



2018 MS4 ANNUAL REPORT

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Stormwater Coordinator

MO Form 780-1846 (Stormwater Annual Report – Small MS4s Permits)

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MO Form 780-2049 (Stormwater Annual Report – Small MS4s Permits Addendum – Water Quality Program Assessment)

Executive Summary:

The City of Branson received its MS-4 Permit in November of 2016. We are currently in our second year of this permit. The Stormwater coordinator is responsible for implementing and maintaining the MS-4 program here in Branson. At this time, the City's stormwater program is primarily funded through the transportation fund.

The second year of our permit has included many advances towards improving the water quality within the boundaries of our city. We are in the process of completing our Stormwater Master Plan being prepared by MECO consulting engineers, this included an online public survey as well as two live public meetings to discuss stormwater issues and we have passed our Land Disturbance and Erosion and Sediment Control ordinance. The ordinance includes the utilization of an inspection program for all construction sites over 3000 sq. ft. of land disturbance.

The purpose of this report is to provide information related to the efforts of the City of Branson to reduce non-point source pollution through public education and participation, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control and good housekeeping in municipal operations. It is the City's intent to be as compliant as possible with the state and federal requirements set forth under NPDES Phase II. A summary table is enclosed which outlines the MCM's completed this second year of the permit.

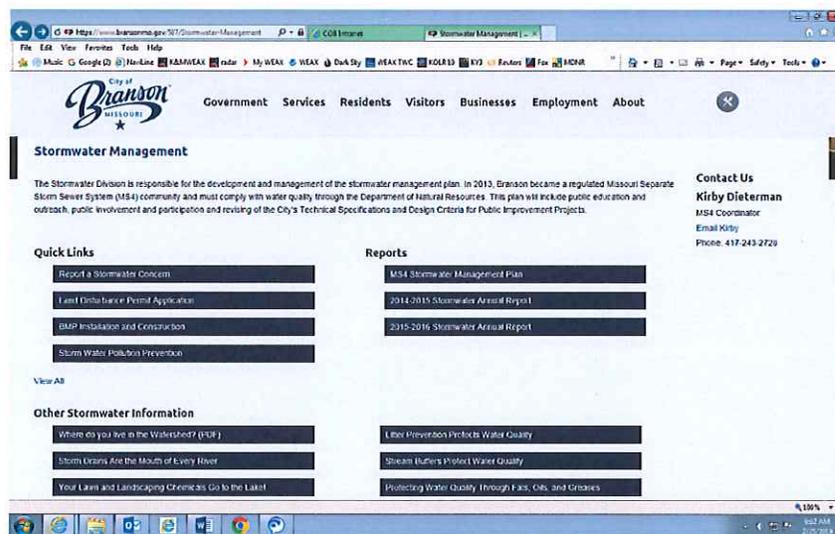
The City of Branson views the stormwater management plan as an opportunity to expand on a vision for clean water within our jurisdiction. We recognize that this stormwater management plan is a starting point for effective non-point source pollution reduction and our residents and community leaders are committed to being proactive in protecting our water resources as we place great value on the water resources in our care.

Minimum Control Measure #1 – Public Education

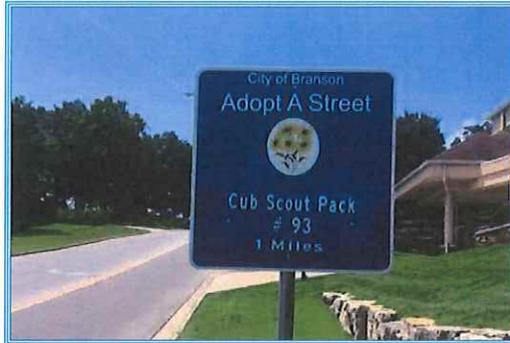
Summary: The City of Branson has continued to build its public education program through distribution of educational materials to the community, the city website, and conducting outreach activities. The focus of these efforts is to educate the public with activities discussing the impact of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

Public Education Efforts

- Survey Monkey was utilized to get information from our citizen about their stormwater concerns.
- Distributed educational brochures to the public at City Hall, Public Works, Recycle Center and Utilities Department. Enhanced Facebook page to include water quality posts.
- Added 8 additional links to the city’s new stormwater web page that is available to public, contractors, developers and builders. Now includes the city’s MS4 plan, MS4 annual report, and a map of the Table Rock Lake watershed.
- Stormwater webpage received 104 visits in the 12 month report period. **See Exhibit 1.1**



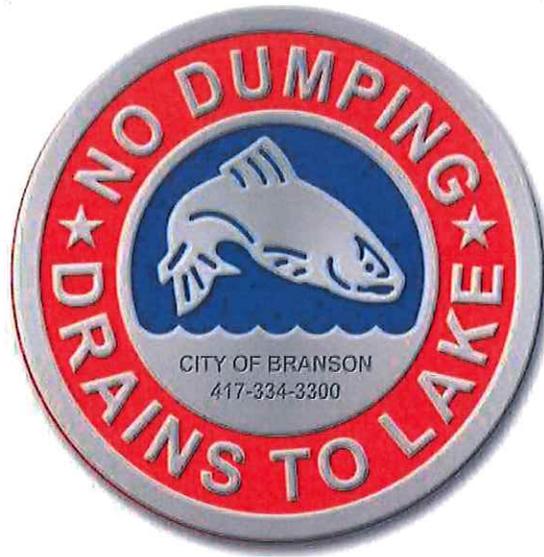
Continued to monitor our webpage regarding Branson's Adopt-A-Street program, to reduce floatables. Informative cards (below) are available at city hall and on website. In this reporting period there were 40 total pick-ups and 82 bags of trash were collected and disposed of. There 19 organizations or groups that participate in this program. See **Exhibit 1.2 & 1.3**



- Household Chemical Collections: 8.17 Tons collected and safely disposed of or recycled for beneficial use (i.e. used motor oil is used to heat recycle center).
- Distributed 185 brochures throughout the community and at local events.



- We are continuing our policy of providing citizens the materials to install 12 storm drain decals and 15 corresponding handouts. This brings our total to 723 storm drains marked by 201 volunteers, and 3,195 handouts distributed to homes/businesses. Many of our new storm sewers are being installed with manufacture lids that display 'drains to lakes and streams' imprinted at the factory. See **Exhibit 1.4**



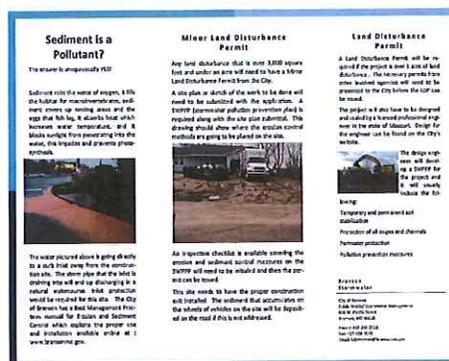
No SWMP elements have been changed or refined since permit application. All measurable goals have been met.

A brochure was created to inform the public about the Land Disturbance Ordinance that was passed during this reporting period. See **Exhibit 1.5**



NOTES:

BRANSON SEWER
City of Branson
Public Works/Stormwater Management
616 N. Pacific Street
Branson, MO 64604
Phone: 417-334-3300
Fax: 417-334-3312
Email: information@bransonmo.gov



Overall Compliance with Permit Conditions:

The Best Management Practices (BMP's) in the City's Stormwater Management Plan (SWMP) seem to be effective for local population. The City continues to make progress towards achieving the goal of reducing the discharge pollutants to the Maximum Extent Practicable (MEP). We have begun to make the public more aware of stormwater quality issues.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue to compile and distribute the appropriate erosion control materials for contractors/developers during Open for Business process for developments.
- Promote Lane Taneycomo Clean Up by utilizing partnership with Ozarks Water Watch.
- The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.

No changes are proposed to MCM #1's BMP's or measurable goals.

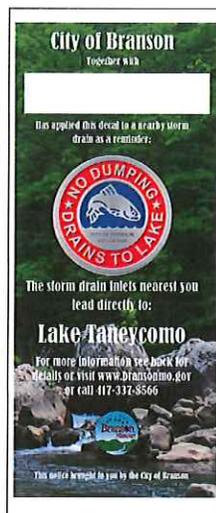
Minimum Control Measure #2 – Public Participation & Involvement

Summary: The City of Branson has actively involved the public in the development and implementation of the stormwater program.

The Stormwater Division of the Engineering Department has a strong relationship with the Public Relations Department as well as local newspapers and radio stations. We have had individuals, families and groups such as the Boy Scouts take on specific tasks of laying permeable pavers and storm drain markers.

Public Involvement Efforts:

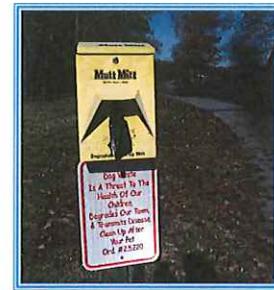
- Processed a total of 20,494 vehicles through the city’s recycle center and safely disposed of 8.17 tons of household chemicals.
- Organized a total of 15 participants in marking 12 storm drains. These volunteers also handed out 20 brochures on “The Water Connection and Household Hazardous Waste,” as well as the door hanger below: **See Exhibit 2.1**



- Encouraged participation and organized the Adopt-a-Street program wherein we trained 78 participants and removed 34 full trash bags. **See Exhibits 1.2 & 1.3**



- Maintained ten pet waste stations in city parks and at Branson Landing. Pet waste pick up signs have been posted throughout all of the City parks and trails reminding residents and visitors to pick up after their pets.



- A Stormwater survey was placed on the internet utilizing survey monkey. This was to aid in data collection for our stormwater master plan and our two public hearings. There were eight basic questions asked. There were 28 responses to our questions and the results are attached. **See Exhibit 2.2, 2.3 & 2.4**
- Held two public hearings regarding stormwater issues within the city limits. Total attendance was 11 citizens. The citizens expressed concerns regarding water quality but mostly flooding that is taking place. A spread sheet with the addresses and issues has been created to track issue and begin to formulate solutions. **See Exhibit 2.5**



- Participated in Taneycomo Cleanup with a total of 165 volunteers who picked up a full roll off dumpster of trash, this included tires, appliances, paper products and various other debris. 35 miles of the entire lake was cleaned, this included the shoreline within the city limits. We had 570 volunteer hours and recovered 31 tires and 3.5 tons of trash. See **Exhibit 2.6**

No SWMP elements have been changed or refined since permit application. All measurable goals have been met.

Overall Compliance with Permit Conditions:

The City of Branson is complying with permit conditions relating to Public Participation and Involvement. Residents can utilize the “Citizen’s Comment” and “Public Hearing” portion of the City Council and Planning and Zoning meetings as well as post a citizen concern on the city’s website.

The two stormwater public hearings were fruitful regarding getting information directly from our attendees. We will continue to have these meetings and hopefully will have better attendance as we put more information out from our Masterplan findings

Whenever a development is proposed in the City, public hearings are held at the Planning & Zoning meetings. The Planning and Zoning Commission is a volunteer board who are appointed by City Council. They review and approve all developments coming into the city and include in their discussion stormwater and other issues prior to approval of the development. Once approved by Planning & Zoning, their recommendation is forwarded to City Council for final approval where residents have another opportunity to provide questions or comments.

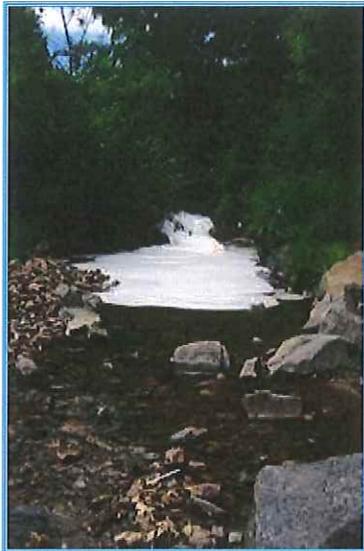
Stormwater Activities Planned During Next Reporting Cycle:

- Continue encouraging use of the city's recycle center to dispose of household chemicals and recyclable materials through promotion on Facebook and city website.
- Publicize participation in an annual storm drain marking event.
- Encourage groups and citizens to participate in the Adopt-a-Street program through the city website and social media.
- Continue maintaining pet waste stations.
- Continue to Co-Sponsor a community-wide lake cleanup with Ozarks Water Watch and Empire Electric.
- The biennial Business and Community Survey will be updated to include questions regarding stormwater issues.

Minimum Control Measure #3 – Illicit Discharge Detection and Elimination

Summary: The City of Branson is striving to develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4.

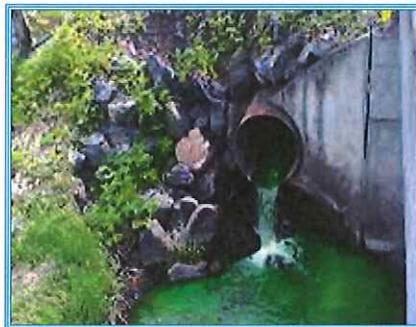
Illicit Discharge Detection and Elimination Efforts:



- The GIS mapping division continues to map all recently constructed stormwater piping and has completed mapping of the city storm sewer system. Currently, Branson has approximately 203,775 feet or 38.6 miles of storm sewer infrastructure mapped throughout the City limits.
- Trained 20 city employees from the Engineering, Public Works, Fire, Police, Parks, Utilities and Planning Departments concerning stormwater education by giving a MS-background PowerPoint presentation showing the effects of improper stormwater management. **See Exhibit 3.1**
- Established a web-based reporting tool for illegal discharges/stormwater reporting and developed a response and reporting system to track incidents. Incident information is recorded by Police Dispatch and reported

to Stormwater Coordinator.

- Outfall mapping of Roark Creek proper and its tertiary channels to be utilized for the Outfall Monitoring and Dry Weather Screening Plan.
- Developed an Outfall Monitoring and Dry Weather Screening Plan to be used for inspections twice annually. This utilizes the outfall maps created by the GIS division. An inspection sheet has been created to assist with inspections. **Exhibit 3.2**



No SWMP elements have been changed or refined since permit application. All measurable goals were met. No changes are proposed for MCM #3 BMP's or its measurable goals.

Overall Compliance with Permit Conditions:

Branson is complying with permit conditions relating to Illicit Discharge Detection and Elimination. Our GIS stormwater map is being updated continuously to show stormwater discharge points. This map currently shows all developments within the city limits. Construction sites are monitored more closely by Construction Project Managers in the Engineering Department and Building Inspectors.

Results of Information Collected and Analyzed During Reporting Period:

- Marked 12 storm drains and distributed 15 flyers.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue mapping of storm sewer system.
- Continue to improve the web-based reporting tool for illegal discharges/stormwater.
- Implement the Outfall Monitoring and Dry Weather Screening Plan.
- Continue stormwater education and training to 20% of city employees in Engineering, Public Works, Fire, Police, Parks, Utilities and Planning Departments.

Minimum Control Measure #4 – Construction Site Stormwater Runoff Control

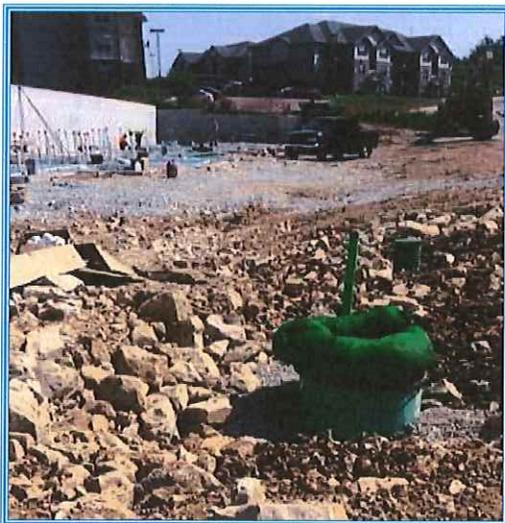
Summary: Branson is striving to develop, implement and enforce a program to reduce pollutants in stormwater runoff from construction activities that result in disturbance of greater than one acre.

Construction Site Runoff Control Efforts:

- 21 Construction plans for commercial construction were reviewed.
- Staff inspected 5 construction sites and enforced construction site runoff control.
- Ordinance was passed, authorizing stormwater runoff plan review, inspection, enforcement and ability to impose fees or penalties. **Exhibit 4.1**
- The proper inspection forms were created for site inspections. This includes a city inspector sheet as well as a contractor inspection sheet. Both sheets contain provisions for heavy rain, complaint and requested inspections. **Exhibits 4.2 & 4.3**
- Project site cards now have a space for Erosion and Sediment Control inspections.
- A project tracking sheet was created for easy inventory of construction taking place and the amount of permits issued in a prescribed time. **Exhibit 4.4**

No SWMP elements have been changed or refined since permit application. All measurable goals were met.

Overall Compliance with Permit Conditions:



Branson has been compliant with the continued implementation of construction site runoff controls by means of regulatory requirements and on-site inspections. There are also measures in place that require developers to submit a site improvement plan which addresses sediment and erosion control. The ordinance that was passed in 2018 requires that any land disturbance of over 3000 sq. ft. require a Land Disturbance Permit. We also reference the MDNR Protecting Water Quality Manual as a guide for site runoff control to engineers, developers and contractors. Other processes that need mentioned prior to construction commencing are that there are several plan review and planning and zoning processes that developers and builders must follow.

All subdivision developments must be approved by the Planning & Zoning Commission via plat approval. Upon approval, they are forwarded to City Council for approval and recording. On individual lots and developments the developer/builder must submit their plans to the Engineering Department for review and approval of the stormwater aspects of their project. The project cannot move forward until the Engineering Department gives final for construction.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue to educate public, employees, contractors and developers regarding requirements for construction site runoff control by holding annual meetings which explain the ordinances as well as BMP methods that will help with compliance
- A 'grace' period for violations will exist for approximately 1 year in order for developers, engineers, and contractors to acclimate to the new laws set forth in the new ordinance.

Summary of the Number of Inspections

- Stormwater coordinators reviewed 40 plans; all plans received comments regarding the protection of the job site from sediment and construction debris migration, as well as SWPPP BMP's being installed per specification.

Summary of the Number of Inspections:

- City staff completed 68 inspections to ensure stormwater quantity and control was addressed. Only 2 projects were over one acre.

Minimum Control Measure #5 – Post-Construction

Summary: Branson is striving to develop, implement and enforce a program to address stormwater runoff from development and redevelopment projects that disturb greater than one acre. Various BMP's are used to control siltation and erosion of development areas until such time as vegetation can be re-established. The City of Branson requires all developments to meet stormwater detention or retention requirements to help minimize the impacts of flooding, post-construction runoff, including runoff from increased impervious areas created by the development.

Post-Construction Runoff Control Efforts:

- A request for proposal was sent out to consultants across the region to develop a Stormwater Masterplan for the city. It was awarded to MECO Engineering and will be completed in 2019.
- The engineering Department has modified the Design Criteria for Public Improvement Projects to include BMP's for stormwater control. Staff is currently reviewing. **See Exhibit 5.1**
- When legal counsel is acquired they will continue review and make recommendations for ordinances to regulate and enforce post-construction strategies for new and redevelopment projects.
- A web-based reporting tool for illegal discharges has been created and the city has developed a response and reporting system to track complaints.
- Review the city's existing zoning ordinance to consider incorporating appropriate amendments to the zoning code to provide more green space and buffer zones. The amendments will address maximum impervious surface requirements. This is out for public response at this point.
- Funding for a Stormwater Funding Mechanism has been secured for 2020
- When legal counsel is acquired, they will review any proposed amendments to the city's zoning ordinance regarding planned development and overlay zones.

No SWMP elements have been changed or refined since permit application.

Overall Compliance with Permit Conditions:

The BMPs in the City's SWMP seem to be effective for local population, appear to address some of the city's larger potential pollution sources and have integrated well with local management procedures. Branson continues to make the public as well as private development more aware of stormwater quality issues as they relate to the post-construction environment. Plan review continues to recommend post construction methods for projects coming into the City as well as for capital improvement projects funded by the City.

Stormwater Activities Planned During Next Reporting Cycle:

- Present to the Board of Alderman proposed changes to the zoning ordinance to include provisions regarding open space, stream buffer zones, maximum impervious surfaced requirements and overly zones.
- As-builts for any and all detention/retention facility will be required.
- Begin to utilize the recommendations given by MECO with our Stormwater Masterplan.

No changes are proposed for MCM #5 BMP's or measurable goals.

Minimum Control Measure #6 – Good Housekeeping for Municipal Operations

Summary: Branson is striving to develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Good Housekeeping Efforts:

- Continue promotion of Adopt-a-Street program. **See Exhibit**
- Operation and Maintenance Manual is completed and being reviewed by city staff. (*Exhibit 6.1*)
- Continual Street sweeping to reduce floatables – 1304 miles this reporting cycle.
- Trained 25 city employees from the Fire Department concerning stormwater education having them attend the Erosion and Sediment Control PowerPoint presentation held by the Stormwater Coordinator. **See Exhibit 6.1**
- Used oil recycling – ongoing.
- Utilized current software to track stormwater maintenance hours by city staff. **See Exhibit 6.2**
- Continued salt storage under cover.
- Continued removal of trash, salt and gravel debris from city right-of-way by public works staff while mowing.
- Continued use and promotion of non-coal tar sealants on parking lots or city streets.



No SWMP elements have been changed or refined since permit application. All measurable goals were met. No changes are proposed for MCM #6 BMP's or measurable goals.

Overall Compliance with Permit Conditions:

Branson's BMP's seem to be effective for local population, and have integrated well with local management procedures. Branson continues to make progress towards reducing the discharge of pollutants and have begun to make staff in all departments more aware of stormwater quality issues as they relate to municipal operations. Our Parks Department uses covers on materials such as mulch and topsoil to prevent unnecessary runoff. We continue to evaluate and improve our salt storage for snow removal operations. We have a covered area and tarps and bins in place over our outside storage which is monitored and maintained on a regular basis. Pollution prevention and good housekeeping measures are one function of each of our employees' job. This is a daily, on-going routine and employees are reminded to be aware of our own operation and maintenance practices to help and ensure a reduction in the amounts and types of wastes that collect on our streets, parking lots and maintenance areas. City staff also maintains compliance with contractors and developers sites by the enforcement of existing codes and ordinances that assist with prevention.

Results of Information Collected and Analyzed During Reporting Period:

- Approximately 1,304 miles of city streets swept.
- Inlets/catch basins are inspected periodically and cleaned as needed.
- Used oil converted from waste to energy at three city facilities.
- 34 bags of trash removed from city right-of-way.
- Developed an operation and maintenance program for consideration by various city departments for staff review and approval. **See Exhibit 6.3**
- 25 employees trained with Erosion and Sediment Control PowerPoint presentation. **See Exhibit 6.1**

Stormwater Activities Planned During Next Reporting Cycle:

- Formal adoption and implementation of the Operations and Maintenance Manual
- Continued Stormwater BMP Training of city parks, fire, police, utilities, public works, planning and engineering employees.