pollution from a single identifiable source such as a factory or a sewage-treatment plant. Most of this pollution is highly regulated at the state and local levels.

**SOURCE CONTROL:** Action to prevent pollution from where it originates.

**STORM DRAIN SYSTEM:** A vast network of underground pipes and open channels designed for flood control.

**STORMWATER:** Rain runoff, snow melt runoff, and other surface runoff and drainage that enters the storm drain system and empties into lakes, rivers, or streams.

**STORMWATER POLLUTION:** Water from rain, irrigation, garden hoses or other activities that picks up pollutants (cigarette butts, trash, automotive fluids, used oil, paint, fertilizers and pesticides, lawn and garden clippings and pet waste) from streets, parking lots driveways, and yards and carries them through the storm drain system.

**WATERSHED:** A watershed is land that collects water and drains it into a river system or lake.