

CITY of ALGONA

**Storm Water
Management
Plan**

City of Algona, Wa

Stormwater Management Program

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Public Education and Outreach

Introduction

Public education, outreach, participation and involvement are key to the development and success of the City of Algona Stormwater Management Program. The City of Algona will provide a stormwater education, outreach, participation, and involvement program for the Washington State Department of Ecology Phase II Municipal Stormwater Permit regulations. This also requires the development and implementation of a public education/outreach program and public involvement/participation that includes the following:

Public Education and Outreach Program: A public education and outreach program that is designed to achieve measurable improvements.

Public Involvement and Participation program: Ongoing opportunities for public involvement to provide the public with chances to participate in the decision making process involving the development, implementation and update of the City Of Algona’s Stormwater Management Plan.

Education and Outreach activities will be provided on a non-discriminatory basis with equal access for all citizens.

The strategies and goals that the City agrees to fulfill as part of the Phase II stormwater regulations are shown below.

Table 1
Education & Outreach

Strategies	Goals	Date of Implementation	Control Measures	Who’s Responsible
Storm drain stenciling	To educate school age children, residents and people that work in the City that when you dump pollutants into drains it affects the entire environment.	All catch basins have been stenciled in the summer of 2010. A maintenance program will be implemented in order to check the integrity of stencils and repaint if needs.	Number of drains stenciled.	Public Works Department
Articles for Town Crier local paper	To educate the residents about various storm water issues.	Ongoing		City Hall
Utility Bill Insert	Distribute stormwater information and fact sheets in utility bills to better inform the community about this issue.	Ongoing	Number of fliers mailed each year.	City Hall

Table 1

Education & Outreach

Strategies	Goals	Date of Implementation	Control Measures	Who's Responsible
Create storm water section on City web site.	To keep the public educated and up to date current stormwater issues and to inform the community of the impact of surface pollution.	Ongoing	Monitor hits to site.	City's web designing team.
Informational fact sheet	Distribute pollution prevention information to all who apply for a building permit.	Will be given to all persons that obtain a building permit from the City of Algona.	Number of building permits issued.	Algona City Hall.
Educational Public Meetings	Informational meetings for residents and business owners on stormwater BMP and how to prevent stormwater pollution.	Annual	Number of people attending meetings and asking for info.	Algona City Hall
City Council and government employees information meetings	Informational meetings covering BMP's and how to enforce and regulate pollution of stormwater and erosion /sediment control.	Annual	Number of people attending meetings	Algona City Hall
Pet waste fact sheet to pet license holders	Every person that purchases a pet license or renews will get a hand out to better inform them on pet waste and its effects on our stormwater.	Ongoing	Number of people who have registered pets.	Algona City Hall

Target Audiences

One of the goals of the storm water educational program is to reach all audiences that live and work in The City of Algona. The different categories of audiences identified in Table 2, include elementary school children, middle/high school children, adult residents, including renter and home owners, seniors, businesses and industry, construction crews and developers and city government officials and employees. The strategies listed below, along with the target audience. The check marks indicate which strategy is targeted to what audience.

Table 2

Target Audiences for the Phase II Storm Water Education Plan

Strategies	Elementary School Children	Middle/high school children	Adult residents	Seniors	Home owners	Business and industry	Construction and development	City Gov. Officials and employees
Storm drain stenciling	X	X	X	X	X	X		X
Utility bill inserts			X	X	X	X		
Storm water section on city web site			X	X	X	X	X	
Informational fact sheet	X	X	X	X	X	X	X	X
Educational public meetings			X	X	X	X	X	X
Pet waste fact sheet to pet license holders			X	X	X			

Strategies

1. Storm Drain Stenciling

The purpose of storm drain stenciling is to discourage people from dumping waste and other potential contaminants in to the storm drain. The goal is to have every storm drain inlet marked with a no dumping message. The cities public works crew will stencil all the storm drain inlets and keep up on them so the markings will be always visible.

2. Utility Bill Inserts

Annually an informational flyer will be distributed containing informational tips and facts on various storm water issues such as vehicle maintenance, car washing, landscaping and buffers, storage of automotive chemicals, hazardous cleaning supplies and illicit discharges and how to report them.

3. Stormwater section for City WebSite

The internet should be one of the best places to get information concerning the city. The community Development Department will assemble information needed to build a comprehensive stormwater section for the City's website. This section will help educate residents about natural aspects of stormwater and the effects of contaminants on storm water. Also to be included is what the City is doing to address storm water issues as well as links to other governmental stormwater sites. This website will be constantly available to residents. Developers can also use this site to access the City's development guide standards. Upon completion of the Phase II annual report, The City will post this report onto the website on an annual basis as a means to let the residents and business owners know the status of the Stormwater Management Program. The control measure will be the number of people visiting the site. The community development department will be responsible for providing the information for the Website, and the City's Web team will create the Website.

4. Informational Fact Sheet

The information will be available at the City's website, The information will consist of at least the following categories:

- Source of non-point pollution
- Prevention of non-point pollution (residential, commercial, governmental and industrial.)
- How to become involved (monitoring activities, stream clean ups etc.)
- Informational fliers will be inserted into utility bills on a yearly basis.

5. Educational Public Meetings

The city will provide all business and industries with storm water information. Upon request, a city official or other appropriate representative will visit local businesses and assist them with individual plans to prevent non-point pollution from storm water runoff. The City currently has literature for home builders, contractors and local officials regarding sediment and erosion control in the storm water system. Proper installation of control measures will also be covered. Brochures and flyers and other educational strategies will also be utilized. The control measure will be the number of interested parties obtaining information.

6. City Council and Government Employee Informational Meetings

Seminars will be presented to City departments covering pollution of storm water and erosion/sediment control during construction activity. The seminars will be given on a yearly basis.

7. Pet Waste Fact Sheet to Pet License Holders

Every citizen that purchases or renews a pet license at City Hall will receive an informational fact sheet on pet waste management and its effects on storm water. The control measure will be measured by the number of people who have registered pets in the City of Algona.

**Operation and Maintenance (O&M) and Stormwater
Pollution Prevention**

Introduction

The Municipal Operation Plan requires the city to develop and implement a plan to minimize storm water pollution from activities conducted by the City of Algona. The first element addresses pollution that collects on street, parking lots, open spaces and storage and vehicle maintenance areas which are discharged into local waterways. The second element addresses pollution that results from actions taken by the City such as storm system maintenance, Flood management practices or land development. The program will include the following:

- Development and implementation of an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm system.
- Employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, procedures for reporting water quality concerns including illicit discharges, and storm water system maintenance. The City of Algona may utilize training materials that are available from EPA or relevant organization in order to fulfill program requirements.
- Develop and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for all City owned heavy equipment maintenance or storage yards and material storage facilities.

All tasks will be evaluated as needed or required, for effectiveness. This plan was developed using existing City services and personnel to accomplish the goals in the most cost efficient manner. The strategies and goal the City of Algona agrees to fulfill as part of the Phase II regulations are shown on table 3.

Table 3
Pollution prevention/good housekeeping/municipal operations plan

Strategies	Goal	Date of implementation	Control Measure	Who's Responsible
Stormwater pollution Prevention Plan	Preventing pollution at City owned facilities	2009	SWPPP completed	Public Works Department
Adopt Maintenance Standards	Set standards to prevent pollution	2009	SWPPP Adopted	Public Works Department

Develop inspection program	Inspect City-Owned stormwater treatment facilities	2009	Program created and evaluated	Public Works Department
Pet Waste Stations	Evaluate locations throughout the city	Ongoing, determine location and add as necessary	Number of stations and number of times refilled	Public Works Department
Vehicle Washing	Evaluate current procedures. Educate personnel on proper procedures.	2009	Evaluation Completed	Public Works Department
Illegal Dumping	Evaluate protocol for reporting illegal dumping.	2009	Evaluation Completed	Public Works Department
	Enforce existing ordinances.	2008	Number of ordinances reported	Police Department
	Install signage in problem areas	2011	Number of signs installed	Public Works Department
Lawn care/fertilizer	Train staff only to apply pesticides	Ongoing	Maintain certification requirements	Public Works Department
Street Cleaning	Sweep all streets and municipal parking lots at least once quarterly	Ongoing	Amount of curb miles cleaned annually	Public Works Department
Catch Basin Cleaning	Continue annual maintenance program for catch basin cleaning	Ongoing	Number of storm drains cleaned per year.	Public Works Department
Hazardous Material Storage	Evaluate current chemical storage practices and make corrective action if needed. Employee education	June 2009 Yearly Basis	Evaluation Completed	Public Works Department

Strategies

1. Create Storm water Pollution Prevention Plan

The city will create a storm water pollution prevention plan (SWPPP) to control the pollution generated by the City owned facilities. The plan will document how to properly store hazardous wastes, how to treat spills and what best management practices (BMPs) are best applied to which City owned facility.

2. Adopt Maintenance Standards

Maintenance standards equivalent to chapter 4, volume 5, of the 2012 DOE Storm water Management Manual for Western Washington will be adopted. The maintenance standards shall address pipe cleaning, cleaning of culverts that convey storm water in ditch systems, ditch maintenance, road repair and resurfacing, utility installation, and pavement striping maintenance, roadside areas including vegetation management, and building exterior cleaning and maintenance.

3. Develop Inspection Program

An inspection program will be developed and implemented that addresses the inspection of City owned storm water facilities. The program will involve inspecting for maintenance related items listed in item 2. The program shall also include a schedule for when to inspect city owned facilities. The city will also be responsible for inspecting for erosion and sediment control when appropriate. A trash management strategy shall also be implemented as part of the inspection program.

4. Pet Wash Stations

The city currently has a few pet waste bag dispenser stations within city parks located in areas with high pedestrian traffic. The public works department will continue to maintain the existing stations, evaluate existing locations and install new stations as needed. Additional locations, such as the interurban trail, will also be evaluated for installation of new stations. Education materials will be posted on park bulletin boards. Informational articles will also be written and published in the town crier newsletter.

5. Vehicle Washing

The City uses local car washing facilities for all standard size cars and trucks within the City's fleet. Vehicle washing has been noted at City Hall, The staff will need to wash vehicles at a Car Wash or on pervious slab or grass.

6. Illegal Dumping

A log of all reported illegal dumps will be maintained and evaluated. The city will install " No Dumping" signs as a deterrent and increase police visibility in problem areas.

7. **Lawn Care/ Fertilizer**

The City will educate employees on proper application methods and the adverse effects on improper application of fertilizer on the water quality streams. Only trained personnel will be allowed to apply any fertilizers or pesticides. The City will also export the use of alternate fertilizing material.

8. **Street Cleaning**

The Public Works Department will continue to sweep all City streets quarterly as weather conditions permit. Major thoroughfares will be targeted for additional sweeping as needed. Municipal owned parking lots would also be swept quarterly.

9. **Catch Basin Cleaning**

The City currently does annual catch basin cleaning and maintenance. The current program will be evaluated and modified as needed. The number of catch basins inspected and cleaned will be recorded annually.

10. **Hazardous Material Storage**

The City will evaluate all municipal sites to ensure all hazardous chemicals are properly stored and educate employees on proper storage. Documentation of all known hazardous chemicals will be formed and used to aid in detecting any illicit discharges that are found. Any changes made or any illicit discharges determined will be recorded.

Illicit Discharge Detection And Elimination

Introduction

Illicit discharges enter the storm system through either direct or indirect connections to the systems. The result of these illicit discharges are higher levels of pollutants in the receiving bodies of water that degrade the water quality and threaten aquatic, wildlife, and human health. The Phase II Municipal Storm Water Permit requires the development and implementation of an illicit discharge detection and elimination program that includes the following:

A storm water system map, showing the location of all outfalls and the names and receiving waters from those outfalls ;

An ordinance or other regulatory mechanism to effectively prohibit non-storm water and illegal discharges into the City's storm water system, and appropriate enforcement procedures and actions;

A plan to detect and address non-storm water discharges, including illegal dumping, spills, illicit connections into the City's storm system; and yearly inspection of all outfalls that discharge into surface waters;

Education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste;

Development and implementation of a plan to evaluate and track the number and type of spills or illicit discharges that are discharged into the City's storm water system.

The strategies and goals that the City of Algona agrees to fulfill as part of the Phase II storm water regulations are shown below in Table 4. Each strategy is discussed in more detail in the text following the table.

Table 4
Illicit Discharge & Elimination

Strategies	Goals	Date of Implementation	Control Measures
Storm Drain Mapping	Field Verify outfalls Update current map as field verification is completed	Ongoing	Completed updated map
Industry/Business Connections	Education on reporting illicit connections. Setup report line. Begin field detection of dry weather discharges. Smoke test questionable circumstances	As needed; the report line was implemented in 2010. As needed	Number of people receiving information. Listing tributaries completed. Corrective action taken
Illicit Connection Detection	Develop a smoke and dye-testing program to locate cross connections Prioritize potential and past problem areas Develop a procedure for removing the source of discharge Evaluate effectiveness of program	Ongoing 2009 2010 2010	Number of violations found Number of priority areas identified List of procedures Program evaluation report
Ordinance implementation	Prohibit and define non-storm water illegal discharges	2010	Ordinance updated
Staff Training	Educating staff on identifying, reporting, and correct illicit discharges	Annual	Number of days staff trained
Wastewater Connection to storm sewer	Monitor possible connection through reported complaints Complete dye and smoke testing	Ongoing As needed	Number of complaints and violations found
Illegal Dumping	Evaluate existing procedures, Review log of complaints and violations Update procedure Distribute educational materials	2008 2008 Annual	Number of complaints and violations found Completed procedure Amount of material distributed

Strategies

Storm Drain Mapping

The city currently has hanging maps to track all storm drain and catch basins in the City. Field verification of outfalls by visual inspection using these maps will be performed. All verification and updates to the storm Sewer maps were completed by 2010; any additional sewers will be added to the map.

Industry/Business Connections

The city will be educating business owners and employees on identifying and reporting illicit connections. All employees and residents will be educated on detection of illicit connections and reported problems will be investigated. All complaints, violations and corrections will be documented.

Illicit/Connection Detection

The City's Public Works Department will continue with its aggressive smoke testing program based upon identified priority areas. This program will be incorporated throughout the City and inspections will also be done to determine possible cross connections. Any reported detections will be investigated and all violations and correction will be documented. The program shall be evaluated to determine its effectiveness in eliminating illicit discharges and connections.

Ordinance Implementation

The City will review their current ordinance related to illicit discharges and shall revise it accordingly to meet the permit requirements. Escalating enforcement measures shall be in place to address illicit discharges and connections.

Staff Training

City staff shall be trained on illicit discharges and connections. The staff that will be directly involved with addressing illicit discharges and connections shall be trained on how to identify, report, and remedy the situation. All maintenance staff shall be trained on how to identify illicit discharges.

Wastewater Connection to Storm Sewer

Wastewater connections into the storm sewer will be monitored through logging or reported complaints and investigated through smoke and dye testing as needed. Corrective action will be required and enforced.

Illegal Dumping

The City will evaluate existing procedures and update, as needed, all reporting procedures for any illegal dumping both chemical and solids. Education materials on the effect of chemicals on the environment will be distributed to the public and businesses. A log of all reported illegal dumping will be maintained and evaluated. If problem areas are noted, The City will install "No Dumping" signs as a deterrent and increase police visibility on the noted problem.

Control Stormwater Runoff from New Development, Redevelopment and Construction Sites

Introduction

Polluted storm water runoff from construction and developed sites ultimately discharge into local channels, streams and rivers. The Western Washington Phase II Municipal Storm Water Permit requires the development, implementation and enforcement and enforcement of a program to reduce Storm Water runoff to a regulated small MS4 from new development, redevelopment and construction site activities. The program requires the following:

An ordinance, or other regulatory mechanism, requiring implementation of proper erosion and sediment controls, and controls for other waste on applicable construction sites as well as post-developed runoff controls;

Have procedures for site plan review of construction plans that consider potential water quality impacts, that determine appropriate best management practices (BMP's) and measureable goals.

Have procedures for site inspection and enforcement control measures; have sanctions to ensure compliance;

Allow provisions for Low Impact Development (LID); and

Establish procedures for the receipt and consideration of information submitted by the public; and

Develop and implement strategies, which include a combination of structural, and/or non-structural best management practices (BMP's);

Determine the appropriate BMP's and measurable goals.

Sanctions to ensure compliance;

Ensure adequate long term operation and maintenance of controls;

The strategies and goals that The City of Algona agrees to fulfill as part of the Phase II storm water regulations are shown below in table 5.

Table 5
Controlling Storm Water Strategies

Strategies	Goal	Date of Implementation	Control Measure	Who's Responsible
Ordinance Development	-Review and revise ordinance to meet Appendix 1 requirements of the permit to address runoff from new, redeveloped and constructed sites.	2009	Ordinance Adopted	Council, Public Works,
	-Review and revise ordinance to ensure inspection requirements are met for private constructed storm water facilities both during and after construction and enforcement measures are in place.	2009	Ordinance Adopted	Council, Public Works
	Review and revise ordinance to ensure maintenance requirements (equivalent to Ch.4,Vol V 2012 DOE Storm water Manual) are in place.	2015	Ordinance Adopted	Council, Public Works
Site Plan Review	Review site plan process to ensure requirements in ordinance are addressed	Ongoing	Number of plans reviewed	Public Works, Engineer, Planner
Create Inspection Program	Ensure construction requirements are met	2009	Number of construction inspections	Public Works
	Ensure O&M is being met for post-constructed facilities through inspections of stormwater facilities. Inspections are scheduled to take place as required in the permit.	2010	Number of post-construction inspections	Public Works
	Maintain records on inspections	2009	Number of records stored	Public Works
Inform Developers & Contractors about State NOI for Construction Activity	Post copies of the "Notice of Intent for Construction Activity"	2008 Ongoing	Number of copies given out	Public Works, Engineer, Planner

Strategies

The City uses a variety of practices to reduce erosion and sediment from any land disturbing activities equal to or greater than one acre or residential lots or part of a greater development plan. Developers and contractors are required to keep all streets cleaned at all times during construction. Inspection for proper erosion and sediment control will be increased throughout the City of Algona. These tasks will be evaluated, as needed or required for effectiveness and change. Many of the ordinances and planning tools are already in place and were updated and will continually be updated as the need arises. The following strategies will be implemented throughout the permit cycle in regards to controlling storm water runoff.

- **Ordinance Development:**

The City will review its ordinance pertaining to storm water regulations. The City will adopt a manual that contains the elements of Appendix 1 of the Phase II permit (or equivalent, as approved by DOE). The ordinance will address runoff from new, redeveloped, and constructed sites and will include inspection schedules and enforcement procedures. Maintenance standards for storm water facilities equivalent to Chapter 4, Volume V, of the 2012 DOE Storm Water Manual which was adopted in 2015.

- **Site Plan Review**

The City will review its current site plan review process. All personnel related to site planning will be trained on how the process should be utilized. Checklists will be reviewed and/or created to simplify the process.

- **Create Inspection Program**

An inspection program has been created to insure the maintenance requirements set forth in the ordinance are being met. The maintenance performed by private parties should be as follows:

- ; Within 1 year for wet pool facilities and retention/detention ponds.

- ; Within 6 months for typical maintenance.

- ; Within 9 months for maintenance requiring re-vegetation, and

- ; Within 2 years for maintenance that requires capital construction of less than \$25,000.

The inspection program will also include a process to inspect storm water facilities and erosion/sediment control during construction. Proper reporting and enforcement techniques will be specified as part of the program.

- **Inform Developers/Contractors about State NOI for Construction Activity:**

The City will make the State NOI for Construction Activity form available on the front counter for developers and contractors to obtain prior to construction. The City will keep track of the number of forms that are being disbursed and will report this number in the Annual report.

- **Staff Training:**

The City will train staff on the plan review process, inspection, maintenance standards, and enforcement procedures. The number of training days will be recorded and reported in the Annual Report.

Long-Term Monitoring Plan

Introduction

The NPDES Phase II Permit requires implementation of a comprehensive long-term monitoring program. Algona falls under the threshold for a plan for storm water monitoring (i.e. greater than 10,000 population). However, the City will participate in targeted Stormwater Management Program (SWMP) effectiveness monitoring. Stormwater program effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The results of the monitoring program will be used to support the adaptive management process and lead to refinements of the Stormwater Management Plan. The Long-Term Monitoring Plan will include the following:

- The Plan will involve monitoring to determine the effectiveness of the City’s SWMP at controlling stormwater-related problems that are directly addressed by actions in the SWMP. This component of the monitoring program shall be designed to answer the following types of questions:
 - How effective is the targeted action or narrow suite of actions?
 - Is the SWMP achieving a targeted environmental outcome?
- The Plan will identify at least two suitable questions and select sites where monitoring will be conducted. This monitoring will include, at a minimum, plans for stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. This monitoring may also include data collection and analysis of other measures of program effectiveness, problem identification and characterizing discharges for planning purposes.
- For each question, The City will develop a monitoring plan containing the following elements:
 - A statement of the question, an explanation of how and why the issue is significant to the City, and a discussion of whether and how the results of the monitoring may be significant to other MS4s.
 - A specific hypothesis about the issue or management actions that will be tested.
 - Specific parameters or attributes to be measured.
 - Expected modifications to management actions depending on the outcome of hypothesis testing.

Table 6

Long-Term Monitoring Plan Strategies

Strategies	Goals	Date of Implementation	Control Measures
Develop Long-Term Monitoring Plan	Develop plan to determine effectiveness of SWMP by creating a program that answers how effective the SWMP actions are and if they're meeting the environmental outcome targeted.	2011	Plan Developed

Strategies

- **Develop Long-Term Monitoring Plan:**

The City will create a long-term monitoring plan to be implemented in the third permit cycle beginning in 2016. The plan will assist the City in determining whether the SWMP is effective at targeting the desired environmental outcomes and how effective the listed actions are toward reducing pollution or stormwater runoff within the City. The City will choose specific monitoring points and measure to determine if the SWMP is assisting the City in obtaining the goals of the SWMP.

The City will continue to inspect and maintain facilities as described by the SWMP maintenance agreements and in accordance with NPDES regulations established for City owned equipment and structures.

Conclusions

The City of Algona has met the minimum requirements for the initial reporting period. The City has an established stormwater utility that is and will continue to be a funding source for stormwater facilities improvements and permit requirements. There are many things that the City is doing and has been doing that line up with Permit requirements and in the coming years there are many more programs to develop and implement.

The Public Education and Outreach component has a solid agreement in place for maintaining stormwater facilities and pollution control plans. In the coming year the City will need to develop and distribute more educational materials to target audiences listed in the permit. The City also needs to continue documenting the progress of the behaviors of the targeted audiences and compare the results with those from the administered survey.

The City is actively participating in WRIA9 as part of their Public Involvement and Participation component. The relationship should continue and involve local residents in the development of the SWMP document. The City also needs to continue to paint or emboss "DUMP NO WASTE-DRAINS TO STREAM" near all stormwater inlets.