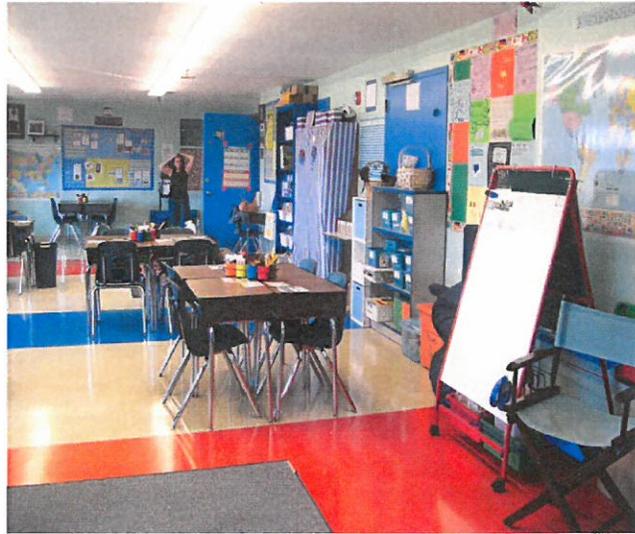
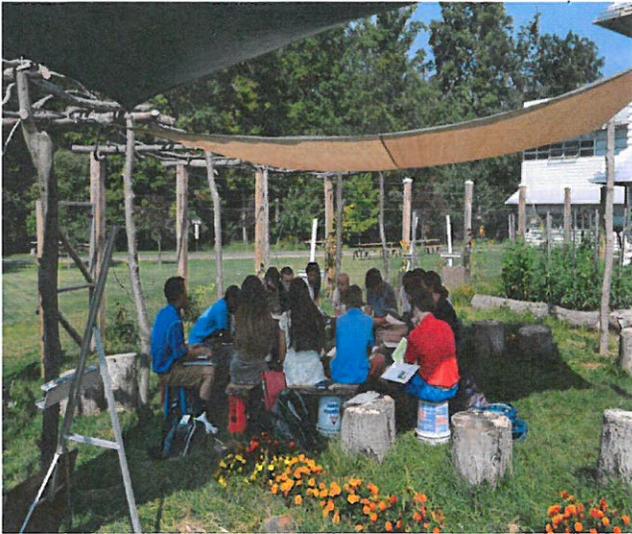




CITY OF ARNOLD, MISSOURI



Stormwater Pollution Prevention Public Education and Outreach Plan

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CITY OF ARNOLD

Stormwater Pollution Prevention Public Education and Outreach Plan

Preventing stormwater pollution in the first place is the most effective and cost-efficient way to protect the City's water resources and meet state and federal stormwater regulations. The foundation of a successful pollution prevention program is an active, engaged public that understands the link between individual behavior and its effect on water quality and aquatic resources. The public includes City residents and the local business community. An informed public also knows how to identify and report suspected illicit discharges and can help educate their own family members and neighbors about the importance of preventing pollution.

This plan has been developed in compliance with the City's MDNR Storm Water Audit dated March 23, 2017.

I. Existing Program

The City of Arnold has implemented a comprehensive public education and outreach program as required per the municipal separate storm water system (MS4) permit. Since that time, the program has been enhanced to meet the requirements specified in the MDNR Audit.

General Education and Outreach:

- Mailing of storm water topic brochures to residents and businesses in the City.
- Placement of storm water brochures in lobbies of Hotel's, grocery stores, public library, City Hall, restaurant kiosk's and other public locations.
- Place stormwater literature on the City's website.
- Place additional "Don't Litter" and "Pet Waste" signs throughout the City.
- Continue with storm sewer drain medallion placement or manhole lid covers which state "No Dumping-Drains to Stream".
- Continue our support to Clean Stream efforts with manpower and equipment. We Plan to advertise our support and encourage residents to volunteer in clean stream events thru website and newspaper notices.

Business Outreach:

- Distribute a general environmental education message to each business at least once during each bi-annual reporting year.
- Target specific business categories for education and outreach based on complaint history and illicit discharge monitoring activities. These include automotive supply and service businesses and food service businesses but not limited to these alone.

II. Permit Requirements

Section 4.2.11.4 of our MDNR MS4 permit, the City must further develop its City's public education and outreach program and provide the public with an opportunity to comment on the City's plan. The storm water operating permit provides that the program must be designed with the following goals:

- Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters, and other local water pollution concerns;
- Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and,
- Implementing a diverse program with strategies that are targeted toward audiences most likely to have significant stormwater impacts.

The City's program strives to achieve the following:

- Identify known and likely water quality issues and their causes and ways to improve the water quality.
- Identify the target audience most likely to have significant impacts for each high-priority water quality issue;
- Develop messages and associated educational and outreach materials for message distribution to the selected target audiences while considering the viewpoints and concerns of the target audiences.
- Provide the opportunity for public participation during public education and outreach program development;
- Provide for the adjustment of target audiences and messages in order to address observed weaknesses or shortcomings and may be needed.

The MS4 permit allows the City to coordinate public education and outreach efforts with other MS4 localities, recognizing that the City is individually responsible for meeting permit requirements.

Table 1 provides an overview of pollutants on concern in the City and whether each pollutant is considered a “high priority” for the purpose of additional public education and outreach. Table 1 is used to help focus the City’s outreach activities on those pollutants where public education is most likely to lead to a reduction in those pollutants.

Table 1 – Pollutants of Concern Assessment

Pollutant	Discussion	High Priority?
Sediment	The City drains to Meramec River. Sediment deposited in stream beds can smother aquatic life and harm fish. The majority of sediment in urban areas comes from stream bank erosion and construction activities. The City plans to achieve reductions primarily through storm water BMP's the reduce stormwater management and erosion and sediment control regulations. However, the public can play a role by reporting construction activities where erosion and sediment controls may be malfunctioning.	Yes
Fats, Oils, and Grease in	The City has identified fats, oils and grease from restaurant and other food service operations as a problem pollutant through field observations and called in complaints. This can be mitigated by increasing outreach to businesses on how to prevent pollution and the legal consequences on non-compliance.	Yes
Automotive Fluids	The City has identified automotive fluids from vehicle-related services as a problem pollutant through field observation and complaints. Pollution can occur through direct dumping, improper spill and leak prevention and response, and illicit car washing. This can be mitigated by increasing outreach to businesses on how to prevent pollution and the legal consequences of non-compliance.	Yes

Based on the above rationale, the City will focus on those pollutants of concern designed as “high priority” in this Storm Water Pollution Prevention Public Education and outreach plan.

III. Target Audience and Size

The MS4 permit requires the identification of target audiences most likely to have a significant impact on each pollutant of concern for each “high-priority” water quality issue. At a minimum, the education and outreach program must be designed to reach 20% of each target audience on average annually. Table 2 provides an overview of the identified target audiences.

Pollutant	Discussion	Target Audience and Size
Sediment	The public at large has been identified as the target audience. The focus of the sediment efforts will be on educating residents to recognize an erosion control issue and to know where to report the issue.	Residential Households- Approximately 7,000 households
Fats, Oils, and Grease in	Restaurants in general have been identified as the target audience for education and outreach on preventing fats, oils, and grease from entering the storm drain system.	Restaurants within City Limits- Approximately 50
Automotive Fluids	Automotive service centers, including car washes and facilities providing car wash services, have been identified as the target audience for education and outreach on preventing automotive fluids from entering the storm drain system.	Automotive Service Centers within City Limits- Approximately 14

Based on the above rationale, the City will focus on those pollutants of concern designed as “high-priority” in this Stormwater Pollution Prevention Public Education and Outreach Plan.

IV. Education and Outreach Tools

The City has a number of tools at its disposal to engage in public education and outreach. Table 3 provides an overview of significant tools identified by the City and the strengths and limitations of each when considering how to deliver an effective message; while also meeting the permit requirement to quantify the effort towards reaching 20% of each target audience annually.

Table 2– Discussion of Education and Outreach Tools

Tool	Reach	Strengths	Limitations
Brochure Distribution at Events and Meetings	Varies depending on the size of the event	The City has a number of existing brochures covering a number of storm water topics. In addition, there are a number of existing brochures from U.S EPA, and various non-profits that can be easily tailored to the City and that address specific pollutants of concern.	The distribution Target area is relatively limited. It is unknown whether the target audience actually reads the brochure.
Press Releases	Varies depending on readership of the local paper	A press release is submitted to a local newspaper or otherwise be distributed to a larger audience at a low cost to the City.	The Leader Newspaper or Countian is our publication of choice.
Storm Drain Medallions or Embossed Manhole Lids	Varies, but generally those who live near or walk past a storm drain inlet.	The City has a vigorous storm drain marker program with medallions or manhole lids that state NO DUMPING DRAINS TO STREAM where storm inlets exist as a way to educate the public and educate about illicit discharge.	The use of embossed manhole lids are preferred to glue down medallions as they will last longer but are more expensive than medallions.
City	City	The City's existing stormwater page is accessible and contains large amounts of information.	Residents have to have access to the internet to view the City's stormwater page.
Direct Mail through trash and stormwater quarterly billing	Varies depending on targeted audience but can reach 100% provided addresses are available.	The message reaches a defined audience. Stand-alone nature of a direct mailing from the City may increase the chance of being read.	Not all residents will read the message. This option is more expensive since it is done per first class mail.

V. Message Development

The MS4 permit requires the City to develop relevant pollution prevention messages to be delivered to target audiences. Table 4 provides an overview of pollution prevention actions and associated messages based on a review of existing U.S. EPA documents and other sources.

Table 3 – Pollution Prevention Messages

Pollutant	Pollution Prevention Action	Message Highlight
General	Make the connection between individual actions and stormwater pollution	"NO Dumping Drains to Streams"
Nutrients	Mowing high with a sharp blade (2 to 3 inches for cool-season grasses) can keep a lawn greener without fertilizers.	*Protect local streams and the Meramec River.
	Leaving grass clippings on the lawn reduces the need for nitrogen fertilizer by as much as one-third.	* Reduce the cost of drinking water treatment
	For cool season grasses, September through November is the best time for fertilizing.	* Healthier lawn.
	The best way to determine if your lawn needs fertilizer is to test it.	*Saving money (less frequent use of fertilizers).
	Never apply fertilizers to sidewalks, driveways or roadways. Sweep or blow fertilizer spilled on hard surfaces.	* Saving time (no need to fertilize in the fall).
Sediment	Report illicit discharges to the City by contacting the Department of Public Works (636-282-2386) or reporting problems using the City's "contact us" function on the website.	*Protect local streams and the Meramec River. *Reduce the cost of drinking water treatment. * Protecting our water resources is everyone's responsibility.
Bacteria	Pick up after your pet.	* Pet waste goes to our drinking water supply and must be cleaned. That is gross. * Pet waste causes illness making streams unsafe for kids and pets. * Picking up pet waste is the law.

Fats, Oils, and Grease	Fats, Oils, and grease must be properly recycled never down the storm drain.	* Protecting our environment is part of being a good business. * It is the law - fines/jail time can be imposed.
Automotive Fluids	Automotive fluids must be properly recycled-never down the storm drain.	* Protecting our environment is part of being a good business * It is the law-fines/jail time can be imposed.
	All washing activities must be done inside-no wash water to the storm drain	

VI. Public Education and Outreach Strategies

The following public education and outreach strategies have been selected and will be implemented to meet the requirements of the MS4 permit. The strategies were selected taking into account the City’s desire to engage in general outreach, including outreach to the City’s entire population, while also focusing on specific water quality issues and target audiences determined in previous sections. Specific strategies were chosen considering the need to engage 20% of each targeted audience annually and the requirement to document this engagement, the outreach tools at the City’s disposal, and the identified messages. The City also intends to continue its participation in the Clean Stream Clean Up events.

General Education and Outreach

Objective and Expected Results: The purpose of this BMP is to increase general knowledge about the link between individual actions and stormwater pollution and to educate residents about how they can change their behavior to have a positive impact on local streams and the Meramec River.

Implementation and Schedule:

- Distribute water quality messages at the City Hall and during community events.
- Increase stormwater quality related brochures mailed out to City residents.
- Include a stormwater quality related message in press releases.
- Promote and provide information to City residents and organizations on the storm drain marker program.
- Update the stormwater web page with new information as appropriate.
- Continue with our participation and support of Clean Stream events.

Documentation and Measure of Effectiveness: The City will document efforts to engage and educate citizens and will report on these efforts in the be-annual report. This will include the message, amount of materials distributed and an estimate to the number of individuals reached. The City will provide a summary of the Clean Stream program and the results of any surveys or other mechanisms used to determine program effectiveness.

Objective and Expected Results: The purpose of this BMP is to provide education and outreach to inform property owners on ways to reduce the impact of nutrients through proper use and application of fertilizers.

Implementation and Schedule: The City has identified all households as the target audience for nutrient-related education. In addition, the City has identified Home Owner Association's that manage open space as an additional target audience.

- At least one of the stormwater quality related brochure to be included on the City's website will focus on the proper use and application of fertilizers.
- At least one of the stormwater quality related press release message will focus on the proper use and application of fertilizers.
- In 2018, include a message in one of its quarterly residential stormwater bills about the proper use and application of fertilizers.
- Participate in the Clean Stream events program effort to reduce water quality impacts from dumping debris along on stream banks.

Documentation and Measure of Effectiveness: The City's Public Works Department will document these efforts in the bi-annual report.

Target Audience	Strategy	Strategy Reach	Percent Target Reached Annually
All Households	City Website	City-Wide	100% annually
	Message in Trash Bills	City	100%
	Clean Stream Cleanup	City-Wide	100%
HOA's Associations	Direct Mail/City website/Newspaper	HOA Association Boards	25% annually

Sediment and Other Illicit Discharges

Objective and Expected Results: The purpose of this BMP is to reduce illicit discharges, with a particular focus on sediment pollution, by educating residents on how to recognize and report a suspected illicit discharge.

Implementation and Schedule: The City has identified all households as the target audience for illicit discharge and sediment-related education.

- Maintain City's web site with a specific option for reporting an illicit discharge to the storm sewer system.
- Highlight alternatives to illicit discharges by promote promoting the availability of the Jefferson County Hazardous Waste Program, on the City's website.

- At least one of the stormwater quality related brochures to be included annually in the City's quarterly service billings will focus on how to identify and report an illicit discharge, including erosion and sediment control issues.
- Participate in the Clean Stream program effort to reduce water quality impacts from illicit discharges.

Documentation and Measure of Effectiveness: The City will document these efforts in the bi-annual report.

Target Audience	Strategy	Strategy Reach	Percent Target Reached Annually
All Households	City's Website/Brochures/& Press Releases	City-Wide	100% annually

Pet Wastes

Objective and Expected Results: The purpose of the BMP is to reduce bacteria pollution by educating residents in general, and pet owners specifically, on the impacts of pet waste on water quality and the importance of picking up after pets.

Implementation and Schedule: The City has identified all residents as the target audience for pet waste-related education, with a specific focus on dog owners.

- At least one of the stormwater quality related brochure to be included quarterly in the City's service billing will focus on the importance of picking up after pets.
- At least one on the stormwater quality related message on the City's Website will focus on the importance of picking up after pets.
- In 2018 include a message in one of its quarterly residential service bills about the importance of picking up after pets.
- Participate in the Clean Stream Clean-up program to reduce water quality impacts from bacteria caused by illegal dumping.

Target Audience	Strategy	Strategy Reach	Percent Target Reached Annually
All Households			
	Message in City Website	City-Wide	100% annually
	Press Releases	Local Paper	Once a year
	Brochures	City-Wide	100% in 2018

Targeted Business Outreach

Objective and Expected Results: The purpose of this BMP is to engage businesses in general as partners in protecting water quality and preventing stormwater pollution. In addition, this BMP aims to reduce the discharge of fats, oils, and grease from restaurants and automotive fluids from automotive service centers.

Implementation and Schedule: The City has identified all businesses as the target audience, with a specific focus on restaurants and automotive service centers.

- Distribute a general environmental education message to each business in the City at least once during the permit cycle.
- By the end of 2018, send a letter and any other information to all restaurants about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.
- By the end of 2018, send a letter and any other information to all automotive service centers about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.

Documentation and Measure of Effectiveness: The City will document these efforts in the bi-annual report, including sample letters and examples of information provided. The following provides the City’s plan for meeting the requirement to reach of the target audiences.

Target Audience	Strategy	Strategy Reach	Percent Target Reached Annually
All Businesses	Direct Mail	City-Wide	100% over permit cycle.
Restaurants	Direct Mail	Restaurants	100% in 2018
Automotive Service Centers	Direct Mail	Automotive Service Centers	100% in 2018

VII. Assessment of Strategies

The City will assess the adequacy of selected public education and outreach strategies at least annually and include this in each bi-annual report to MDNR. If the selected BMPs are determined to not be meeting these goals, the City will document program changes and submit the documentation to MDNR. Prior to application for continued permit coverage, the City will evaluate the entire education and outreach program for the following:

- Appropriateness of the high-priority stormwater issues.
- Appropriateness of the selected target audiences for each high-priority stormwater issue.
- Effectiveness of the message or messages being delivered.
- Effectiveness of the mechanism or mechanisms of delivery employed in reaching the target audiences.

VIII. Public Participation in Plan Development

The draft Stormwater Pollution Prevention Public Education and Outreach Plan was posted for comment on the City's dedicated Stormwater webpage.

In 2018 the City will review the plan with the Citizen's Advisory Board to seek additional feedback and ideas for how to enhance the City's efforts. The Board consists of 5 citizen representatives appointed by the City Council and includes in its mission educating the public about environmental issues and initiatives.