



**City of Casper – Notice of Intent
Storm Water Management Program**

April 1, 2005



**Submitted to:
Department of Environmental Quality
State of Wyoming**



**Submitted by:
City of Casper**

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CHAPTER 1

City of Casper Storm Water Management Program

Introduction:

A Storm Water Management Program (SWMP) will be implemented to limit, to the Maximum Extent Practicable, the discharge of pollutants from the City of Casper storm sewer system. The development and implementation of the SWMP is to fulfill the requirements of storm water discharges from Small Municipal Separate Storm Sewer Systems (MS4) operators in accordance with Section 402 (p) of the Federal Clean Water Act and the Wyoming Department of Environmental Quality WYPDES permit WYR04-0000. The Storm Water Management Program was also developed to comply with National Pollutant Discharge Elimination System permit requirements associated with Industrial Activities for the Central Service Center authorized by permit number WYR001012.

SWMP Coordination:

City of Casper, Owner of MS4
Thomas O. Forslund, City Manager
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Casper, Wyoming 82601
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Philip R. Stuckert, P.E., Public Services Director
Operational Control
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A location map of the City of Casper indicating the areas covered under this permit, as identified by the Department of Environmental Quality, is included in the appendix of this document. The location and general description of known MS4's operated by other public entities that discharge to the City of Casper is noted on the location map, as required by the application for permit coverage.

Industrial Facilities:

The Central Service Center, 1800 East "K" Street, Casper, Wyoming, provides vehicle maintenance for the City fleet. In addition to the vehicle maintenance, this facility houses Parks, Streets, Fleet, and Traffic Division services. This location is also the central fueling location for the City fleet. This facility will be covered under this permit. All other municipal facilities requiring Industrial Facilities NPDES Permits will maintain their own separate coverage. The contact for the Central Service Center is:



Lawrence J. Gomez Jr.
Fleet Maintenance and Street Divisions Manager
1800 East "K" Street
Casper, Wyoming 82601
Phone: 307.235.8283 Fax: 307.235.8417

Background:

In order for the greater Casper metropolitan watershed area to come into compliance with the Environment Protection Agency (EPA) Phase II Storm Water Rules and Regulations, a committee of watershed entities was formed to develop a Storm Water Management Program for the metropolitan watershed area.

EPA guidelines specify six minimum measures that need to be addressed within the greater Casper Metropolitan Watershed's Storm Water Management Program. These six areas are:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping.

The following narrative outlines a plan developed by the Storm Water Committee to address Minimum Control Measures for each of these six areas. Measurable Goals and Best Management Practices, which are required for each of the Minimum Control Measures, are intended to gauge permit compliance and program effectiveness. The narrative addresses activities that will be required by the watershed entities to meet each of the six Minimum Control Measures. The recommended Measurable Goals and timetables for the attainment of the objectives within each area are also included in the narrative.

Watershed Entities/Committee Members:

Natrona County
Mr. Mike Markus
County Planner

Casper College
Mr. Jeff Turner
Assistant V Pres. of Physical Plant

WyDOT
Mr. Calvin Goddard, P.E.
District Maintenance Engineer

City of Casper
Mr. Philip Stuckert, P.E.
Public Services Director

Town of Mills, WY
Mr. Steve Kurtz, F.A.I.C.P.
Town Planner



It is the intent of the entities that comprise the Casper Metropolitan Watershed to work cooperatively in the creation and implementation of the storm water Notice of Intent permit. The purpose of this permit, therefore, is to provide a uniform watershed approach to storm water management. Each entity will be responsible for the implementation of this program within each of the parties' jurisdictional boundaries, yet the program approach is intended to be uniform throughout the watershed area.

Management and Oversight Funding Sources:

Management and oversight of the SWMP is funded primarily through the City's general fund. Various divisions and departments within the City of Casper will provide support and implementation of the Storm Water Management Program. A storm water utility does not exist within the metropolitan area.

Program Perspective:

The City of Casper is dedicated to preventing non-point source pollution from entering the waterways of the state and the nation. Clean water is necessary to maintain recreational activities, habitat preservation, and city aesthetics. The City recognizes water as the state's most valuable asset. In support of the Clean Water Act of 1972 and Phase II of the National Pollution Discharge and Elimination System (NPDES), the City is submitting an application for coverage under the state of Wyoming's General Permit for Storm Water Discharges associated with Municipal Separate Storm Sewer Systems (MS4). The City will develop, implement, and enforce a Storm Water Management Program designed to reduce the discharge of pollutants from the municipal system to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Wyoming Department of Environmental Quality and the Wyoming discharge permit regulations.

The City of Casper is primarily a residential and commercial community, with some light industry. The City of Casper is located in Township 33 North, Range 79 West of the 6th Principle Meridian, County of Natrona. The City sits primarily between Mills and Evansville, with an area covering approximately 21.37 square miles. The 2000 Census counted the resident population of the City of Casper as 49,664. Water quality concerns of the community are: keeping the local streams clean for recreation, irrigation, fishing, and keeping drinking water sources clean.

The City has developed, and will continue to improve upon, programs that meet the requirements of the Phase II six minimum measures and protect state waters from pollution, contamination, and/or degradation. The City is providing the state with its approach to the six program areas, including Measurable Goals. The Measurable Goals are designed to assure the City develops, implements, and enforces a storm water management program that will reduce the discharge of pollutants from the storm drain system, to the maximum extent practicable, to the waters of the state of Wyoming. The City understands the implementation of best management practices consistent with the provisions of the Storm Water Management Program and the other requirements of the permit constitutes compliance with the standard of reducing pollutants to the maximum extent practicable. Through effective implementation of the SWMP, the City believes



pollutant loading will be reduced and receiving waters will be cleaner. Clean water will enhance the quality of life by improving and reducing potential risks associated with water quality.

Program Summary:

The Storm Water Management Program (SWMP) has been developed to meet the terms of the Authorization to Discharge Storm Water Associated with Municipal Separate Storm Sewer Systems (MS4s) Under the Wyoming Pollutant Discharge Elimination System (WYPDES Permit WYR04-0000). The Storm Water Management Program consists of the six minimum control measures (MCM) established by the Department of Environmental Quality, State of Wyoming, for Phase II storm water discharges. Implementations of these MCM's are expected to result in significant reductions of pollutants discharged into receiving water bodies. The six MCM's are addressed in separate sections.

The best management practices (BMP's) that will be implemented for each of the six minimum control measures are described in each section as well as the measurable goal for each BMP, including a description of the planned actions, timing and frequency of actions, and milestones. The estimated schedule for the implementation of each BMP is also included as part of the description.

Each year the City of Casper will complete a formal evaluation of the program compliance, including the appropriateness of the identified BMP's and the City of Casper's progress in achieving its measurable goals. This evaluation will be included in the City of Casper's annual report to the Wyoming Department of Environmental Quality.

The City of Casper will also make all records, a copy of the Storm Water Management Program and associated Storm Water Pollution Prevention Plans available to the public at reasonable times during business hours as required by the permit application.



Chapter II

Public Education and Outreach:

This Chapter outlines the State of Wyoming Phase II storm water regulatory requirements for the public education and outreach programs and offers our program elements and a implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

An informed and knowledgeable community is crucial to the success of a storm water management program. Without public knowledge of local water quality problems caused by urban runoff, it is difficult to obtain public support for local storm water quality programs. This support ranges from individuals changing their daily actions to community backing for all of the six minimum measures. As with all of the minimum measures, the goal of this measure is to reduce the degradation of local water bodies and improve chemical, physical, and biological quality of state waters. In order to achieve this water quality benefit, Public Education programs target these outcomes:

Improve understanding of the reasons why storm water quality programs exist. Public understanding of local impacts is particularly important when drainage facility owners and operators attempt to institute new funding initiatives for the program, or seek volunteers to help implement the program; and

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.

B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

A. *The permittee **must** develop and implement a public education and outreach program to:*

- 1. Distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and steps the public can take to reduce pollutants in storm water runoff; and*
- 2. Inform public employees, businesses and the general public of impacts associated with illegal discharges and improper disposal of waste.*

B. *The SWMP **must** include descriptions of:*

- 1. The target audiences for the education program who are likely to have significant storm water impacts (including individuals, households, and commercial, industrial, and institutional entities);*
- 2. The educational goals for each audience in terms of increased awareness, acquired skills, and/or changes in behavior;*



3. *The outreach strategies to be employed (workshops, brochures, media, et cetera) to reach target audiences and the number of people expected to be reached over the permit period*

C. Program Elements and Implementation:

Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges and the steps that can be taken to reduce storm water pollution.

Objective: Reduce pollutants to receiving waters by increased public awareness of problems and implementation of solutions; Develop and implement a public education program.

The first priority will be the development of a public education program including a theme and logo for the watershed entities, templates for public service announcements, press releases, feature articles, fact sheets, and educational literature. A thorough review of all six minimum measures will identify the priorities and needs to be addressed in a public education program. Identification of public education opportunities include: City of Casper Newsletter, Channel 3 television, Casper College internal television news, and the City of Casper web site.

The public education and outreach program will include the identification of stakeholders and business appropriate for inclusion in an information campaign based on their potential storm water impacts of improper waste disposal and illegal discharges. Areas that may have special informational needs are identified throughout the five-year life of the program and informational materials will be developed appropriate to them.

Public Education and Outreach						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Identify stakeholders and business appropriate for potential storm water impacts update list yearly	list	PSD	PSD	PSD	PSD	PSD
List of stakeholders with planned actions for each target group; determine timing, frequency, and milestones. Update and evaluate yearly	Offer tailgate training to affected stakeholders on storm water impacts. Evaluate and incorporate Keep Casper Beautiful Business Waste/Stormwater Audit		PSD	PSD	Keep Casper Beautiful	Keep Casper Beautiful
Develop and implement a public education program	Plan	PSD	PSD	PSD	PSD	PSD



Public Education and Outreach						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Develop two newspaper inserts	# of media impressions	PSD	PSD	PSD	PSD	PSD
Radio PSA's	# of PSA's	PSD	PSD	PSD	PSD	PSD
Brochure	# of media impressions	PSD	PSD	PSD	PSD	PSD
Conservation Book	# of media impressions	PSD	PSD	PSD	PSD	PSD
Channel 2 Program	# of slides	PSD	PSD	PSD	PSD	PSD
Home and Garden Show	# of visitors	PSD	PSD	PSD	PSD	PSD
Create a stormwater Web site	# of articles	IT/PSD	IT/PSD	IT/PSD	IT/PSD	IT/PSD
Hold two public education workshops each year	number of events held	PSD	PSD	PSD	PSD	PSD
Participate in Water Festival if available	# of students	PSD	PSD	PSD	PSD	PSD
Explore opportunities to promote storm water education and non point source pollution in other city publications such as: Keep Casper Beautiful, Refuse and Collections, Annual Water Report	number of publications and number distributed	PSD	PSD	PSD	PSD	PSD
Contractual - Design of Publications	# of publications	Consultant	Consultant	Consultant	Consultant	Consultant

PSD – Public Services Department
IT – Information Technology Services

Target audiences include the general public for the newspaper inserts, PSA's, brochures, Conservation Book, Web site and public workshop. Within these general audiences, target information will be highlighted for focus on stormwater issues. The Business Audit (waste and storm water) will be offered to stakeholders identified by the Keep Casper Beautiful Program. These stakeholders will include business, commercial, industrial and institutional entities. The target audience for the Wyoming Water Festival is predominantly 4th and 5th graders, but also includes teachers and parents.

The educational goal for each audience is to increase awareness of storm water issues, ultimately change behavior, and improve storm water quality.

The outreach strategies are listed as individual BMP's above. It is expected that over the permit term the public education and outreach strategy will have reached every household in Casper.



Chapter III

Public Involvement and Participation

This Chapter outlines the State of Wyoming Phase II storm water regulatory requirements for the public participation and involvement and offers our program elements and implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

The public can provide valuable input and assistance to a municipal storm water management program. Since it is the activities of the public within urban landscapes that produce diffuse pollution and the public that funds municipalities, it is imperative that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

- Broader public support, since citizens who participate in the development and decision making process are partially responsible for the program and are more likely to take an active role in its implementation;
- A broader base of expertise and economic benefits, since the community can be a valuable, free, intellectual resource; and
- A conduit to other programs, as citizens involved in the storm water program development progresses it provides important cross-connections and relationships with other community and government programs.

B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

*A. The permittee **must**, at a minimum, comply with any applicable state and local public notice requirements when implementing the storm water management programs required under the permit. Notice of public meetings should be published in a community publication or newspaper of general circulation, to provide opportunities for public involvement that reach a majority of citizens through the notification process.*

*The SWMP **must** include descriptions of:*

- 1. How the permittee will involve the public in the development and implementation of the Storm Water Management Program. The Department encourages permittees to make an effort to engage all constituents affected by or interested in the program.*



C. Program Elements and Implementation:

Develop and implement the best management practices and measurable goals for this minimum control measure.

Objective: To meet the Public Notice requirements; To establish public storm water workshops, organize volunteers in the adoption of stream cleanup and provide adequate public notice of all public hearings published in a community publication or newspaper, when implementing the storm water management programs required under the permit.

The entities that comprise the Casper Metropolitan Watershed area have worked cooperatively in the creation and implementation of a watershed approach to storm water and will continue the evaluation of opportunities for partnerships throughout the life of the permit. In addition to reviewing the timetable of ordinance adoption and statutory requirements for public participation, public storm water educational workshops will be established and volunteers in adoption of stream cleanup will be organized. The City of Casper storm water Web site and Storm Water Hotline will also foster public involvement and communication.

Public Involvement and Participation						
BMP	Measurable Activity (Goals)	Implementation Year/Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Comply with State and local public notice requirements	Continued compliance with applicable state and local requirements	Engineering	Engineering	Engineering	Engineering	Engineering
	Hold public meeting in April on development of Management Program & Permit Application	Engineering				
Keep Casper Beautiful	Number of volunteer hours with the public 5-year plan	Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
Adopt a Street Program	Number of volunteer hours with the public	Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
The City of Casper recycling services	Number of tons	Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
Hazardous Waste Facility	Number of customers	Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
Hold two public meetings per year	See task one	PSD	PSD	PSD	PSD	PSD



Chapter IV

Illicit Discharge Detection and Elimination

This Chapter outlines the State of Wyoming Phase II storm water regulatory requirements for the detection and elimination of illicit discharge and offers our program elements and implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

Illicit discharges can result in untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria, to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic life, wildlife, and human health.

Permanent illicit connections to storm sewers allow wastewater to enter directly into storm drains and provide a continuous source of pollutants. Elimination of illicit discharges to the storm sewer system will be positively affected by developing and updating storm sewer maps, establishing local ordinances that prohibit the improper discharge of pollutants into the storm water system, developing a specific plan to detect and address illicit discharges, and by educating citizens and business owners.

A storm sewer map will be developed using the Metropolitan Planning Organization (MPO) GIS coverage for the area. The sources of the information include City records, drainage maps, storm drain maps, topographic maps, existing GIS data, department personnel, and aerial surveys. Included in the storm sewer map are coverages that indicate historic contamination and pre-existing plumes. The outfalls will be verified by each watershed member's personnel. Photographs of a majority of the outfalls will be linked to the outfall location on the storm water map. A textual companion document will be prepared listing all of the coverages and a brief description of the identified resources. The map will be updated once each year by the watershed entities.

The municipalities will develop and enact an ordinance in place prohibiting illicit discharges. The watershed entities have referenced the Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities, using the model ordinance presented in the program as a guide for developing an ordinance specific to their entity. The Wyoming Department of Transportation will develop a standard policy to address prohibiting illicit discharges to their system.

The public education portion of the Illicit Discharge and Detection (measure #3) will be merged with Minimum Control Measure #1, Public Education and Outreach on Storm Water Impacts. This item is specifically addressed in Chapter II. Each watershed entity will use a training log or similar method to document training for all responsible employees on personal safety, chemical management, and proper methods for handling and disposing of wastes. Special emphasis will be placed on storm water discharge prohibitions, wastewater discharge requirements, and best



management practices. Training objectives will be coordinated with the pollution prevention/good housekeeping measures. Businesses and the general public will be informed through Measure #1. Specific stakeholders will be identified and targeted for specific informational efforts.

B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

A. *The permittee **must**, develop, implement and enforce a program to detect and eliminate illicit discharges into the permittee's small MS4.*

1. *Develop, if not already completed a storm sewer system map showing the location of:*

1.1 *Municipal storm sewer outfalls and the names and location of all surface waters of the state that receive discharges from those outfalls and;*

1.2 *Engineered storm water treatment facilities including, but not limited to, oil/water separators, storm water ponds, and sand filters.*

2. *To the extent allowable under state or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-storm-water discharges into the storm sewer system, and implement appropriate enforcement procedures and actions; and*

3. *Develop and implement a plan to detect and address non-storm water discharges, including illicit discharges and illegal dumping, to the system. The plan **must** include the following three components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; and procedures for removing the source of the discharge.*

4. *Address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee's MS4: landscape irrigation ,diverted stream flows, irrigation return flow, rising ground waters, ground water infiltration (as defined at 40 CFR 35.2005(20)), springs, flows from riparian habitats and wetlands, water line flushing, discharges from potable water sources, foundation drains, air conditioning condensation, water from crawl space pumps, footing drains, individual residential car washing, dechlorinated swimming pool discharges, and street wash water. Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water discharges and need only be addressed where they are identified as significant sources of pollutants to surface waters of the state.*

B. *The SWMP **must** include descriptions of:*

1. *The mechanism to be employed to effectively prohibit illicit discharges into the MS4.*

2. *The permittee's plan to detect and address illicit discharges to their system, including discharges from illegal dumping and spills. The description must include:*

2.1 *How priority areas will be determined, including areas with higher likelihood of illicit connections.*

2.2 *What methods, including education of municipal staff, will be used to trace the source(s) of an illicit discharge.*

2.3 *What procedures will be used for removing the source(s) of the illicit discharge.*



C. Program Elements and Implementation:

Develop and implement the best management practices and measurable goals for this minimum control measure.

Objective: Detect and eliminate illicit discharges to the storm sewer system; To develop a storm water map; Develop an illicit discharge ordinance; Develop a comprehensive Illicit Detection Plan; and Complete education and training efforts as they relate to illicit discharge.

A comprehensive storm water map will be developed during the first year and updated annually. The City of Casper will develop and implement a plan to detect and address non-storm water discharges to our system. This plan will detail the detection, location, and correction procedures required in a comprehensive illicit discharge plan. An ordinance will be developed prohibiting illicit discharge incorporating inspection, enforcement, and penalties. Educational efforts under the illicit discharge measure will be coordinated with Minimum Control Measure #1, Public Education. Stakeholders will be identified and training materials will be created through the team that communicates the impacts of illicit discharge.

Illicit Discharge Detection and Elimination						
BMP	Measurable Activity (Goal)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
A.1. Update storm water GIS coverage	finalized storm water map	seasonal/ GIS	Streets/ GIS	Streets/ GIS	Streets/ GIS	Streets/ GIS
A.2. & B.1. Ordinance Prohibit non-storm water discharges	Ordinance	PSD/ Attorney's Office	PSD	PSD	PSD	PSD
A.3. Draft Illicit Discharge and Elimination Plan	Plan	PSD/ Attorney's Office				
A.3 Implement Plan	Plan		PSD	PSD	PSD	PSD
Household Hazardous Waste Program	# of appointments	Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
B.2. Staff training	# trained & manual	PSD/ Write	PSD/ manual	PSD	PSD	PSD
Storm water Hotline	Advertise & # of calls	PSD	PSD	PSD	PSD	PSD



Illicit Discharge Detection and Elimination						
BMP	Measurable Activity (Goal)	Implementation Year/ Lead Responsibility				
		2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Contractual Energy Labs	to water testing	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs

Excluded Discharges: The following non storm water discharges are allowed under the SWMP and are not identified as significant contributors of pollutants.

- a. landscape irrigation
- b. diverted stream flows
- c. irrigation return flow
- d. rising ground waters
- e. ground water infiltration (as defined at 40 CFR 35.2005(20))
- f. springs
- g. flows from riparian habitats and wetlands
- h. water line flushing
- i. discharges from potable water sources
- j. foundation drains
- k. air conditioning condensation
- l. water from crawl space pumps
- m. footing drains
- n. individual residential car washing
- o. dechlorinated swimming pool discharges
- p. and street wash water
- q. discharges or flows from fire fighting

Ordinances will be employed to effectively prohibit illicit discharges into the MS4. Priority areas for the City of Casper Illicit Discharge Plan will be based on land use and industrial sites as identified by the GIS mapping system. Areas where sanitary sewer cross over or under storm lines will also be identified. The tracing of illicit discharges will be performed by visual inspection and tracking the discharge back to the source or by closed circuit television. Repair and or replacement of the lines as well as provisions in the ordinances will determine the procedure required for removing the illicit discharge. Each case will be evaluated on an individual basis depending on the type of discharge and the structural changes that may be needed.



Chapter V

Construction Site Storm Water Runoff Control

This Chapter outlines the State of Wyoming Phase II storm water regulatory requirements for the construction site storm water runoff control program and offers our program elements and implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

Polluted storm water runoff from construction sites often flows to municipal storm sewer systems and ultimately is discharged into local rivers. Sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands. Construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation and contribution of other pollutants from construction sites can cause damage to the North Platte River.

Additional pollutants are also often present in storm water runoff from construction sites and may result in degradation of receiving water. Solid and sanitary wastes, fertilizers, pesticides, oil and grease, concrete truck washout, construction chemicals, construction debris and metals may be discharged into and cause an impact on receiving waters.

An effective Construction Site Storm water Runoff Control Program includes, at a minimum, an ordinance, best management practices (BMP's), construction waste controls, site plan review, public involvement, and inspection and enforcement control measures.

The ordinance process will include identification of internal and external stakeholders. The stakeholders will provide input into the ordinance development and revision process.

The existing ordinance will be reviewed to address the following guiding principles:

- Use of good site planning
- Minimization of soil movement
- Capture of sediment to the greatest extent practicable
- Good housekeeping practices
- Minimization of impacts of post construction storm water discharges.

Best management practices will be identified and/or developed to reduce erosion and sediment. Guidelines for the appropriate selection and design of construction best management practices will be evaluated and drafted in a manual format. Best management practices will be reviewed for effectiveness, and new alternatives assessed throughout the permit term.

Current construction site controls will be reviewed. This information will be incorporated into draft language dealing with construction site control for inclusion in ordinance/policy. Site plan review procedures, and inspection and enforcement control measures will be reviewed and modified, incorporating recommended changes. All program components will be coordinated with Minimum Control Measure #1, Public Education, and Measure #2, Public Involvement, helping to create a unified program approach without duplication of efforts.



B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

*A. The permittee **must** develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction activities that result in land disturbance of greater than or equal to one acre. Reduction of pollutants in storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.*

*The program **must** be developed and implemented to assure adequate design, implementation, and maintenance of BMP's at construction sites within the permitted MS4 boundary to reduce pollutant discharges and protect water quality. The program **must** include the development and implementation of, at a minimum:*

- 1. An ordinance or other regulatory mechanism to require 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 BMP's;*
- 3. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at 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 receipt and consideration of information submitted by the public, and*
- 6. Procedures for site inspection and enforcement of control measures.*

*B. The SWMP **must** include descriptions of:*

- 1. The permittee's plan to ensure compliance with an erosion and sediment control regulatory mechanism, including the sanctions that may be employed.*
- 2. Procedures to require construction site operators to control wastes.*
- 3. Procedures for site inspection and enforcement of control measures, including how it will be determined which sites will receive what kind of inspection, and at what frequency.*
- 4. Procedures for site plan review including a rationale for determining when a site plan review is warranted to protect surface water quality.*

C. Program Elements and Implementation:

Develop and implement the best management practices and measurable goals for this minimum control measure.

Objective: Reduce pollutants in storm water runoff from construction sites; To create a construction site sediment and erosion control ordinance; Develop a Guidance Manual of construction best management practices for construction sites; Create written site plan



review procedures incorporating storm water impact review including inspection and enforcement; and provide adequate input from stakeholder groups in the development of this minimum measure.

It is the understanding of the watershed entities that the Wyoming DEQ will issue all permits for construction of areas greater than one acre. It is assumed that this one-acre site permitting will not take place sooner than year two. The City of Casper will review all relevant existing ordinances, identify stakeholders and gather input for the development of an erosion and sediment control ordinance. Evaluation will include the possible inclusion on construction site controls within the sediment and erosion control ordinance, or a possible separate ordinance for construction site controls. A guidance manual will be developed containing erosion and sediment control best management practices. Site plan application processes will be reviewed and changes will be recommended instituting storm water recommendations in the application process. Public input will be gathered from stakeholder groups pertaining to the ordinance(s), best management practices, site plan procedures, and inspection/ enforcement.

Construction Site Storm Water Runoff Control						
BMP	Measurable Activity (Goal)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
A.1. Prepare and adopt a Storm Water Ordinance that Requires Erosion & Sediment Control	Ordinance	review PSD/ Attorney's Office	draft PSD/ Attorney's Office	adopt PSD/ Attorney's Office	PSD	PSD
Review Erosion and Sediment Control on Construction Sites and development of inspection program	# of inspections Inspect each site monthly Program Development	PSD/ Engineering Develop	PSD/ Engineering Develop	PSD/ Engineering Implement	PSD/ Engineering Implement	Review/ PSD/ Engineering
Prepare guidance manual for BMP's	Manual Printing & CD's put on Web Site	PSD/ Implemnt	IT/ PSD	IT/ PSD	IT/ PSD	IT/ PSD
Evaluate site plan procedures	Conduct Site Plan reviews for storm water impact. # of plans reviewed.	Engineering/ Planning	Engineering/ Planning	Engineering/ Planning	Engineering/ Planning	Engineering/ Planning
Revision of the City's current site-plan review process	Incorporate Recommendations			Engineering/ Planning	Engineering/ Planning	Engineering/ Planning
Participate in two public education workshops for developers and contractors	# of attendees	Engineering	Engineering	Engineering	Engineering	Engineering
Develop a set of procedures for the receipt and consideration of information from public	Written Procedures	PSD/ Engineering/ Planning	PSD/ Engineering/ Planning	PSD/ Engineering/ Planning	PSD/ Engineering/ Planning	PSD/ Engineering/ Planning



Construction Site Storm Water Runoff Control						
BMP	Measurable Activity (Goal)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Update 1983 Storm water Master Plan	Plan			PSD & consultant		
Develop Storm Water Management Planning Manual including design standards and regulations	Manual/ Design Standards			PSD	PSD	PSD

Compliance will be ensured through ordinance and inspections. The ordinance, permitting process and inspections will require construction site operators to control wastes. The size of the construction, complexity of work, and site location will determine which sites receive what kind of inspection and at what frequency. Currently every site plan is reviewed for storm water impacts.



Chapter VI

Post-Construction Site Storm Water Runoff Control

This Chapter outlines the Phase II storm water regulatory requirements for post-construction runoff control and offers our program elements and implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving waterbodies. Studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges are the most cost-effective approach as to storm water quality management.

An effective Post-Construction Site Storm water Runoff Control Program includes, at a minimum, an ordinance or other regulatory mechanism, structural and non-structural best management practices, and measures to ensure adequate long-term operation and maintenance of structural and non-structural best management practices.

One important criterion to the successful implementation of a Phase II permit will be the update of components of the 1983 Storm Water Master Plan. Once updated, this master plan will assist the watershed entities in identification and implementation of best management practices. The Storm Water Master Plan will help in establishing appropriate design criteria and standards to be included in an ordinance.

B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

*A. The permittee **must** 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, that discharge into the small MS4. The program **must** ensure that controls are in place that would prevent or minimize water quality impacts.*

*The permittee **must**:*

- 1. Develop and implement strategies, which include a combination of structural and/or non-structural BMP's appropriate for the community;*
- 2. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law; and*
- 3. Ensure adequate long-term operation and maintenance of BMP's*



B. The SWMP **must** include descriptions of:

1. How the permittee will ensure the long-term operation and maintenance of BMP's required under this program area.

1.1 How the permittee will track the location of and the adequacy of operation of long-term BMP's implemented in accordance with this program area.

1.2 When applicable, how the permittee plans to enforce the requirements that other parties maintain BMP's

C. Program Elements and Implementation:

Develop and implement the best management practices and measurable goals for this minimum control measure, which include a combination of structural and/or non-structural best management practices.

Objective: Reduce pollutants in post-construction storm water runoff from new and redeveloped areas; To develop a Design Criteria and Standards for structural and non-structural best management practices; Develop an ordinance requiring the implementation of post-construction runoff controls; and Develop a policy for the inspection, enforcement, and long-term maintenance of all structural best management practices.

Post-construction Storm water runoff will be positively impacted by the development of a design criteria and standards best management practices manual. All related ordinances will be reviewed and an ordinance will be developed requiring the implementation of post-construction runoff controls incorporation inspection, enforcement, and penalties. Efforts to ensure the long-term operation and maintenance of these best management practices will be developed.

Post-Construction Site Storm Water Runoff Control						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Update Storm Water Master Plan	Plan			PSD/ Consultant		
Evaluation of City Storm Water Management Planning Manual. Adopt development standards utilizing structural and non-structural controls in accordance with the Phase II permit.	Manual Development Standards	Engineering/ Planning Evaluation	Engineering/ Planning	Engineering/ Planning/ Development Standards	Engineering/ Planning/ Enforce	Engineering/ Planning
Ordinance	Ordinance	review PSD/ Attorney's Office	develop PSD/ Attorney's Office	in-place PSD/ Attorney's Office		



Post-Construction Site Storm Water Runoff Control						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Revise and adopt City Floodplain Management Reg's	Ordinance	Planning				
Update City of Casper Flood Plains Mapping	Map	Planning/ GIS				
Review and update SWMPPP	Policy and goals	PSD	PSD	PSD		
Establish Plan for O & M for structural and non-structural BMP's	Plan			PSD	PSD	PSD
Review of City's plan to enforce requirements that other parties maintain BMP's	Opinion	Attorney's Office/ Planning	Attorney's Office/ Planning			
Ordinance enforced, plan & policy in place	plan					Engineering/ Planning/ PSD
Evaluate comprehensive Land Use Plan for updates	Updates					Planning

The long-term operation and maintenance will be ensured through the development of a plan that incorporates City operation and maintenance. Each location of structural implementation will be tracked and recorded on the "as-constructed" plans and incorporated into the City of Casper's GIS stormwater coverage. Currently, the City of Casper has no jurisdictional right to trespass on private property to maintain BMP's that are installed by other parties. The long-term operations and maintenance of private BMP's will be evaluated. Legal agreements may be considered in such cases.



Chapter VII

Pollution Prevention/Good Housekeeping for Municipal Operations

This Chapter outlines the State of Wyoming Phase II storm water regulatory requirements for the Pollution Prevention/Good Housekeeping for Municipal Operations program, and offers our program elements and implementation schedule of how the City of Casper will satisfy these requirements.

A. Overview:

The Pollution Prevention/Good Housekeeping for Municipal Operations minimum control measure is a key element of the Municipal Separate Storm Sewer System (MS4) storm water management program. This measure requires the Municipal Separate Storm Sewer System operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as street maintenance, environmentally damaging municipal land development and flood management practices, or poor maintenance of storm sewer systems. While this measure is meant primarily to improve or protect receiving water quality by altering municipal activities, facility operations and property management, the MS4 operator can also realize cost savings from such things as spill prevention (thus reducing clean-up costs), inventory control, and re-use/recycling of materials.

B. Program Requirements:

The Wyoming Department of Environmental Quality WYPDES requirement is as follows:

- A. *The permittee **must** develop and implement an operation and maintenance program that*
1. *Includes an employee-training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations*
 2. *The program **must** also inform public employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.*
 3. *The program **must** prevent and/or reduce storm water pollution from municipal facilities and activities. Examples of municipal operations to be addressed include, but are not limited to:*
 - 3.1 *Streets, roads, highways, municipal parking lots*
 - 3.2 *Maintenance and storage yards, fleet or maintenance shops with outdoor storage areas,*
 - 3.3 *Salt/sand storage locations and snow disposal areas operated by the permittee*
 - 3.4 *Waste transfer stations*
 - 3.5 *Activities such as park and open space maintenance, fleet and building maintenance, street maintenance,*
 - 3.6 *New construction of municipal facilities, and*
 - 3.7 *Storm water system maintenance*



B. The SWMP *must* include descriptions of:

1. The operation and maintenance programs to prevent or reduce pollutant runoff from municipal operations. The description **must** list the facilities that are covered.
2. A specific inspection and maintenance schedule must be included for engineered storm water treatment facilities.
3. Any municipal employee-training program addressing reducing or eliminating pollutants in storm water runoff from municipal facilities.

C. Program Elements and Implementation:

Develop and implement the best management practices and measurable goals for this minimum control measure.

Objective: Reduce pollutants in storm water runoff from Municipal Operations; Develop and Measure Best Management Practices.

A detailed operations and maintenance program will be developed for this minimum control measure, with the ultimate goals of preventing or reducing pollutant runoff from municipal operations into the storm sewer system.

Pollution Prevention/ Good Housekeeping						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Develop operations and maintenance program, evaluate operation for environmental impacts, develop list of all facilities covered.	Plan	PSD/ Streets Fleet Parks	PSD/ CPU/ - Special Facilities Hogadon, Golf Course, Cemetery Buildings and Grounds, etc.			
Continued maintenance and inspection of structural and non-structural stormwater control	Inspection	PSD/ Streets/ Engineering	PSD/ Streets/ Engineering	PSD/ Streets/ Engineering	PSD/ Streets/ Engineering	PSD/ Streets/ Engineering
Develop Record Tracking System for operations and maintenance, and inspections	Records	PSD				PSD review
Develop Staff training	Employee Training	PSD	PSD	PSD	PSD	PSD
The City will continue involvement in community cleanups and various City programs to reduce litter, promote recycling, proper disposal of Hazardous Waste, maintain environment	program participation	PSD	PSD	PSD	PSD	PSD



Pollution Prevention/ Good Housekeeping						
BMP	Measurable Activity (Goals)	Implementation Year/ Lead Responsibility				
		2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
SWPPP for Central Service Center	Implement Plan	PSD/ Streets	PSD/ Streets	PSD/ Streets	PSD/ Streets	PSD/ Streets
Spill Prevention and Response Program	Document Inspect Response actions	Risk Management/ PSD	Risk Management/ PSD	Risk Management/ PSD	Risk Management/ PSD	Risk Management/ PSD
Recyclables Program	Continue weekly pickup	Solid Waste/ PSD	Solid Waste/ PSD	Solid Waste/ PSD	Solid Waste/ PSD	Solid Waste/ PSD
Pesticide, Herbicide, and Fertilizer Program	Continue Program and monitor for environmental impacts	Parks	Parks	Parks	Parks	Parks
Automated Irrigation Management	Continue Program and monitor for environmental impacts	Parks	Parks	Parks	Parks	Parks
Street Sweeping	# of miles	Streets	Streets	Streets	Streets	Streets

The City of Casper does not use white slat storage piles. The City of Casper uses “Ice-Slicer” which is housed in an enclosed building and is not exposed to precipitation.

