Middleton Stormwater Management Program

IPDES MS4 Permit No IDS-028100

Year 1: October 1, 2020 to September 2021

Prepared for: Becky Crofts, City Administrator, City of Middleton

Prepared by: Jack Harrison, PhD, P.E., HyQual, P.A.

Date: November 30, 2021 Final

Notes:

This Stormwater Management Program (SWMP) is intended to meet the requirements as specified in the City of Middleton's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Stormwater Permit No IDS-028100. The City's primary goal of the SWMP is to establish a framework for actions that result in substantial compliance with the City's IPDES requirements.

The format of this SWMP document generally follows the headings as given in the MS4 Permit and document outline provided by EPA. The attachments referenced below, which are provided in a separate document, provide additional details of the City's Storm Water Management Program (SWMP). This SWMP and the attachments will be updated on an annual basis to show progress toward full implementation.

Acknowledgements:

This document was prepared under the direct supervision of Becky Crofts, the Middleton City Administrator. Much of the information in the document was initially prepared and reported to EPA in annual reports for the previous 2009 NPDES MS4 Permit. Updates to the information and planning for future actions occurred with input from city staff, the City's contract treatment plant operator (OMI) and the City Engineer (Civil Dynamics).

Certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: Becky L Crofts Date: November 30, 2021

Name: Becky L. Crofts Title: City Administrator

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Permit Compliance and Implementation Schedules

Middleton's MS4 Permit Compliance Schedule

The compliance schedule included in the permit is shown below in Figure 1. The requirements that began in Year 1 of the permit (October 1, 2020 to September 30, 2021) are shown in "dashed"" red boxes. A more detailed list of actions to be implemented over the term of the permit are discussed below.

Figure 1 Middleton's MS4 Stormwater permit schedule

1. Stormwater Management Program Document	
Post SWMP Document(s) on at least one publicly accessible website - See Part 2.5.3 and Part 3.1.8	**December 1, 2021**
Update the SWMP Document to describe implementation of relevant requirements for discharges to impaired waters - See Part 4.	**December 1, 2022**
2. Stormwater Management Program Control Measures	
Begin Education & Outreach Activities - See Part 3.1	**October 1, 2021**
Implement all SWMP Control Measures in Part 3.	**April 3, 2025**
3. Alternative Control Measure Requests	
See Part 2.6 and Part 4.	**October 1, 2022**
4. Monitoring/Assessment Plan	
Submit a Monitoring/Assessment Plan See Part 2.6, and Part 4.	**October 1, 2022**
Conduct Monitoring/Assessment Activity	**April 3, 2025**
5. Pollutant Reduction Activities for Discharges to Impaired Waters	
Submit description of selected Pollutant Reduction Activities; See Part 2.6, and Part 4.	**October 1, 2022**
Implement least two (2) pollutant reduction activities.	**April 3, 2025**
6. Annual Report	
See Part 6.4, and Table 6.4.1	**December 1 of each year, beginning Calendar Year 2021**
7. Twenty-Four Hour Notice of Noncompliance.	
Permittee must report certain noncompliance by phone. See Part 7.9.	Within 24 hours from when Permittee becomes aware of circumstances
8. NPDES Permit Renewal Application	
See Part 8.2.	**April 3, 2025**

Implementation Schedule

The MS4 Permit expires September 30, 2025, with full implementation required 180 days prior to that date (i.e., April 3, 2025). A detailed 5-Year implementation schedule was prepared that shows when actions will be implemented to ensure compliance with the MS4 Permit schedule (Tables 1a and 1b).

The schedule is divided into 5 categories referred to as Control Measures (CM), and "Other Actions" that includes plans and reports to be prepared for submittal to EPA and DEQ. Note that the 24-Hour "Notice of Non-compliance" requirement began on October 1 of 2020. Under this requirement any spill or illicit discharge not reported within 24-hours is a permit violation. (see Attachment: 2019 Spill Report).

As discussed in Section 5 for each control measure, Middleton implemented many of the required stormwater management activities during the previous permit. Most of these measures will be expanded over the coming years. The schedule shows the year actions (or additional actions) will be initiated.

The schedule shows a large number of actions (for most Control Measure) are planned to be initiated during Year 2 of the permit (October 1, 2021 through September 30, 2022). Additionally in Year 2, submittal of two plans is required:

- Pollutant Reduction Activities (with at least 2 Alternative Control Measures (ACM)
- Stormwater Monitoring and Assessment Plan

These plans contain proposed stormwater management and monitoring actions, which are to be submitted to DEQ and EPA by October 1, 2022. Once approved and integrated into the permit, the approved actions will then be initiated under an agreed to schedule (e.g., Permit Year 3 or beyond).

Table 1a Detailed 5-Year Implementation Schedule

Detailed Schedule for MS4 Storm Water Permit Implementation (part 1)	Year to Begin Implementation				
11-20-2021 v3draft	1	2	3	4	5
CM-1 Public Education, Outreach and Involvement					
Select at least one audience and focus its efforts on conveying relevant messages	X	>>	>>	>>	>>
Distribute and/or offer at least eight (8) educational messages or activities over the permit term to selected audience(s)		X	>>	>>	>>
Assess, and track activities to gauge the audience's understanding of the relevant messages and adoption of appropriate behaviors.		X	>>	>>	>>
Target specific educational material to the construction/engineering/design community regarding construction site runoff control and permanent storm water controls.		X	>>	>>	>>
Maintain and advertise a publicly accessible website to provide all relevant SWMP materials.	X	>>	>>	>>	>>
CM-2 Illicit Discharge Detection and Elimination					
Enforce an ordinance that effectively prohibits illicit discharges into the MS4;	X	>>	>>	>>	>>
Respond to Complaints or Reports of illicit Discharges from the Public;	X	>>	>>	>>	>>
Keep Track of Complaints/Reports, and any Response Actions Taken;		X	>>	>>	>>
Conduct MS4 outfall screening inspections during dry weather;		X	>>	>>	>>
Follow-up to determine the source of a recurring illicit discharge identified as a result of complaints, or of the dry weather screening investigations within thirty (30) days;		X	>>	>>	>>
Take appropriate action to address the source of an ongoing illicit discharge;			X	>>	>>
Prevent and Respond to Spills to the MS4, as appropriate;		X	>>	>>	>>
Coordinate with other entities for the proper disposal of used oil and toxic materials;			X	>>	>>
Ensure the appropriate Permittee staff is trained to conduct these activities.		X	>>	>>	>>
CM-3 Construction Site Stormwater Runoff Control					
Require appropriate erosion, sediment, and waste management requirements for construction site activity that results in land disturbance of 5,000 square feet (ft2) or more.			X	>>	>>
Establish installation and use guidelines for required erosion/sediment/waste management during all phases of construction site activity.	X	>>	>>	>>	>>
At a minimum, review preconstruction site plans for construction sites that will result in land disturbance of one (1) or more acres, using a checklist or similar process to consider and address potential water quality impacts from the site activities.		X	>>	>>	>>
Inspect and enforce erosion, sediment, and waste management requirements on construction sites.	X	>>	>>	>>	>>
Establish an inspection prioritization plan		X	>>	>>	>>
Establish an enforcement response policy,			X	>>	>>
Ensure that Permittee staff is trained to conduct these activities.			X	>>	>>

Table 1b Detailed 5-Year Implementation Schedule

Detailed Schedule for MS4 Storm Water Permit Implementation (part 2)	Target Year to Begin Implementation				
11-20-2021 v3draft	1	2	3	4	5
CM-4 Post-construction Stormwater Management					
Require the installation and long-term maintenance of permanent storm water controls at new development and redevelopment project sites that result from land disturbance of 1 acre or more.	X	>>	>>	>>	>>
Establish proper installation and use guidelines for permanent storm water controls – the Permittee may establish different types of controls for different types and/or sizes of site development activity.			X	>>	>>
Review and approve preconstruction plans for permanent storm water controls at new development and redevelopment sites that result from land disturbance of one (1) or more acres		X	>>	>>	>>
Periodically inspect "high priority" permanent storm water controls for proper installation and operation, using an inspection prioritization system					
Maintain an inspection prioritization plan and enforcement response policy,			X	>>	>>
Maintain a database inventory to track and manage the operational condition of permanent storm water controls	X		>>	>>	>>
Ensure the appropriate Permittee staff is trained to conduct these activities.			X	>>	>>
CM-5 Pollution Prevention/Good Housekeeping for MS4 Operations					
Maintain a current Map of the MS4, including an inventory of all Outfalls and other features;	X	>>	>>	>>	>>
Inspect catch basins and inlets at least once every five years, using an inspection prioritization plan		X	>>	>>	>>
Maintain or clean catch basins based on those inspections,		X	>>	>>	>>
Maintain Operation and Maintenance (O&M) Procedures for Streets, Roads, Highways and Parking Lots		X	>>	>>	>>
Maintain O&M Procedures for Other Municipal Areas and Activities to protect water quality;			X	>>	>>
Use best practices to reduce the discharge of pollutants to the MS4 associated with the Permittee's application and storage of pesticides, herbicides and fertilizers;			X	>>	>>
Develop site-specific Pollution Prevention Plans for Permittee-owned Facilities;			X	>>	>>
Work cooperatively with other entities to control litter on a regular basis;			X	>>	>>
Ensure the appropriate Permittee staff is trained to conduct these activities.			X	>>	>>
Other Actions to be Implemented					
24-hour Spill Response	X	>>	>>	>>	>>
Monitoring Plan and Assessment (MnA) Plan		X	>>	>>	>>
Pollutant Reduction Activity					
Alternative Control Measure 1 (AMC-1)		X	>>	>>	>>
Alternative Control Measure 2 (AMC-2)		X	>>	>>	>>
Adaptive Management Response	–				
Annual Report		X	>>	>>	>>
Storm Water Management Program (SWMP)		X	>>	>>	>>

1 BASIC SWMP INFORMATION

This SWMP is intended to meet the requirements as specified in the City of Middleton's MS4 stormwater permit. It was developed by Middleton to describe the control measures and other activities the City has or will implement to meet the terms and conditions of permit No IDS-028100.

1.1 Staffing and Organization

Steve Rule, Mayor
City of Middleton, 208-585-3133

Becky Crofts, City Administrator and Communications Coordinator
City of Middleton 208-585-3133

Jason Van Gilder, PE, Public Works Director
City of Middleton, 208-585-3133

Amy J Woodruff, PE, City Engineer
Civil Dynamics, PC 208-453-2028

Jack Harrison, PhD, PE
HyQual, 208-861-1654

Rodger Hawker, Public Works
City of Middleton 208-585-3133

Darrel Gehring, Streets Department
City of Middleton 208-585-3133

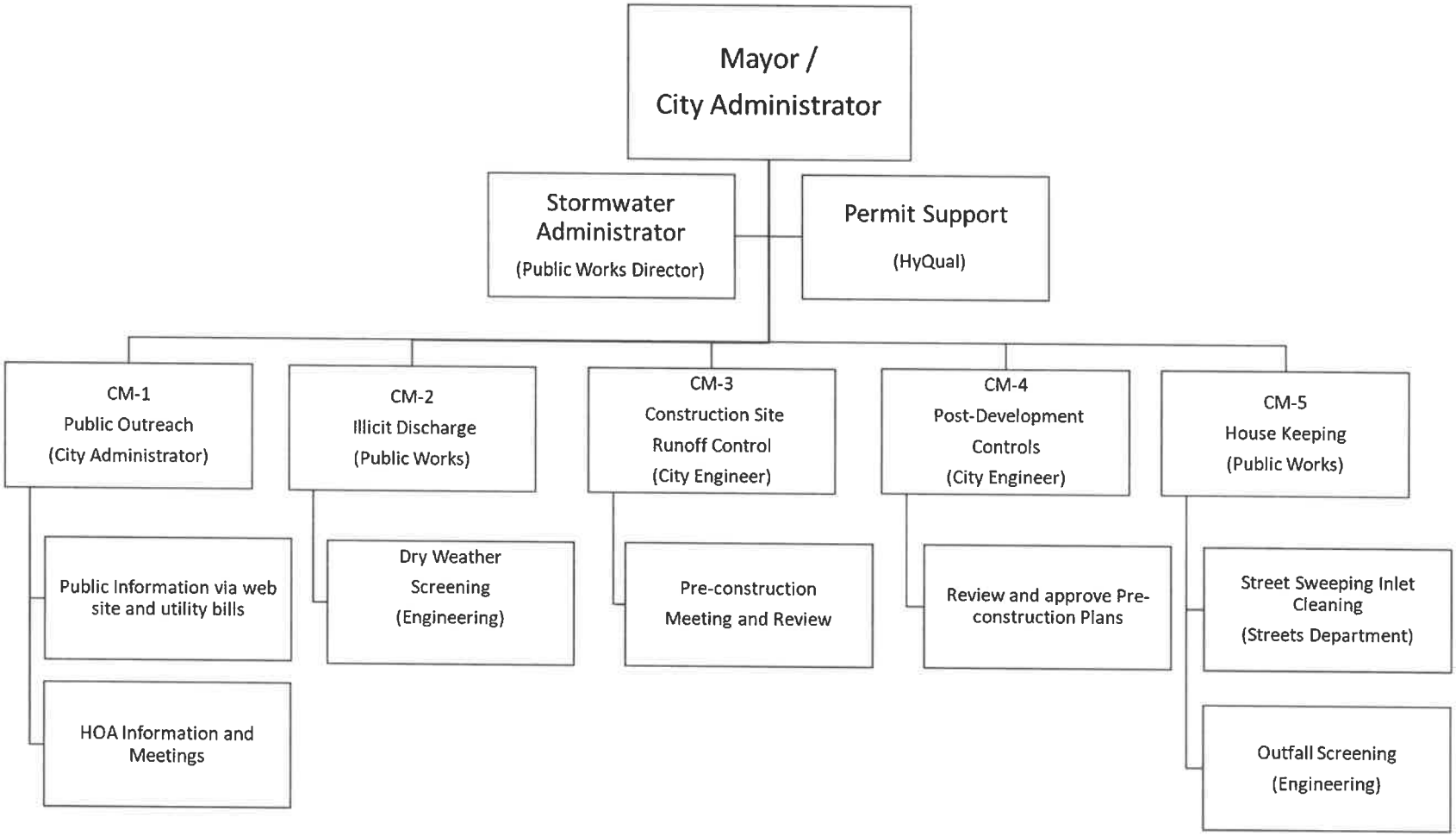

Figure 2 SWMP Organization Chart

1.2 Receiving Waters

The waterbodies identified in Table 2 receive storm water discharges from the Middleton's MS4. Note that the Mill Slough is also referred to as the North Middleton Drain upstream of the confluence with the Lawrence-Kennedy Drain, which is also referred to as the South Middleton Drain. Due to elevated levels of phosphorus in tributaries that discharge to the Boise River, a tributary phosphorus target of 0.07 mg/L was established by Idaho DEQ in the lower Boise River TMDL area.

Table 2 Receiving Water Impairments

Waterbody/Assessment Unit/Description	Impairment Pollutants
Willow Creek	Sediment/Siltation
ID17050114SW015_03	
Willow Creek - 3rd order	
Mill Slough	Temperature
ID17050114SW005_02	
Mill Slough and East Hartley Gulch	
Boise River	Fecal Coliform;
ID17050114SW005_06b	Sedimentation/Siltation;
Boise R.-Middleton to Indian Creek	Total Phosphorus;
	Temperature

In much of the Middleton area, local shallow groundwater is relatively near the surface (e.g. 5 feet or less) and therefore can be considered a receiving water. Depending on the time of year, the surface waters can drain to the shallow groundwater, and groundwater can discharge to the surface waters, all of which discharge to the Boise River. Due to elevated levels of phosphorus in the shallow groundwater and its discharge to the Boise River, a phosphorus target of 0.07 mg/L was established by Idaho DEQ for the shallow groundwater in the Boise River TMDL area.

1.3 SWMP Information and Statistics

Middleton Contact Information

- Office location: 1103 West Main Street, Middleton, ID 83644
- Administrative office hours: 8:00am - 5:00pm Monday through Friday.
- Web page: https://middleton.id.gov/
- General Email: citmid @ middletoncity.com
- Phone: (208) 585.3133
- Fax: (208) 585.9601
- After Hours Phone: (208) 921.0029
- Police Department Non-Emergency: (208) 585.0008
- Emergency: 911

Middleton Statistics

- Population: 5,524 people based on the 2010 census
- Total area: 5.71 square miles according to the United States Census Bureau

1.4 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

The City of Middleton is responsible for implementation of the MS4 permit, and does not share and has not delegated implementation of one or more of the stormwater management control measures required by this Permit to another entity. Middleton currently has ordinances to control pollutant discharges into and from its MS4, and to comply with this Permit. (See Attachment: Middleton City Ordinances for Stormwater Management). However, Middleton has no authority over a number of irrigation canals and other agricultural facilities within the area of the MS4.

2 MAP OF THE SEPARATE STORM SEWER SYSTEM

A GIS map of the MS4 system and outfalls was prepared under the 2009 MS4 Permit and was updated regularly through 2019 (Figure 3). A list of the outfalls, last updated in 2019, is included in the Attachment: 2019 MS4 Outfalls Inventory List.

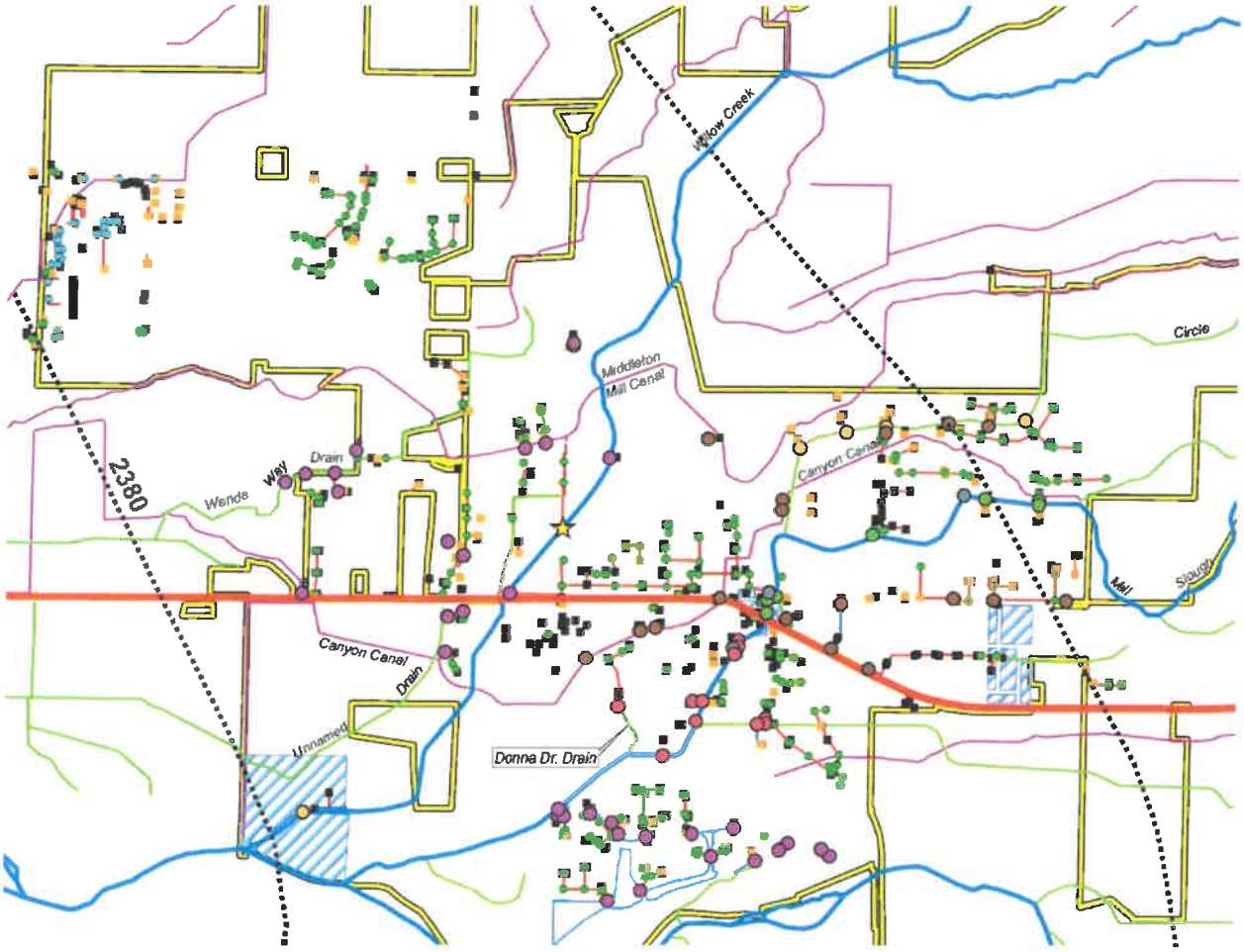

Figure 3 Map of MS4 outfalls prepared for the 2019 Annual Report by SPF Engineering.

The 2020 MS4 Permit requires that the MS4 Map and Outfall Inventory be updated and submitted as part of the Permit Renewal Application, which is to be submitted by April 3, 2025. During Year 2 (October 1, 2021 to September 30, 2022) the outfall map and inventory will be updated to include outfalls added since 2018.

3 TARGETING POLLUTANTS OF CONCERN

The pollutants of concern (PoC) for the lower Boise River watershed are sediment, bacteria and phosphorus. Water quality improvement plans that have been developed by the State of Idaho to reduce these pollutants are referred to as the Lower Boise River Total Maximum Daily Loads (TMDLs). Temperature is also identified as a source of pollution in the Mill Slough and the lower Boise River. These pollutants will be targeted by Alternative Control Measures (ACMs) and in the Monitoring and Assessment Plan to be developed in Year 2

4 LEGAL AUTHORITY AND ENFORCEMENT

Middleton currently has ordinances to control pollutant discharges into and from its MS4, which were enacted to comply with Middleton's previous NPDES MS4 Permit issued in 2009. (See Attachment: Middleton City Ordinance for Stormwater Management). As required in the new MS4 Permit Part 2.5.3, the Middleton must have legal authorities that address the six criteria listed below:

> 2.5.2.1 Prohibit and eliminate, through statute, ordinance, policy, permit, contract, court or administrative order, or other similar means, illicit discharges to the MS4;
>
> 2.5.2.2 Control, through statute, ordinance, policy, permit, contract, court or administrative order, or other similar means, the discharge to the MS4 of spills, dumping or disposal of materials other than stormwater, pursuant to Part 3.2.3 (Illicit Discharge Detection and Elimination –ordinance);
>
> 2.5.2.3 Control the discharge of stormwater and pollutants from land disturbance and development, both during the construction phase and after site stabilization has been achieved, consistent with Parts 3.3 (Construction Site Runoff Control Program) and 3.4 (Stormwater Management for Areas of New Development and Redevelopment);
>
> 2.5.2.4 Control through interagency agreements as necessary or appropriate, the contribution of pollutants from one MS4 to another interconnected MS4;
>
> 2.5.2.5 Require compliance with conditions in ordinances, permits, contracts, or orders; and
>
> 2.5.2.6 Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with these Permit conditions, including the prohibition of illicit discharges to the MS4.

No later than April 3, 2025, and to the extent allowable pursuant to authority granted Middleton under applicable Idaho law, the Permittee will develop and/or update (as needed) relevant ordinance or other regulatory mechanisms to meet all these criteria.

5 STORM WATER CONTROL MEASURES TO REDUCE POLLUTANTS

The following sections describe the City of Middleton's control measures (CMs), which is part of the program to reduce pollutants in the MS4 discharges to the maximum extent practicable, as required by Permit Part 3 of the MS4 Permit. Each section below summarizes the current actions as implemented for the previous (2009) MS4 Permit, the mandatory program actions required under this permit, and a list of actions that will begin in Year 2.

CM-1 Public Education and Outreach on Stormwater Impacts

To educate and involve members of the public to learn about pollutants in storm water and similarly significant issues, Middleton conducts an ongoing education, outreach, and public involvement program. Beginning October 1, 2021, the City will begin implementing additional Public Education and Outreach control measure components including:

- Target Audience(s) and Topics
- Assessment
- Tracking
- Education on SWMP Control Measures

Ongoing Actions

Under the 2009 permit, the City implemented the following public education and outreach activities:

- Prepared and published information to educate the public about stormwater pollution. This information includes community actions citizens can take to reduce pollution, providing maps for residents on inlet locations, listing things residents can do to help improve water quality discharges, relevant City stormwater ordinances, and organized activities aimed at reducing stormwater pollution. This information is published in City water bill inserts and on the City's website (See Attachment: Public Outreach)
- Prepared and provided information for residents about upcoming changes in the EPA and NPDES permits for Middleton, and the City's requirements under the IPDES MS4 permit.
- Permanently marked stormwater grates to inform the public they drain into the storm drain system, and then to either the Boise River, a tributary, or groundwater
- Provided pet clean up stations at parks and other areas along with information explaining why cleanup is important
- Presented stormwater quality and other water quality information at City Council meetings, (or distributed for review and comment)
- Published education and outreach materials on City web page.

Additionally, the City implemented actions to encourage public involvement and participation by:

- Adheres to the public notification requirements of Idaho Code and Idaho Administrative Rules when implementing public involvement and public participation
- Encouraging residents to keep storm drain inlets clear of debris; be mindful of snow storage on sidewalks and driveways; and keep chemical and other contaminants out of the storm drain system.

- Conducting the City-wide leaf rake-up event that began in November of 2016. During these events residents are encouraged to assist neighbors in raking leaves.

Additional Actions Planned over Term of Permit

By October 1 of 2021, the City will begin implementing additional Public Education and Outreach control measure components including:

- Target Audience(s) and Topics: Select at least one audience and focus its efforts on conveying relevant messages
- Distribute and/or offer at least eight (8) educational messages or activities over the permit term to selected audience(s)
- Assess, and track, activities to gauge the audience's understanding of the relevant messages and adoption of appropriate behaviors
- Target specific educational material to the construction/engineering/design community regarding construction site runoff control and permanent storm water controls.
- Take additional steps (as needed) to ensure compliance with applicable State and local public notice requirements when implementing any public involvement activities.

Planned Actions for Permit Year 2 (Oct 2021 through Sep 2022)

In addition to previous implemented (ongoing) actions, The City plans additional focus on residents of subdivisions (e,g., HOAs) that are required to manage stormwater outfalls. Action will include:

a) Selecting at least one audience and focus its efforts on conveying relevant messages
b) Twice per year providing education information by meeting with residents or sending information including information on new SWMP Control Measures
c) Preparing a questionnaire to assess changes in understanding of requirements; compile and summarize results
d) Once per year conducting a meeting with construction/engineering/design community to get information and obtain feedback; review changes to stormwater policy and requirements including information on new SWMP Control Measures; compile and summarize results
e) Reviewing public meeting requirements and document any changes to procedures that the City will implement.

CM-2 Illicit Discharge Detection and Elimination

Ongoing Actions

To prohibit and eliminate illicit discharges to the MS4, Middleton:

a) Enforces an ordinance that effectively prohibits illicit discharges into the MS4 (see Attachment: Middleton City 2021 Ordinances Stormwater Management)
b) Responds to complaints or reports of illicit discharges from the public (see Attachment: 2021 Stormwater System Complaint Summary)
c) Keeps track of complaints/reports, and any response actions taken
d) Is prepared to respond to spills to the MS4.

Additional Actions Planned over Term of Permit

In addition to the ongoing actions listed above, Middleton plans to fully implement the following actions over the term of the permit (prior to April 2, 2025):

a) Conduct MS4 outfall screening inspections during dry weather (of all outfall)
b) Follows-up to determine the source of a recurring illicit discharge identified as a result of complaints, or of the dry weather screening investigations within thirty (30) days
c) Take appropriate action to address the source of an ongoing illicit discharge
d) Coordinate with other entities for the proper disposal of used oil and toxic materials
e) Ensure the appropriate city staff are trained to conduct these activities.

Planned Actions for Permit Year 2 (Oct 2021 through Sep 2022)

a) Training of staff to conduct dry weather outfall screening:

Training will include a review of screening objectives and screening of 3 outfalls.

b) Conduct visual dry weather outfall screening for minimum of 50 outfalls:

This survey will include a visual inspection to determine if:

- Location and description are accurate
- Outfall appears to be functioning as intended
- Additional maintenance is needed
- Water is standing or flowing, or soils are wet.

A standardized log will be used for the screening (See Attachment: Dry Weather Screening Log) and a photograph will be taken at the time of the survey. The log and photograph will be sent to the City Engineer within 24 hours. The results will be reviewed within 48 hours. Proposed future actions such as cleaning, sampling and reconstruction will be added to a Prioritized Action List for additional actions as needed. All information will be complied and summarized for annual reporting by the City Engineer.

CM-3 Construction Site Stormwater Runoff Control

This control measure is intended to control the discharge of storm water and pollutants from land disturbance and development during construction activities.

Ongoing Actions

To control the discharge of storm water and pollutants from land disturbance during the construction phase, the City has an ongoing program that requires runoff control from construction sites. This includes compliance with the requirements of the Construction General Permit, and local requirements for all projects, including those administered by the City.

Components of the program include:

- Middleton currently has ordinances to control pollutant discharges into and from its MS4 and to comply with this Permit. (See Attachment: Middleton City Ordinance for Stormwater Management)

- Discharge of storm water from construction sites is generally prohibited into the MS4 (per ordinance 7-7-5D and 7-7-5E). If a property is permitted to discharge storm water off-site (e.g., into the MS4), the responsible party must mitigate as applicable and as needed.

- For new development and redevelopment construction projects, the City requires storm water management plans and comprehensive drainage plans to be submitted along with development/construction plans and/or building plans. The plans are submitted to the City's P&Z Department and City Engineer as part of the building permit application package or the plat application, and must be reviewed and approved prior to construction. Additionally a SWPPP, submitted to EPA, must be posted onsite and fully implemented

- BMP installation and use guidelines for required erosion/sediment/waste management during all phases of construction site activity are specified by the City (per Middleton Ordinance 7-7-6). This requires use of the Idaho Department of Environmental Quality and common engineering practice, which establishes standards and guidelines for implementing BMPs and stormwater management plans)

- Projects disturbing one acre or greater are required to submit a Storm Water Pollution Prevention Plan (SWPPP) and file a Notice of Intent with the EPA prior to construction activities

- Stormwater from a public right-of-way requires the City review and approval of a Stormwater Management Plan

- Inspection of BMPs and waste control measures established in the SWPPP during project construction. This includes visual inspection of BMPs and testing of stormwater facilities per ISPWC by the City or City Engineer; and enforcement of erosion, sediment, and waste management requirements as needed.

Additional Actions Planned over Term of Permit

In addition to the ongoing actions listed above, Middleton plans to fully implement the following actions over the term of the permit (prior to April 3, 2025):

- Review preconstruction site plans for construction sites that will result in land disturbance of one (1) or more acres
- Establish an outfall inspection prioritization plan (per CM-2)
- Establish an enforcement response policy,
- Ensure that city staff are trained to conduct these activities.

Planned Actions for Permit Year 2 (Oct 2021 through Sep 2022)

a) Develop a checklist or similar process to consider and address potential water quality impacts from the site activities, which will be used during review of preconstruction site plans.

CM-4 Post-construction Stormwater Management for New Development and Redevelopment

This control measure is intended to control the discharge of storm water and pollutants from land disturbance and development after construction of a project is completed.

Ongoing Actions

As initiated under the 2009 MS4 Permit, Middleton has implemented the following policy and actions to manage development:

- Adopted an ordinance specific to storm water runoff, storm water quality, storm water management plans, and post construction runoff from new development and redevelopment projects. The ordinance strengthened, revised, and amended requirements intended to meet the water quality objectives of the City and the community. Additionally, the City's current development policy does not allow new development to discharge storm water to the MS4 in excess of predevelopment flows.
- Provides onsite observation of the installation of storm water facilities to ensure installation meets approved plans and specifications. The contractor or developer, as a condition of the City's approval, must warranty the storm water infrastructure for one year. At the end of one year, the City performs an on-site inspection to identify BMPs needing remediation or other items that may affect long-term maintenance and operation of storm water controls prior to the City releasing warranty obligations of the development.
- Compiled and updated a list of construction activities and map showing type of system (Attachment: Stormwater Management Map and New Construction List)
- Responds to residents' complaints regarding construction or operation of stormwater system (see Attachment: 2021 Stormwater System Complaint Summary)

Actions Planned over Term of Permit

In addition to the Ongoing Actions listed above, Middleton plans to fully implement the following actions over the term of the permit (prior to April 2, 2025):

- Require the installation and long-term maintenance of permanent storm water controls at new development and redevelopment project sites that result from land disturbance of 1 acre or more.
- Require permanent storm water controls that are sufficient to retain onsite the runoff volume produced from a 24-hour, 95th percentile storm event; or sufficient to provide the level of

pollutant removal greater than the pollutant removal expected by using onsite retention of runoff volume produced from a 24 hour, 95th percentile storm event.

- Alternatively, storm water treatment requirements must be required that can attain an equal or greater level of water quality benefits as onsite retention of storm water discharges from new development and redevelopment sites
- Other alternatives may be allowed for projects to meet the onsite retention requirement at a particular project site based on technical infeasibility, and/or site constraints.

- Establish proper installation and use guidelines for permanent storm water controls – the City may establish different types of controls for different types and/or sizes of site development activity.
- At a minimum, review and approve preconstruction plans for permanent storm water controls at new development and redevelopment sites that result from land disturbance of one (1) or more acres
- Periodically inspect "high priority" permanent storm water controls for proper installation and operation, using an inspection prioritization system
  Maintain an inspection prioritization plan and enforcement response policy
- Maintain a database inventory to track and manage the operational condition of permanent storm water controls
- Ensure the appropriate staff are trained to conduct these activities.

Planned Actions for Permit Year 2 (Oct 2021 through Sep 2022)

a) Revise procedures for the review and approval of preconstruction plans for permanent storm water controls at new development and redevelopment sites that result from land disturbance of one (1) or more acres
b) Establish a database inventory to track and manage the operational condition of permanent storm water controls.

CM-5 Pollution Prevention/Good Housekeeping for MS4 Operations

This control measure is intended to help control stormwater runoff and limit potential water quality impacts from the permitted facilities by improving operations and maintenance of the MS4 and its facilities, through use of prudent pollution prevention and good housekeeping measures.

Ongoing Actions

As summarized in the 2019 Annual Report, the measures previously implemented by the City include:

- Conducted annual Water Quality BMP Training for public works maintenance staff (see Attachment: 2019 Stormwater Training)
- The City prepared a SWPPP for maintenance facilities (See Attachment SWPPP for City Maintenance Facilities)
- Purchased a vacuum truck in 2014 which is utilized to clean inlets and sediment traps in post construction areas

- Completed the construction of a concrete pad for the City's sand storage area in 2015
- In August 2019 the City purchased the following spill containment equipment and storage lockers:
    - Chemical storage containment drum pallets for chlorine containment
    - Flammable storage locker for paint
    - Flammable storage locker for gas
    - Containment locker for LP gas
    - Portable spill containment clean up kits for 5 vehicles and one for in shop.

Additional Actions Planned over Term of Permit

In addition to the Ongoing Actions listed above, Middleton plans to fully implement the following actions over the term of the permit (prior to April 2, 2025):

- Maintain a current Map of the MS4, including an inventory of all Outfalls and other features;
- Inspect catch basins and inlets at least once every five years, using an inspection prioritization plan
- Maintain or clean catch basins based on those inspections
- If applicable, maintain Operation and Maintenance (O&M) Procedures for streets, roads, highways and parking lots, including:
    - If applicable, inventory and manage street/road maintenance materials
    - If applicable, implement a Street, Road, Highway and Parking Lot Sweeping Management Plan
- Maintain O&M Procedures for other municipal areas and activities to protect water quality
- Use best practices to reduce the discharge of pollutants to the MS4 associated with the Permittee's application and storage of pesticides, herbicides and fertilizers
- Develop site-specific Pollution Prevention Plans for Permittee-owned facilities
- Work cooperatively with other entities to control litter on a regular basis
- Ensure the appropriate staff are trained to conduct these activities.

Planned Actions for Permit Year 2 (Oct 2021 through Sep 2022)

Actions planned for Year 2

a) Develop and implement a catch basins and inlets inspection prioritization plan
b) Inspect 25% of catch basins and inlets per inspection prioritization plan
c) Street sweep all areas that discharge to MS4; if an area is not swept, identify and develop a list for future action.

6 UNIQUE PROVISIONS SPECIFIC TO MIDDLETON

6.1 Annual Compliance Evaluation

Annual Reports will be submitted to DEQ and EPA. This SWMP document and the Annual Report will posted on the Permittee's website concurrent with the submittal of the Annual Report.

6.2 Alternative Control Measure Requests

An alternative control measures (ACM) request will be prepared during Permit Year 2 and submitted by October 1, 2022. It will include at least 2 proposed alternative control measures (ACM) and a Monitoring and Assessment (MA) Plan.

The ACM will define at least two (2) activities that are designed to reduce impairment pollutants from the locally impaired waters (Table 1), Willow Creek and Mill Slough, to the Boise River. The MA Plan will be designed to monitor and assess conditions in these waterbodies.

Examples of possible ACMs include:

1) a plan to assess impacts of existing stormwater BMPs and residential land uses on the local receiving waters, identify measures that can be implemented to reduce phosphorus loads from BMPs, and a public involvement program to inform area residents of these impacts and the proposed measures.

2) a plan to assess impacts of other local land activities on local receiving waters, identify measures that can be implemented to reduce phosphorus loads, and a public involvement program to inform area residents of these impacts and the measures.

3) a plan to identify and reduce dry weather discharges and a public involvement program to inform area residents of these impacts and the proposed measures.

The ACM Request will include:

- A detailed written discussion identifying the original required minimum SWMP control measure, or control measure component, that is addressed by the Permittee's submittal, and the reasons, rationale, citations, and/or references sufficient to demonstrate that the alternative document, plan, or program meets or exceeds the requirements of the original SWMP control measure, or control measure component, it is meant to replace
- A detailed schedule for enacting the ACM in its jurisdiction prior to the permit expiration date
- A description of any local public notice or public engagement process, including relevant results of public engagement that were conducted prior to ACM submittal.

Middleton's Monitoring and Assessment (MA) plan will be submitted by October 1, 2022, with the ACM Request. The MA plan will focus on quantifying loadings to the Boise River, and quantifying wet and dry loadings from MS4 outfalls. It is expected to include regular monitoring of Willow Creek and Mill Slough, and the Boise River, and will identify MS4 outfalls with frequent dry weather discharges that have elevated levels of pollutants of concern.

6.3 Adaptive Management Actions

Adaptive Management Actions (AMA) are required if a discharge from the Permittee's MS4 is causing or contributing to a known or likely excursion above the Idaho Water Quality Standards, and EPA and DEQ determines an adaptive management response is needed. No AMA were undertaken by the City in Year 1 (October 1 2020 to September 30, 2021).

7 Responses to Spills and Discharges

***** Spills to Report Immediately**

"The **Permittee must respond to**, contain, and clean up **any spill** of sewage and other material that may discharge into the MS4 from any source (including private laterals and/or failing septic systems)...."

The Permittee ".... must **immediately report all spills of hazardous material, deleterious material, or petroleum products** which may impact waters [*ground and surface*] of the State..."

- Call 911 if immediate assistance is required to control, contain or clean up the spill.
- If no assistance is needed in cleaning up the spill, contact the Idaho Falls Region DEQ office during normal working hours at 208-528-2650 or Idaho State Communications Center after normal working hours.
- If the spilled volume is above federal reportable quantities, contact the National Response Center.

*>> **Spills*** include: *any "newly" observed flow of water, sewage, liquids or materials to the Stormwater Systems.*

*>>**MS4 Stormwater system*** includes: "...roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains..."

*>>**Deleterious Materials*** means any nontoxic substance which may cause the tainting of edible species of fish, taste and odors in drinking water supplies, or the reduction of the usability of water without causing physical injury to water users or aquatic and terrestrial organ.

***** Noncompliance to be Reported within 24 Hours**

Middleton is not authorized to discharge non-stormwater from the MS4 except under conditions specified in the MS4 Permit (See Attachment Illicit and Non-Stormwater Discharges).

The permit requires reporting within 24-hours any discharge to or from the MS4 that "**may endanger human health or the environment".**

Within 24 hours from the time the City becomes aware of a potential noncompliance Middleton will call EPA at (206) 553-1846. EPA will determine if the discharge requires further actions.

List of Attachments

Attachment: 2019 Spill Report

Attachment: Illicit and Non-Stormwater Discharges

Attachment: Middleton City 2021 Ordinances for Stormwater Management

Attachment: 2021 Stormwater System Complaint Summary

Attachment: Year 1 Public Outreach

Attachment: MS4 Dry Weather Outfall Screening Log

Attachment: 2019 MS4 Outfall Inventory List

Attachment: 2021 Stormwater Management Map and New Construction List

Attachment: 2019 Stormwater Training

Attachment: 2021 Stormwater System Complaint Summary

Attachment: 2014 SWPPP for City Maintenance Facilities

Attachment: Middleton Supplement to the ISPWC

Note: Attachments are available as a separated document provided on the City's web page at https://middleton.id.gov/Departments/Public-Works

Middleton Stormwater Management Program

IPDES MS4 Permit No IDS-028100

Year 1: October 1, 2020 to September 2021

Attachments

SWMP Attachments

Attachment: 2019 Spill Report 2
Attachment: Illicit and Non-Stormwater Discharges 3
Attachment: Middleton City 2021 Ordinances for Stormwater Management 6
Attachment: 2021 Stormwater Complaint Summary 10
Attachment: Year 1 Public Outreach 11
Attachment: MS4 Dry Weather Outfall Screening Log 13
Attachment: 2019 MS4 Outfall Inventory List 14
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Attachment: 2019 Stormwater Training 20
Attachment: 2014 SWPPP for City Maintenance Facilities 22
Attachment: Middleton Supplement to the ISPWC 23

Attachment: 2019 Spill Report

Example of Middleton Illicit Discharge Inspection Report submitted under Middleton's 2009 MS4 Permit:

PUBLIC WORKS DEPARTMENT

ILLICIT DISHARGE INSPECTION REPORT

Revision: 5 23 2019

CITY OF MIDDLETON

P O Box 487, 1103 W. Main St., Middleton, ID 83644
208-585-3133, Fax: 208-585-9601
www.middleton.id.gov

Date: 4/22/2019

Investigator: CAB

Lab Used: ALI

Description of Alleged Illicit Discharge: Ponding water was discovered at 125 Whiffin ln in a dry distribution ditch by City of Middleton employee Jeremy Hammond during the first week of April 2019.

Discharge Address/Location: 125 Whiffin ln. Middleton, ID 83644

Occupant:

Name	Phone	Email
125 Whiffin ln	Middleton, ID	83644
Address	City, State	Zip

Landowner:

Name	Phone	Email
125 Whiffin ln	Middleton, ID	83644
Address	City, State	Zip

Zoning: Res **Floodplain** (y/n): N **Connected City Utilities** (y/n): N

Middleton City Code (MCC) Possibly Violated:

- ☐ Illicit Connection (MCC 7-2-1(B), 7-2-4(A))
- ☐ Unauthorized access / tampering (MCC 7-2-1(C))
- ☐ Disapproved Materials or workmanship (MCC 7-2-4(B))
- ☐ Failure to maintain stormwater facility (MCC 7-7-4 (C))
- ☒ Illicit Discharge (MCC 7-7-5(A) stormwater system, 8-1-19 sewer system)
- ☐ Improper use of system (MCC 8-1-20)

Chad Beverage _____

Printed Name Signature

Note: For full investigation report contact the Public Works Department or City Engineer

Attachment: Illicit and Non-Stormwater Discharges

Selected MS4 Permit sections related to Illicit (and Non-Stormwater) Discharges are provided below:

As stated in MS4 Permit Part 3.2: *An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater. Any exceptions are conditional as identified in Part 2.4 (Non-stormwater Discharges).*

2.1 Compliance with Water Quality Standards

If the Permittee complies with all the terms and conditions of this Permit, it is presumed that the Permittee is not causing or contributing to an excursion above the applicable Idaho Water Quality Standards.

If monitoring or other information shows that a pollutant in the Permittee's MS4 discharge is causing or contributing to an excursion above the applicable Idaho Water Quality Standard, the Permittee must comply with the notification and other requirements outlined in Part 5 (Required Response to Excursions of Idaho Water Quality Standards), except where a pollutant of concern in the MS4 discharge is subject to the requirements of Part 4 (Special Conditions for Discharges to Impaired Waters) or is the result of an illicit discharge and subject to a Permittee response as outlined in Part 3.2.6 (Follow-up).

2.4 Non-Stormwater Discharges

The Permittee is not authorized to discharge non-stormwater from the MS4, except where such discharges satisfy one of the following conditions:

2.4.1 The non-stormwater discharge is in compliance with a separate NPDES permit; or

2.4.2 The discharge originates from emergency firefighting activities; or

2.4.3 The non-stormwater discharge results from a spill, and/or is the result of an unusual and severe weather event where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge; or

2.4.4 The non-stormwater discharge consists of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to prevent and minimize the impact of such discharges; or

2.4.5 The non-stormwater discharge falls under one of the allowable categories listed in Part 2.4.5.1 below, and the discharge is not a source of pollution to waters of the United States as defined in Part 2.4.5.2.

2.4.5.1 Categories of Allowable Non-Stormwater Discharges include:

2.4.5.1.1 Uncontaminated water line flushing;

2.4.5.1.2 Landscape irrigation (provided all pesticides, herbicides and fertilizer have been applied in accordance with manufacturer's instructions);

2.4.5.1.3 Diverted stream flows;

2.4.5.1.4 Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)) to separate storm sewers;

2.4.5.1.5 Rising ground waters;

2.4.5.1.6 Uncontaminated pumped ground water;

2.4.5.1.7 Discharges from potable water sources;

2.4.5.1.8 Foundation drains and footing drains (where flows are not contaminated with process materials such as solvents);

2.4.5.1.9 Uncontaminated air conditioning or compressor condensate;

2.4.5.1.10 Irrigation water;

2.4.5.1.11 Springs;

2.4.5.1.12 Water from crawlspace pumps;

2.4.5.1.13 Lawn watering;

2.4.5.1.14 Individual residential car washing;

2.4.5.1.15 Flows from riparian habitats and wetlands;

2.4.5.1.16 Dechlorinated swimming pool discharges;

2.4.5.1.17 Routine external building washdown which does not use detergents;

2.4.5.1.18 Street and pavement washwaters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);

2.4.5.1.19 Fire hydrant flushing.

2.4.5.2 Sources of Pollution to Waters of the United States

A discharge is considered a source of pollution to waters of the United States if it contains:

2.4.5.2.1 Hazardous materials in concentrations found to be of public health significance or to impair beneficial uses in receiving waters. ("Hazardous materials" is defined in IDAPA 58.01.02.010.47 and Part 9 of this Permit); and/or

2.4.5.2.2 Toxic substances in concentrations that impair designated beneficial uses in receiving waters. ("Toxic substances" is defined at IDAPA 58.01.02.010.102 and Part 9 of this Permit); and/or

2.4.5.2.3 Deleterious materials in concentrations that impair designated beneficial uses in receiving waters. ("Deleterious materials" is defined at IDAPA 58.01.02.010.21 and Part 9 of this Permit); and/or

2.4.5.2.4 Radioactive materials or radioactivity at levels exceeding the values listed in 10 CFR § 20 in receiving waters; and/or

2.4.5.2.5 Floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or in concentrations that may impair designated beneficial uses in receiving waters; and/or

2.4.5.2.6 Excessive nutrients that can cause visible slime growths or other nuisance aquatic growths that impair designated beneficial uses in receiving waters; and/or

2.4.5.2.7 Oxygen-demanding materials in concentrations that would result in anaerobic water conditions in receiving waters; and/or

2.4.5.2.8 Sediment above quantities specified in IDAPA 58.01.02.250.02.e or in the absence of specific sediment criteria, above quantities that impair beneficial uses in receiving waters; and/or

2.4.5.2.9 Material in concentrations that exceed applicable natural background conditions in receiving waters (IDAPA 58.01.02.200. 09). Temperature levels may be increased above natural background conditions when allowed under IDAPA 58.01.02.401.

Attachment: Middleton City 2021 Ordinances for Stormwater Management
Downloaded 9-8-21

CHAPTER 7 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

SECTION:

7-7-1: Applicability And Regulatory Consistency
7-7-2: Stormwater Management Fee
7-7-3: Delinquent Bills
7-7-4: Stormwater Management Plans And Comprehensive Drainage Plans
7-7-5: Discharge Regulations And Requirements
7-7-6: Inspection And Enforcement
7-7-7: Violations Deemed A Public Nuisance

7-7-1: APPLICABILITY AND REGULATORY CONSISTENCY:

A. Applicability: This chapter shall apply to all activities which may affect permanent and temporary stormwater systems.

B. Regulatory Consistency: This chapter shall be construed to assure consistency with the requirements of the federal clean water act and acts amendatory thereof or supplementary thereto, applicable implementing regulations, and the municipal NPDES permit and any amendments, revisions or reissuance thereof. No permit or approval issued pursuant to this chapter shall relieve a person of the responsibility to secure permits and approvals required for activities regulated by any other applicable rule, code, act, permit or ordinance. (Ord. 553, 3-18-2015)

7-7-2: STORMWATER MANAGEMENT FEE:

A stormwater management fee, set from time to time by the city council, is imposed upon all improved premises or properties that affect the stormwater system or are subject to the city's municipal NPDES permit.

The city council may establish credits to the fee established by this chapter. (Ord. 553, 3-18-2015)

7-7-3: DELINQUENT BILLS:

A. When Due And Payable; Charges Questioned: All fees become due and payable on the twentieth day of each month by the owner or the person responsible for the same at the office of the clerk. If the responsible party feels there is a discrepancy in the fee charged, the user may appeal to the city clerk for an adjustment up to the twentieth day of the month.

B. When Delinquent: If the fee is not paid by the twentieth of the month late fees shall be assessed. If the bill is not paid in full by the twenty sixth, a delinquent charge, as established by the council, shall be assessed.

C. Lien: In addition to other civil and criminal remedies as provided in this chapter, failure to pay charges and additional penalties within the prescribed time lines shall result in the placement of a lien against such property in favor of the city, and shall be recoverable, together with all costs as provided by law, for the foreclosure of liens. (Ord. 553, 3-18-2015)

7-7-4: STORMWATER MANAGEMENT PLANS AND COMPREHENSIVE DRAINAGE PLANS:

A. Requirements: To minimize the discharge and transport of pollutants to storm drains and prevent the deterioration of water quality, certain new developments and redevelopment projects will be required to submit for approval a stormwater management plan or a comprehensive drainage plan to control the quality, volume and rate of stormwater runoff. The Idaho department of environmental quality and common engineering practice establishes standards and guidelines for implementing BMPs and stormwater management plans and is incorporated by reference and made part of this chapter.

1. Stormwater management plans or comprehensive drainage plans are required for industrial, commercial, and institutional developments which require a building permit and all residential developments, as well as subdivision projects that have private access, which also require a building permit.

2. Redevelopment projects may be required to submit complete stormwater management plans or operation and maintenance plans if required by the city of Middleton.

3. Stormwater management plans and comprehensive drainage plans shall be developed in accordance with commonly accepted engineering practices and shall be stamped by a licensed professional engineer. All stormwater shall be managed on site unless an alternate discharge plan is approved by the city.

B. Submission And Review Process:

1. Stormwater management plans and comprehensive drainage plans shall be submitted at the time construction plans and/or building plans are submitted. The plans shall be submitted to the city as part of the building permit or plat application. In those instances where stormwater management plans and comprehensive drainage plans are required, but no building permit is required, said plans shall be submitted as part of the development plan. The plans shall be reviewed by the city for their compliance with local, state and federal rules and regulations.

a. All stormwater shall be managed to support water quality. No plan shall be approved that increases the level of stormwater runoff from impervious areas.

b. No development or use of land which requires a stormwater management plan or comprehensive drainage plan as per this section shall be permitted without the city approval of such plan.

c. No building permit or final certificate of occupancy shall be issued without an approved stormwater management plan if required under this section. Before final occupancy is granted, the design engineer shall certify the stormwater system was constructed in substantial conformance with the approved plans, and best management practices are in place and functional.

2. The city shall be notified of the commencement of any development covered by a comprehensive drainage plan and the owner shall be required to provide engineering

certification that the development is in conformity with the previously approved comprehensive drainage plan.

3. All modifications to comprehensive drainage plans shall be submitted to the city for approval.

4. Approval of the stormwater management plan or comprehensive drainage plan does not relieve the owner or responsible party from the duty to ensure the systems and their safety measures function as designed.

5. Approval may be suspended or revoked at any time if conditions are not as stated or shown in the approved application or implementation of the plan is not proceeding in the approved manner.

6. Approval of any plans by the city shall not create a liability on the part of or cause of action against the city.

C. Maintenance Of Stormwater Facilities:

1. Stormwater facilities shall be maintained by the facility owner.

2. Disposal of waste from maintenance of facilities shall be conducted in accordance with applicable federal, state and local laws and regulations.

3. Records of installation and maintenance and repair shall be retained by the owner for a period of five (5) years and shall be made available to the city upon request. (Ord. 587, 1-18-2017)

7-7-5: DISCHARGE REGULATIONS AND REQUIREMENTS:

A. Violation: Any illicit discharge (meaning the direct or indirect pumping or pouring of a pollutant) to any storm drain, including both the MS4 and private storm drains, is a violation of this chapter unless exempted by other provisions.

B. Parking Lots And Similar Structures: Persons owning or operating a paved parking lot, gas station pavement, paved private road, or similar structure or conducting routine building wash downs, shall clean and maintain those structures consistent with the Idaho department of environmental quality disposal best management practices. Direct discharge to a storm drain is not allowed.

C. Construction Sites: Any person performing construction work in the city shall comply with the provisions of this chapter.

D. Discharge Pursuant To NPDES Permit: The prohibition of discharges shall not apply to any discharge regulated under an NPDES permit issued and administered by the EPA, provided that the discharger is in full compliance with all requirements of the permit and other applicable laws or regulations.

E. Compliance With NPDES Permits: Any discharge that would cause a violation of a municipal NPDES permit and any amendments, revisions or reissuance thereof, either separately considered or when combined with other discharges, is prohibited.

All persons in charge of a facility are to comply with applicable federal and state laws including facility personnel, training, training record maintenance, training records, maintenance of notification procedures, and implementation of notification requirements for spill response to assure containment, cleanup, and immediate notification to the city of Middleton.

Individuals responsible for spills are to comply with applicable state and federal notification requirements to assure containment, cleanup, and immediate notification to the city of Middleton. (Ord. 553, 3-18-2015)

7-7-6: INSPECTION AND ENFORCEMENT:

A. Inspections: Stormwater systems shall be inspected by the city during and after construction to assure consistency with the approved stormwater management plan.

B. Testing And Monitoring: Whenever the city determines that any person engaged in any activity and/or owning or operating any facility may cause or contribute to an illicit discharge to the stormwater system, the city may, by written notice, order that such person undertake such monitoring activities and/or analyses and furnish such reports as the city may recommend. The written notice shall be served either in person or by certified or registered mail, return receipt requested, and shall set forth the basis for such order and shall particularly describe the monitoring activities and/or analyses and reports required. The burden to be borne by the owner or operator, including costs of these activities, analyses and reports, shall bear a reasonable relationship to the need for the monitoring, analyses and reports and the benefits to be obtained. The recipient of such order shall undertake and provide the monitoring, analyses and reports within the time frames set forth in the order.

C. Disclaimer Of Liability: The degree of protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific, engineering and other relevant technical considerations. The standards set forth herein are minimum standards and this chapter does not imply that compliance will ensure that there will be no unauthorized discharge of pollutants into the waters of the United States. This chapter shall not create liability on the part of the city, any agent or employee thereof for any damages that result from reliance on this chapter or any administrative decision lawfully made thereunder. (Ord. 553, 3-18-2015)

7-7-7: VIOLATIONS DEEMED A PUBLIC NUISANCE:

Any condition caused or permitted to exist in violation of any of the provisions of this chapter shall be considered a public nuisance and a threat to the public health, safety, and welfare of the residents of the city of Middleton. (Ord. 553, 3-18-2015)

Attachment: 2021 Stormwater Complaint Summary

November 18, 2021

City of Middleton - storm water complaint

Location: Western Pines Subdivision – Scotch Pine Drive. Conveyance swale located on

1. East boundary of Lot 1 Block 2
2. East boundary of Lot 6 Block 2.

COMPLAINT: Todd and Angela Ognibene, 1973 Scotch Pine Drive, Middleton Idaho. Emailed and called the City to report standing water in the "canal", problems with the builder/developer regarding damage to the area, and the homeowners proposal to pipe the water from the drop inlet to the pond on Lot 6. Please see attached email detailing the complaint.

BACKGROUND:

East boundary of Lot 1 Block 2:

A. The swale was intended to clean and convey storm water from the drop inlet in Scotch Pine Drive to the pond/irrigation impoundment on Lot 6. The swale was not fully developed during construction of the subdivision because the developer told the city the turf could not be established until the pressurized irrigation system was functional. After the irrigation system was functional the swale construction was not completed and the required grass/turf was not installed by the developer.
B. Lot 1 Block 2 and Lot 2 Block 2 were filled significantly to meet the flood plain permit requirements. During the placement of fill on both lots, the swale (no grass) was damaged and fill material/pitrun is in the swale area from slope instability and material movement by contractors/builders.

CITY ACTION:

The City contacted the developer/builder Tim Kristovich and informed him of the problem with the swale.

The City responded to Ognibene to contact Tim Kristovich and demand he mitigate the damage to the swale, regrade the area, and establish turf per the approved construction drawings.

Attachment: Year 1 Public Outreach

General Public Outreach Flyer
Publicly posted in the fall of 2021.

Web Site for Annual Reports and SWMP

Annual reports and other stormwater documents will be uploaded to website. https://middleton.id.gov

City Website Posting

The following is an example posting:

How to Report an Illicit Discharge

Citizens can report an illicit discharge and/or illegal dumping to the City storm drain by sending an email to citmid@middletoncity.com. City contact information is also available on the Web at: https://middleton.id.gov/Contacts

Why do We Need to Identify and Report Illicit Discharges?

The National Pollutant Discharge Elimination System (NPDES) permit program was created in 1972 by the Clean Water Act (CWA) and helps address water pollution by regulating sources of pollution to waters of the United States. This permit program is now administered by Idaho Department of Environmental Quality as Idaho Pollutant Discharge Elimination System (IPDES). The City of Middleton is a Municipal Separate Storm Sewer System (MS4) permitted under Phase II of the NPDES IPDES program. In order to comply with our permit, the City must establish regulations prohibiting illicit discharges into the MS4 and provide sufficient means to monitor and enforce local discharge regulations.

What Types of Things Are Not Allowed?

In addition to obvious pollutants such as oils, antifreeze and chemicals, many normal household activities can cause an illicit discharge. Dumping yard waste, draining chlorinated swimming pool water and household waste water from washing machines, dishwashers or water softening devices into ditches, storm drains and canals are also classified as illicit discharges. Even sweeping grass clippings into a storm drain is an illicit discharge. The City's ditches and storm drain pipes eventually make their way to one of the surrounding water bodies (i.e. Mill Slough, Willow Creek, and Boise River). Even if there is no direct connection to a ditch or pipe, contaminates discharged on the ground can make their way through the groundwater and contaminate the receiving water bodies. A more complete list of illicit discharges can be found in the City's Stormwater Management Program document posted to this web site.

Attachment: MS4 Dry Weather Outfall Screening Log

Outfall ID _____ Screener _____

Outfall Location _____ Date _____

Current Weather _____ Last Rain Event _____

Visual inspection

Description _____

General Condition _____

Water?

- Standing
- Flowing
- Soils appear wet

Outfall appears to be functioning as intended Yes No

Comments _____

Additional maintenance is needed: Yes No

Other future actions needed:

- Cleaning
- Sampling
- Reconstruction

Photograph taken: Yes No

Comments _____

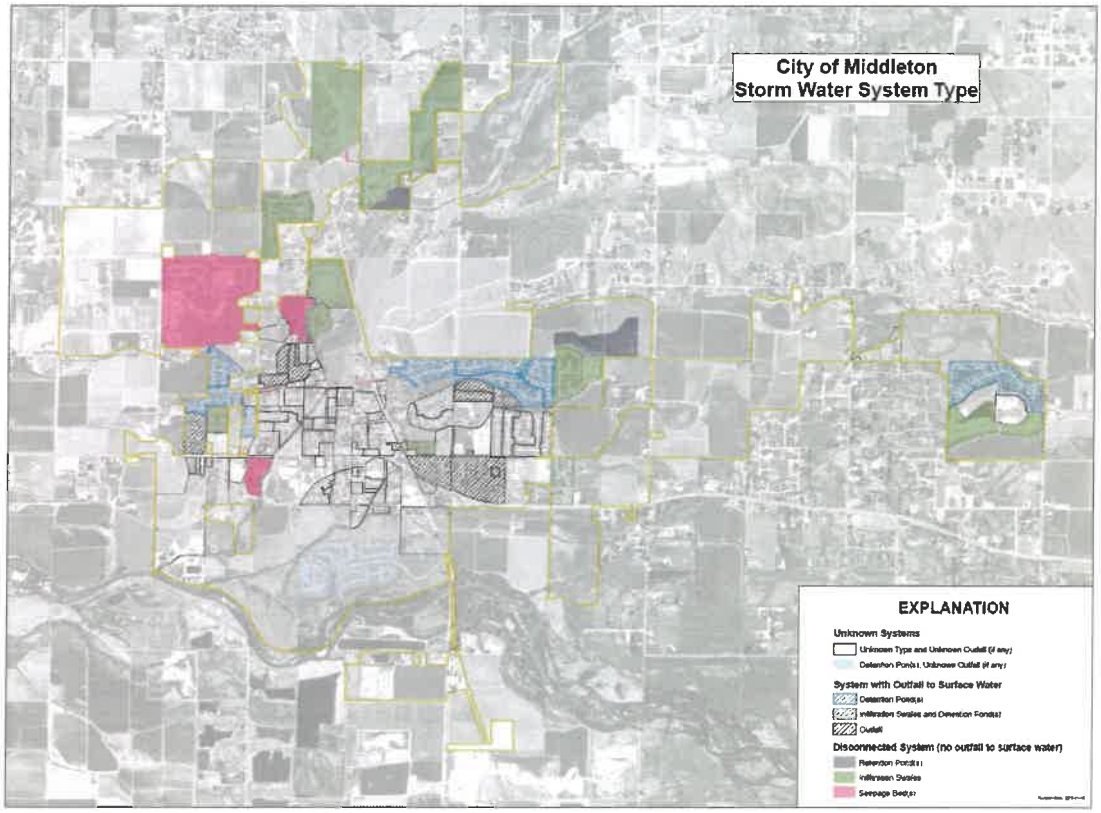
Attachment: 2019 MS4 Outfall Inventory List

Outfall Number	Latitude	Longitude	Year Screened	Pipe Diameter	Pipe Material	Notes	Flow Observed	Sampled
CC-3.64	43.706537	-116.640185	2016	12	PVC	No flow evident, no sample taken	No	No
CC-4.50	43.704410	-116.626703						
CC-4.65	43.705377	-116.624176						
CC-4.68	43.705501	-116.623449						
CC-4.86	43.706530	-116.620380						
CC-5.18	43.709585	-116.617514						
CC-5.20	43.709929	-116.617476						
CC-5.86	43.710254	-116.606123						
CD-5.36	43.711715	-116.616795	2014	12	CMP	Dichages from HOA pond to Circle Drain		
CD-5.44	43.712416	-116.614526	2014	12	CMP	Dichages from HOA pond to Circle Drain		
CD-5.55	43.712621	-116.612594	2014	12	PVC	Dichages from HOA pond to Circle Drain		
CD-5.69	43.712651	-116.609694						
CD-5.79	43.712556	-116.607780						
CD-5.87	43.712793	-116.606146	2014	12	CMP	Dichages from HOA pond to Circle Drain		
DD-0.89	43.702767	-116.625144	2015			Could not locate; needs to be revisited		
GW-1	43.710053	-116.638538	2016	8	PVC	No flow evident, no sample taken	No	No
GW-2	43.715188	-116.627554	2016	12	HDPE	Bubblers, Information from taken from manholes	No	No
GW-3	43.715264	-116.627552	2016	12	HDPE	Bubblers, Information from taken from manholes	No	No
GW-4	43.708372	-116.633310	2016		Concrete	Concrete open box, no flow evident, no sample taken	No	No
GW-5	43.697673	-116.614952	2016	12	PVC	Bubbler, no flow evident, no sample taken	No	No
GW-6	43.697923	-116.615355	2016	12	PVC	Bubbler, no flow evident, no sample taken	No	No
GW-7	43.698097	-116.616946	2016	12	PVC	Bubbler, no flow evident, no sample taken	No	No
GW-8	43.697854	-116.617359	2016	12	PVC	Bubbler, flow evident in manhole, no sample taken	Yes	No
GW-9	43.712302	-116.612620				NEED TO FIELD VERIFY		
GW-10	43.706555	-116.603937				CORNELL STREET, OUTFALL NEEDS VERIFIED		
GW-11	43.706551	-116.607422				CORNELL STREET, OUTFALL NEEDS VERIFIED		
GW-12	43.706587	-116.609328				CORNELL STREET, OUTFALL NEEDS VERIFIED		
GW-13	43.707906	-116.632566	2016	12	HDPE	No flow evident, no sample taken	No	No
GW-14	43.705882	-116.632539	2016	12	PVC	Seepage bed, no flow evident, no sample taken	No	No
GW-15	43.705778	-116.633334	2016	12	PVC	Seepage bed, no flow evident, no sample taken	No	No
GW-16	43.704522	-116.633267	2016	12	PVC	Seepage bed, no flow evident, no sample taken	No	No
GW-17	43.712022	-116.620546		12				
HW-1.36	43.706604	-116.617707	2013	48	RCP	Outfall for Harman Way Drain. Irrig. & Storm		
HW-1.42	43.705867	-116.617189						
HW-1.55	43.704837	-116.615033						
HW-1.65	43.704195	-116.613287				IRR WASTE FROM HARMON SUB		
HW-1.67	43.706391	-116.614609				OFF CORNELL ST TO DITCH THEN HW DRAIN		
LK-1.10	43.702170	-116.618465	2015	18	PVC	No flow evident; no sample taken		
LK-1.12	43.702231	-116.618118	2015	18	PVC	No flow evident; no sample taken		
LK-1.13	43.702386	-116.618117	2015	18	PVC	No flow evident; no sample taken		
LT-1	43.713665	-116.560724		12	CMP			
LT-2	43.713187	-116.562482		12	CMP			
LT-3	43.712451	-116.555846		12	CMP			
LT-4	43.713223	-116.558192		12	CMP			

Outfall Number	Latitude	Longitude	Year Screened	Pipe Diameter	Pipe Material	Notes	Flow Observed	Sampled
ML-1	43.698281	-116.623727	2016	18	PVC	Partially submerged, small flow, no sample taken	No	No
ML-2	43.698594	-116.619569	2016	18	PVC	No flow evident, no sample taken	No	No
ML-3	43.696399	-116.623950	2016	12	PVC	Partially submerged, small flow, no sample taken	Yes	No
ML-4	43.696045	-116.625511	2016	18	PVC	Flow into pooling water, sample taken	Yes	Yes
ML-5	43.698945	-116.627911	2016	12	PVC	No flow evident, no sample taken	No	No
ML-6	43.698941	-116.627630	2016	12	PVC	Could not locate: needs to be revisited, information taken from manhole	No	No
ML-7	43.698750	-116.625364	2016	18	PVC	Submerged outlet, no flow evident, information taken from manhole	No	No
ML-8	43.698354	-116.625033	2016	18	PVC	Partially submerged, small flow, no sample taken	No	No
ML-9	43.698394	-116.621541	2016	14	PVC	Partially submerge outlet; no flow evident; no sample taken	No	No
ML-10	43.697624	-116.620621	2016	12	PVC	No flow evident, no sample taken	No	No
ML-11	43.697487	-116.618493	2016	12	PVC	Could not locate; needs to be revisited, information taken from manhole	No	No
ML-12	43.699087	-116.626410	2016	18	CMP	Partially submerged, small flow, no sample taken	No	No
MM-7.09	43.711616	-116.629752	2016	12	CMP	Partially submerge outlet; no flow evident; no sample taken	No	No
MM-7.14	43.711809	-116.628793	2016	12	CMP	Submerged outlet, no flow evident, information taken from manhole	No	No
MS-0.55O	43.699196	-116.627889	2013 &2016	30	-	, no flow evident, no sample taken	No	No
MS-0.84O	43.701085	-116.623001	2015	6	CMP	Submerge outlet; no flow evident; no sample taken		
MS-0.97O	43.702276	-116.621442	2015	12	CMP	No flow evident; no sample taken		
MS-1.01O	43.702975	-116.621177	2015	18	CMP	Partially submerge outlet; no flow evident; no sample taken		
MS-1.02O	43.702974	-116.621612	2015			Could not locate		
MS-1.15O	43.704633	-116.619722	2015	10	CMP	Submerge outlet; no flow evident; no sample taken		
MS-1.16O	43.704814	-116.619743	2012	15	PVC			
MS-1.17O	43.704876	-116.619459	2015	6	CMP	No flow evident; no sample taken		
MS-1.18O	43.705093	-116.619461	2015	6	CMP	No flow evident; no sample taken		
MS-1.28O	43.706027	-116.618137	2013	8	PVC	Discharge from Hwy 44 & CB in parking lot		
MS-1.31O	43.706492	-116.618119	2013	8	PVC	Appears to discharge from cul-de-sac catch basin		
MS-1.33O	43.706740	-116.618039	2012	24	RCP	COLLECTED DATA AS "CITY HALL"		
MS-1.72O	43.708753	-116.613190	2013	16	CMP	Source unknown		
MS-2.00O	43.710173	-116.608881	2012	24	CMP	APPEARS TO BE PRESS IRRIG WASTE		
MS-2.04O	43.710085	-116.607912	2013	16		Discharge from New York St. collection system		
MS-2.18O	43.709906	-116.605331	2013	12		Discharge from New York St. collection system		
MS-2.19O	43.709989	-116.605342	2013	12		Overflow from Condor Drive retention pond		
MS-5.20O	43.711371	-116.562087		12	CMP	Swale from Lakes at Telaga to the Mill Slough		
MS-5.38O	43.712479	-116.559440		12	CMP	Swale from Lakes at Telaga to the Mill Slough		
MS-5.45O	43.712420	-116.557890		12	CMP	Swale from Lakes at Telaga to the Mill Slough		
WC-0.19O	43.699057	-116.639968	2014	18	CMP	Outfall from Whiffin Lane Maintenance Facility		
WC-0.99O	43.706622	-116.630350	2012 &2016	14	PVC	Irrigation waste and stormwater; 2016 could not locate;	No	No
WC-1.20O	43.708919	-116.627907	2014, 15,& 16	15	PVC	Monitoring Location; ~10-15 gpm flow	Yes	Yes
WC-1.40O	43.711319	-116.625768	2013 &2016	8	PVC	Discharge flow from one catch basin; 2016 No flow, no sample	No	No
WW-2.93	43.710351	-116.641072	2016	6	PVC	No flow evident, no sample taken, unknown source	No	No
WW-2.98	43.710648	-116.640119	2016	12	Iron	Submerged outlet, no flow evident, pipe material needs verified	No	No
WW-3.05	43.710679	-116.638708	2016	36	RCP	Flowing water, no sample taken	Yes	No
WW-3.13	43.711465	-116.637720	2016	-	-	Could not locate; needs to be revisited	-	-

Note: For updated MS4 mapping and inventory list contact City Engineer

Attachment: 2021 Stormwater Management Map and New Construction List



Note: full sized map available from the City Engineer

The Stormwater Management Map includes the following construction projects:

- 2020-2021 Construction
  - Stonehaven 3 – 5 Subdivision
    - DI, S&G, to Seepage Beds
  - West Highlands 9 – 12 Subdivision
    - DI, S&G, and seepage beds
  - The Crossings 2 Subdivision
    - DI, S&G, and seepage beds
  - Sawtooth Lake 3 Subdivision
    - DI, S&G, to Wetlands and Detention Ponds (existing ponds)
  - Valhalla 2 – 5 Subdivision
    - Infiltration Swales disconnected from surface water
  - Crescent Lakes Subdivision
    - DI, swales, and detention ponds
  - Blue Meadows 2 Subdivision
    - Drain to existing swales
  - McKinley Meadows 2
    - DI, S&G, to infiltration swale
- 2019 Construction
  - Falcon Valley 5 Subdivision
    - DI, S&G, to Retention Ponds
    - Infiltration Swale along Duff Lane
  - Falcon Valley 6 Subdivision
    - DI, S&G, to Retention Ponds
  - Stonehaven 1 Subdivision
    - DI, S&G, to Seepage Beds
    - DI, S&G, to Seepage Beds along Hartley Lane
  - Stonehaven 2 Subdivision
    - DI, S&G, to Seepage Beds
  - Blue Meadows 1 Subdivision
    - Drain to existing swales
  - Tractor Supply
    - Infiltration Swales
  - Sawtooth Lake 2 Subdivision
    - DI, S&G, to Wetlands and Detention Ponds (existing ponds)
  - McKinley Meadows
    - DI, S&G, to Infiltration Swale
  - Clarity Building
    - DI, S&G, to Seepage Beds
  - South Hartley Lane

        - Infiltration Swales
    - Middleton Industrial Park
        - Infiltration Swales
- 2018 Construction
    - Falcon Valley 4 Subdivision
        - Retention Ponds
    - Traditions at Powder River Subdivision
        - DI, S&G, Seepage Beds
    - Fox Lantern Subdivision
        - DI, S&G, Seepage Beds
    - Sawtooth Lakes Subdivision
        - DI, S&G, to Wetlands and Detention Ponds (existing ponds)
    - Western Pines Subdivision
        - DI, S&G, to Retention Ponds
    - Valhalla Subdivision
        - Infiltration Swales disconnected from surface water
    - Dewey Avenue Business Park
        - DI, S&G, to existing Storm Water System with outfall at Mill Slough
- 2017 Construction
    - The Lakes No. 2 Subdivision
        - Infiltration Swales disconnected from surface water
    - Piccadilly Park
        - Infiltration swales disconnected from surface water
- 2016 Construction
    - West Highlands Phases 6, 7, & 8
        - DI, S&G, and Seepage Beds
    - Falcon Valley 3
        - Infiltration Swales along Chief Road disconnected from surface water
        - DI, S&G, and Retention Pond
    - Used car lots with seepage beds
        - 2 were completed
    - Falcon Valley 2
        - Infiltration Swales disconnected from surface water
    - Bass Lane
        - Infiltration Swales disconnected from surface water
- 2015 Construction
    - The Crossings Subdivision
        - Infiltration Swales disconnected from surface water
    - West Highlands 6 & 7
        - DI, S&G, and Seepage Beds
    - Falcon Valley 3

        - Infiltration Swales along Chief Road
        - DI, S&G, and Retention Ponds
    - Concord Street
        - DI, S&G, and Seepage Beds
- 2014 Construction
    - West Highlands Phase 5 Subdivision
        - DI, S&G, and Seepage Beds
    - The Lakes Phase 1 Subdivision
        - Infiltration Swales disconnected from surface water
    - Meadow Park Blvd
        - DI, S&G, and Seepage Bed
    - Powder River 2 Subdivision
        - Infiltration Swales disconnected from surface water

Note: this list is compiled by the City Engineer

Attachment: 2019 Stormwater Training

Below is the agenda as prepared by SPF Engineering for the 2018 stormwater training workshop:

WORKSHOP AGENDA

City of Middleton Storm Water – Water Quality Best Management Practices

December 17, 2018

Introductions

Overview of City of Middleton's NPDES Permit

1) **Storm Water Management Program (SWMP) requirements**
   - Reduce the discharge of pollutants to the maximum extent practicable.
   - Protect water quality in receiving waters.

2) **Upcoming Changes in Idaho Storm Water Program**
   - Municipalities will most likely not be moving to a state-wide program rather than individual permits as previously thought.
   - EPA approved the Idaho Pollutant Discharge Elimination System Program. What does this mean for existing NPDES permittees?

Monitoring Requirements

- What is dry weather sampling and why is it necessary?
- What is wet weather sampling event and Why is it required?
- Discharge Monitoring for Middleton – Willow Creek

Allowable and Non-Allowable Discharges

- Must Meet Water Quality standards unless allocated under TMDL
- Allowable non-storm water discharges authorized
- Discharges that impact Idaho Water Quality Standards
- Snow Disposal
- Industrial and Construction Activities

Pollutiuon Prevention and Good Housekeeping for Municipal Operations

- Best Management Practices (BMP's)

- Sand and Road De-icers:
- Fleet Maintenance and Vehicle-Washing Operations
- Street Cleaning and Maintenance
- Snow Disposal Site Operation and Maintenance/Snow Removal Practices
- Water/Wastewater System Operations
- Stormwater System Maintenance
- Materials Storage and Handling
  Spill Control and Prevention Measures

Practical Permit Compliance Tips from EPA Region 10

- Talk to your neighbors
- Compliance is in the Paperwork
- How to get a permit violation (low hanging fruit)
- Be proactive
- Focus on Discharge Points

Attachment: 2014 SWPPP for City Maintenance Facilities

Stormwater Pollution Prevention Plan for: City of Middleton, Idaho Public Works Maintenance Yard & Wastewater Treatment Facility 824 Whiffin Lane Middleton, Idaho 83644

Prepared for

City of Middleton, Idaho
6 N. Dewey Ave.
Middleton, Idaho 83644

Prepared by

SPF Water Engineering, LLC
300 East Mallard, Suite 350
Boise, Idaho 83706
(208) 383-4140

March 21, 2014

Note: This document (991.0050 The SWPPP-FINAL-2014-3-21) is available by contacting City Public Works or the City Engineer

Attachment: Middleton Supplement to the ISPWC

THE CITY OF MIDDLETON

Supplement to the
Idaho Standards for Public Works Construction

MIDDLETON CONNECTS

ART
HISTORY
PARKS
PATHWAYS &
TECHNOLOGY

PROFESSIONAL ENGINEER REGISTERED 10207 11/02/21 STATE OF IDAHO AMY J. WOODRUFF

Note: This document is available by contacting City Public Works or the City Engineer

City of Middleton

Stormwater Alternative Control Measure Requests

Prepared for: Jason Van Gilder, P.E., City of Middleton Public Works Director

Prepared by: Jack Harrison, PhD, P.E.

Mike Martin, P.E., Civil Dynamics

Date: September 29, 2022

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Original required minimum SWMP control measure 3

Public Notice or Engagement Process 3

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Introduction

The City of Middleton (the City) is authorized to discharge stormwater to water quality limited segments of Boise River, Mill Slough and Willow Creek under their MS4 NPDES Permit #IDS028100. Per Section 2.6.2 Actions to Address Discharges to Impaired Waters, the City is required to seek approval of three Alternative Control Measure (ACM). Under conditions established in the permit, the City requests approval of the following ACMs:

ACM1	Buried Pipeline Action Plan
ACM2	Swale Action Plan
ACM3	Stormwater Monitoring and Assessment (SMA) Plan

The first two ACMs are designed to reduce impairment pollutants (sediment, phosphorus and bacteria) from the impaired waters, Willow Creek and Mill Slough, which discharge to the Boise River. The SMA Plan will be designed to monitor and assess conditions in these waterbodies.

ACM1– Buried Pipeline Action Plan

There are many buried pipelines in older areas of Middleton that receive and convey stormwater. Many of these pipelines do not appear to have the capacity to convey the current flows and loads being discharged into them. Some of these pipelines also appear to need maintenance, and some may benefit from actions to improve water quality management.

Recently, Middleton initiated efforts to clear sediments and assess the conditions of the buried stormwater pipeline (ACM Attachment – Greenlinks/Middleton Place ditch and pipeline). The pipeline is located northwest area of the city center (ACM1 Attachment: Figure and Overview) and discharges to a ditch that drains to Mill Slough. Post-clearing photos (ACM1 Attachment: Photos A1 to A3) show one of the manholes, and remaining sediments and tree roots that still limit conveyance.

Action Plan

As part of ACM1, Middleton plans to continue efforts to clear a pipeline that has been investigated and partially cleared of sediment and other pollutants. Additionally, an Action Plan will be developed and implemented to reduce sediments, phosphorus and other pollutants that discharge from existing buried pipelines into Mill Slough, Willow Creek, and the Boise River.

The ACM1 Action Plan will include the following activities:

- Investigate and document sources of water discharged to sections of buried pipelines
- Assess buried pipelines using CCTV
- Develop strategies for reducing inflows and loads, clearing sediment, and improving functions (e.g, conveyance and water quality treatment) of pipelines
- Prioritize efforts on sections of pipeline that receive excessive sedimentation

- Prepare and distribute public information that can encourage citizens to take actions to reduce discharge of pollutant loads to the system

- Develop a long term plan to improve pipeline conveyance and treatment of pollutants

- Develop a sampling plan to quantify the loads of sediment, phosphorus and other pollutants that are removed and estimate reduction from other actions that reduce loads

Original required minimum SWMP control measure
Under Section 3.5 Pollution Prevention/Good Housekeeping for MS4 Operations "The Permittee must properly operate and maintain the MS4 and its facilities, using prudent pollution prevention and good housekeeping as required by this Part, to reduce the discharge of pollutants through the MS4".

The permit control measure requires inspection and maintenance of "above ground" maintenance such as catch basins and inlets. Under ACM1, the city of Middleton intends to focus on existing below ground pipelines, and develop near and long terms plans for improved operation of this infrastructure. Because this older infrastructure will likely be much more difficult and costly to address, it requires long term planning and approval of a budget.

Public Notice or Engagement Process
Public information about these older stormwater pipelines will be developed and distributed to local residents. This information will explain problems, proposed measures that public can implement to reduce pollutant load, and request for their assistance. For example, citizen assistance could include a request to minimize tree plantings in the vicinity of utility lines and to ensure access to utility easements for maintenance and clearance of obstacles.

Schedule
The following is a schedule for enacting the ACM in its jurisdiction prior to the permit expiration date:

Permit Year 3 Actions

- Identify pipelines and source pollutants
- Develop near and long term strategies for improving conveyance and reducing loads
- Develop priority actions
- Develop budget for implementing near term actions

Permit Year 4 Actions

- Authorize budget
- Begin implementation near term action
- Implement public information actions

ACM2 – Stormwater Swale Action Plan

Standard designs for infiltrating swales are available and have been used by developers in the Middleton area (ACM2 Attachment - BMP Map). Some are problematic (e.g., slow draining), and likely have other performance problems and high operating costs (ACM2 Attachment – Swale Photos). Additionally, sometimes swales are installed and constructed improperly which prohibit their functionality. Common problems have included driveway extensions (reducing the swale length and capacity), adding rock (reducing the swale capacity), or filling in completely with soil and sod (eliminating the swale). The City has also noticed that some swales have been modified during home construction after approval or issuance of certificate of occupancy (i.e., homeowner has modified).

Action Plan

Middleton requests approval for development and implementation of an action plan to improve success of design, construction and operation of stormwater swales. Actions can included:

- Review design concepts and requirements for effective use (e.g., ACM2 Attachment – Example Swale Design)
- Identify subdivisions with swales (update ACM2 Attachment: Map), review the status of the swales, and determine if swale sections need rehabilitation
- Conduct facility testing if assessment is needed
- Identify existing non or low functioning swales and develop a long term plan to improve operations or remediate
- Develop educational information for builders, contractors, HOA's and residents
- Conduct informational meeting with builders, contractors, HOA's and residents
- Prepare pollutant reduction estimates resulting from actions
- Develop a formal procedure for post-construction and operational reviews, and requiring remediation of swales improperly modified

Original required minimum SWMP control measure

Section 3.4.3 Permanent Stormwater Controls Specifications states:

> The Permittee must develop, or update as necessary, any written specifications to address proper design, installation, and maintenance of required permanent stormwater controls. A Permittee may adopt specifications created by another entity that complies with this Part."

Standard designs for infiltrating swales are available and have been used for many years, but there are ongoing problems with design, construction and operations, including:

- Many contractors do not fully understand requirements for proper construction
- Many HOAs and home owners do not appear to understand how to maintain

Public Notice or Engagement Process

A public involvement program to inform contractors and area residents of negative impacts that currently occur and the measures needed to improve performance. This will include information send to the public in the City newsletter and a meeting with local contractors.

Public information about problems with swale maintenance will be developed and distributed to local residents. This information will explain problems, proposed measures that public can implement to

reduce pollutant load, and request for their assistance. Contractor information could include revised design and specifications, revised approval and review requirements. This information will be presented and discussed at a contractor meeting, and added to the Stormwater Management Plan.

Schedule
The following is a schedule for enacting the ACM in its jurisdiction prior to the permit expiration date:

Permit Year 3 Actions

- Identify problems and estimate impacts relative to costs and pollutant discharge
- Develop near and long term strategies for improving
- Develop priority actions
- Develop budget for implementing Action Plan

Permit Year 4 Actions

- Authorize budget
- Begin implementation of Action Plan
- Implement public information actions

ACM3 – Stormwater Monitoring and Assessment Plan

Middleton requests approval of the following SMA plan, designed to

1. Monitor water quality conditions in the Boise River, Willow Creek and Mill Slough
2. Stormwater sampling of selected stormwater outfalls
3. Assessing pollutant loading to the Boise River from Willow Creek and Mill Slough

1) Monitoring of Water Quality Limited Waterbodies
This MA plan includes many of the monitoring activities currently performed for Middleton's Reuse Pilot Study being conducted under a DEQ approved Work Plan and QAPP. The monitoring is summarized in ACM3 Attachment – PS Overview, and includes quarterly water quality sampling and continuous temperature monitoring of the Boise River, Willow Creek and Mill Slough.

2) Stormwater Sampling
One MS4 outfall to each of the water-quality limited tributaries to the Boise River (Willow Creek and Mill Slough) will be selected for wet weather sampling of stormwater discharges during wet weather periods.

a) Locations: Possible locations are shown on ACM3 Attachment – Outfall Map. The outfalls will be selected after additional review and characterization including: drainage delineation, area, land uses and BMP type
b) Sample Type: Discrete (grab) samples will be collected during wet weather periods (e.g. within 24 hours of rainfall)

c) Parameters: Laboratory analyses will include sediment (TSS), phosphorus (TP) and bacteria (E Coli); field parameters will include temperature
d) Frequency: Samples will be collected 3 times per year, with at least one sample collected during the September thru October period
e) QA: A QAPP for the stormwater sampling will be prepared, and will identify all methods and protocols to be used in the wet weather sampling effort
f) Reporting: All data collected for the PS monitoring and stormwater sampling will be submitted to DEQ and EPA with the Stormwater Annual Report

3) Assessing Pollutant Loading

Available land use mapping for the city will be used to categorize and quantify current land uses (e.g., agricultural, dispersed residential, suburban and urban). Stormwater loading from these land uses will be estimated using rainfall data, land use characteristics, and literature and information on pollutant loading. This load estimating approach is similar to that used in the Lower Boise River Total Phosphorus TMDL (DEQ 2015). Pollutant load reductions will be estimated based on changes in land use, and the stormwater BMPs applied.

Attachments

(Available as separate documents)

ACM1 Attachment – for Buried Pipeline Action Plan

ACM2 Attachment – for Swale Action Plan

ACM3 Attachment – for Stormwater Monitoring and Assessment Plan

ACM1 Attachment – for Buried Pipeline Action Plan

Figure showing Greenlinks/Middleton Place ditch and pipeline alignment

Overview of Greenlinks/Middleton Place ditch and pipeline

Location 1. An irrigation head gate provides water for the Greeenlinks subdivision irrigation system. From this head gate water runs into a pond in the Greenlinks subdivision.

Location 2. The excess water not used for irrigation in Greenlinks goes over an overflow and runs into the drain that leads to the Middleton Place subdivision.

Location 3. The drain collects water from three different sources. The pond in the Greenlinks subdivision, ground water and an artesian well. From observation the drain runs year round. During the summer the drain carries a good deal of water that runs into the pipe under the Middleton Place subdivision. During the winter the drain still runs water from the artesian well and ground water. The drain flows to the east edge of the park where it enters a 30" reinforced concrete pipe.

Location 4. From here it runs under the park and into the park parking lot. Here the storm drain inlets from the parking lot run into an O&S box and into the 30" line at MH 1. The 30" line then runs to MH 2.

Location 5. Between manhole 2 and manhole 3 is where pipeline has been working at cleaning the line.

Location 6. Manhole 5 is located in the backyard of 706 2nd St. Here the line turns and runs to the irrigation stand pipe.

Location 7. When the water reaches the stand pipe it backs up in the line to allow a pump in the line to pump water into the stand pipe. There is an over flow for excess water here.

Location 8. The excess water runs under N Middleton Rd and into drain along SH 44 headed to Mill Slough.

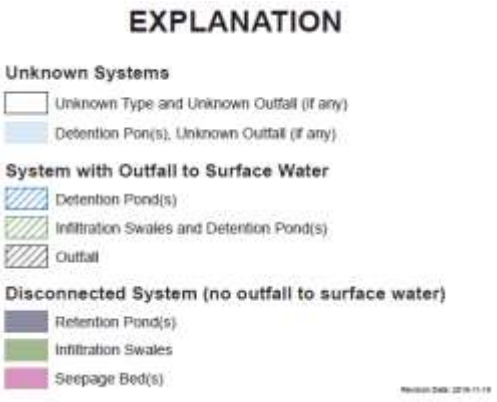
Photo A1 Manhole showing inflow/outflow connections

Photo A2 – Gravel in pipeline after cleaning

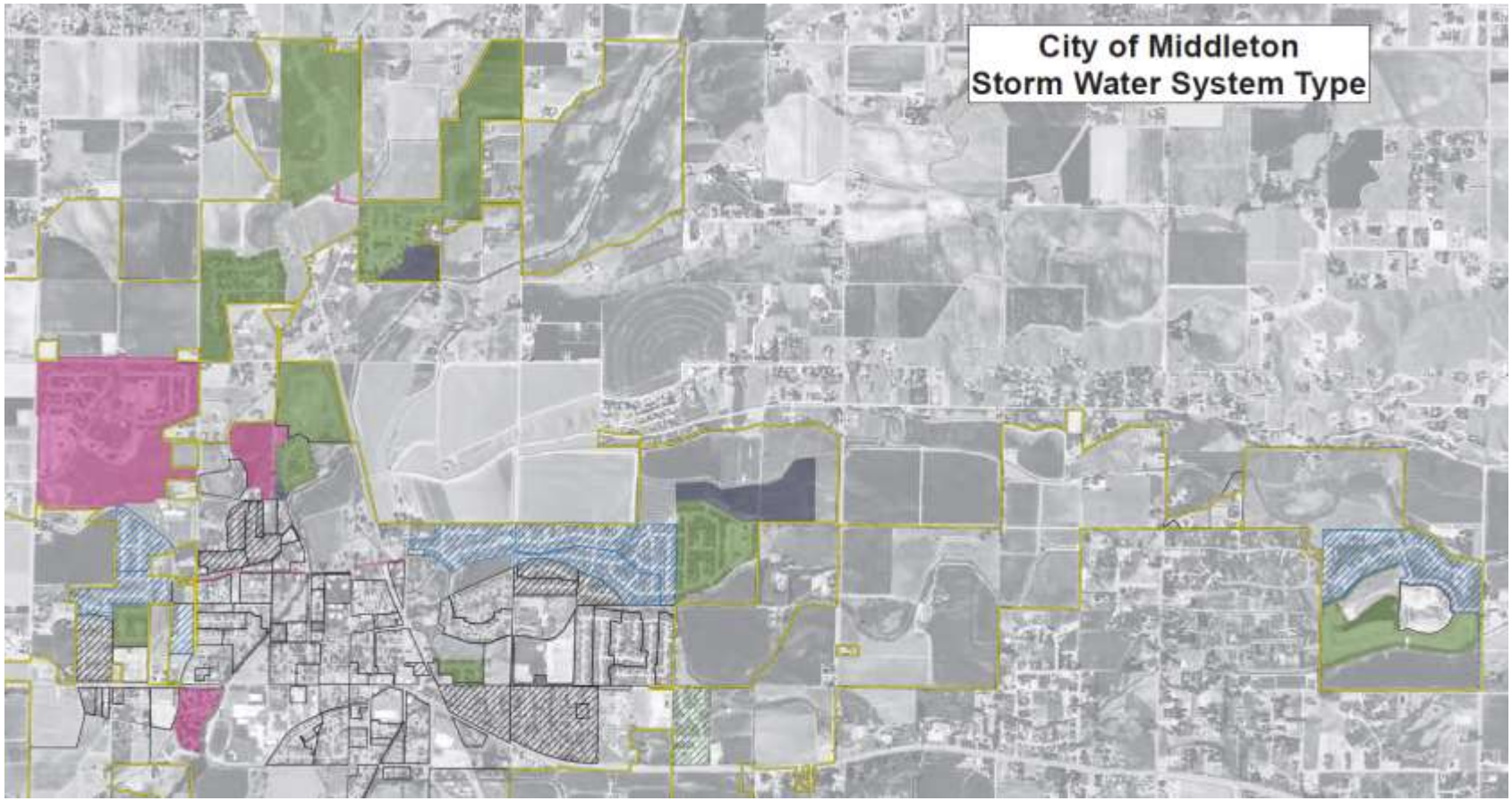
Photo A3 – Roots in pipeline after cleaning

ACM2 Attachments – for Swale Action Plan

ACM Attachment – BMP Map Explanation



ACM Attachment – BMP Map



ACM2 Attachment – Swale Photos

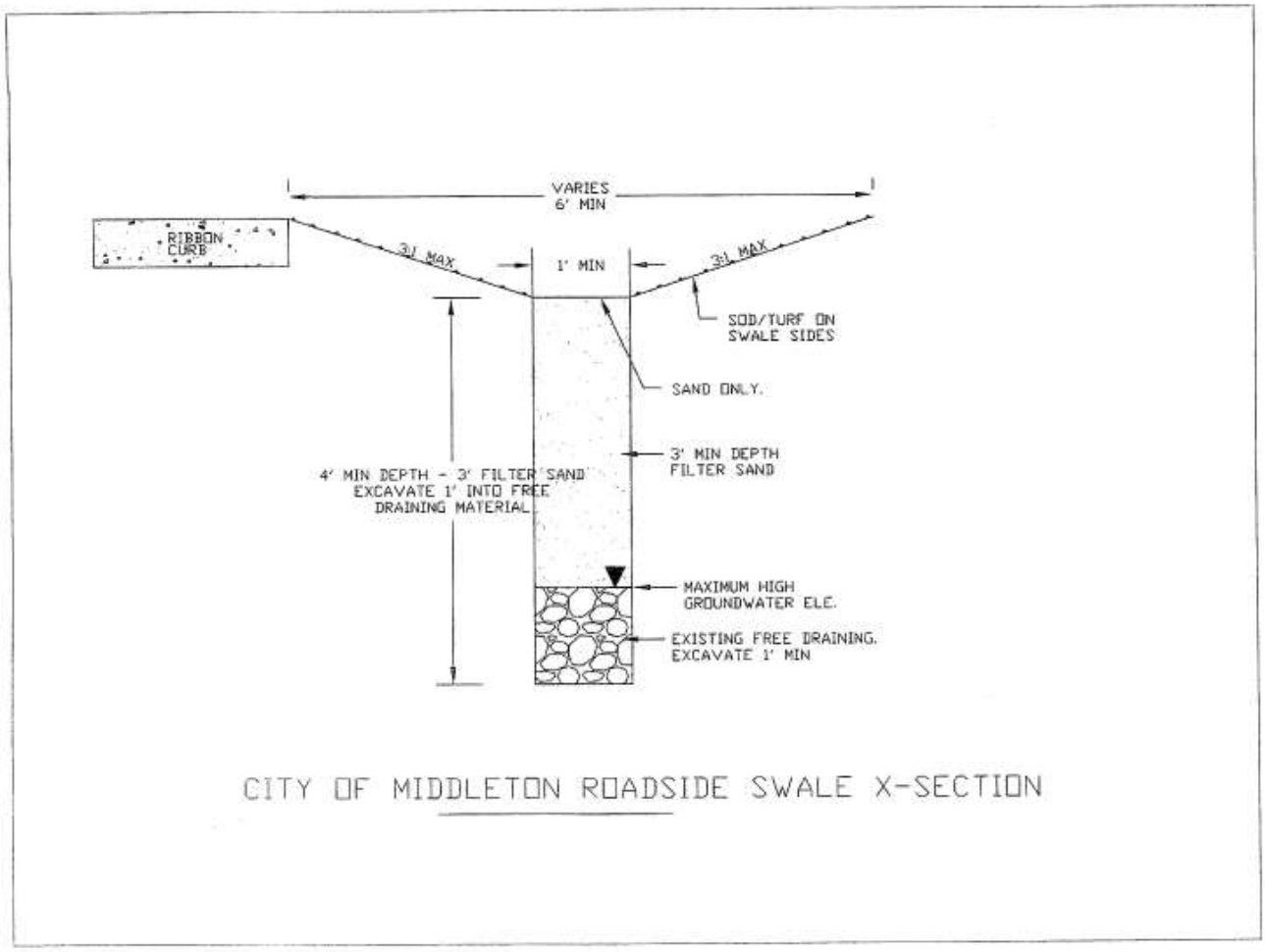
Photo 1 - recent (Aug 2022) finished swale showing sand strip that allows water to infiltrate

Photo 2 - This older photo (circa 2014) from Powder River 2 subdivision showing construction photo of the swale just before acceptance; Example where sand strip is missing or is covered by soil, which likely lowers rate of water infiltration

Photo 3 - Swale in Condor in Falcon Valley 2 constructed in ~2010; post occupancy and with ongoing maintenance swale appears to functioning; example showing of older BMP without sand strip; infiltration rate may be reduced

Photo 4 - Bard Street residence constructed around 2020; example of home with no swale showing the "disconnect" between stormwater design/building permit phases and final construction.

ACM2 – Attachment – Example of more recent swale design



ACM3 Attachments – for SMA Plan

ACM3 Attachment – Pilot Study Sampling Overview
June 13, 2022 v8b

Water samples are collected from reclaimed water, supplemental irrigation water, surface water and groundwater at monitoring locations shown in (Figure A). Water level and temperature data are also collected at many of these locations.

Wastewater Monitoring Locations

Wastewater (aka, reclaimed water and recycled water) monitoring data are collected various locations:

- Water Quality: wastewater quality samples are collected downstream of the UV process unit.
- Temperature Data: Temperature data has been collected below the UV process unit was used for the reclaimed water. In the future, continuously temperature monitoring of reclaimed and supplemental water will be collected at a pump station where two separate pump sumps allow samples to be collected from each water source (recycle and supplemental).
- Flow: continuous flow data are collected at a pump station prior to application on reuse site.

Supplemental Water Monitoring Location

Mill Slough water is used for all supplemental irrigation. The monitoring data are collected various locations:

- Water Quality: collected at Mill Slough downstream location (MS-DS) which is the same for water quality sampling discussed below.
- Temperature Data: continuously temperature monitoring data of supplemental water will be collected at a pump station where two separate pump sumps allow samples to be collected from each water source (recycle and supplemental).
- Flow: continuous flow data are collected at the pump station prior to application on reuse site.

Surface Water Monitoring Locations

Surface water quality samples are collected from 4 locations (Figure A):

- BR-UP – Boise River: water quality upstream of Mill Slough on north bank
- MS-UP – Mill Slough upstream of City property boundary (near Paradise Street)
- MS-DS – Mill Slough downstream of Rubicon gate
- WC – Willow Creek at WWTF bridge

Surface water flows are measured at the following locations:

- BR-UP – Boise River: flow at Middleton Bridge (measured by Idaho Power);
- MS-UP – two locations (measured by USGS) at Mill Slough (aka North Middleton Drain) upstream of Hwy 44 and Lawrence Kennedy Ditch (aka South Middleton Drain) downstream of Middleton road; flows would be added to estimate total daily Mill Slough flow .
- MS-DS – Mill Slough at the Rubicon gate recorded during sampling events and when gate is adjusted
- WC – Willow Creek at WWTF bridge recorded during sampling events

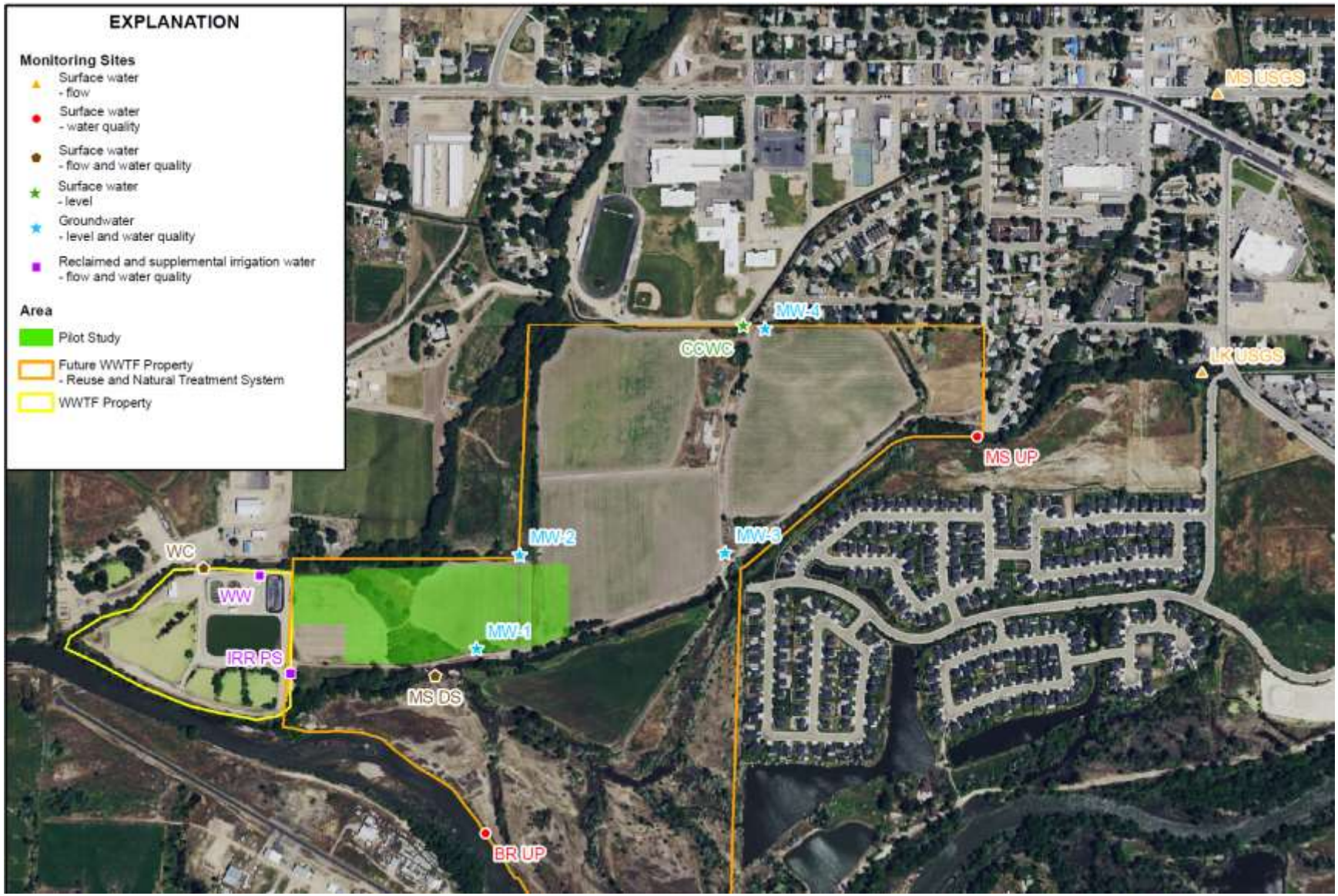


Figure A Monitoring locations for Pilot Study (need to revise)

Surface water temperature data are collected at the following 4 locations (Figure A):

- BR-UP – Boise River: upstream of Mill Slough on north bank
- MS-UP – Mill Slough upstream of City property boundary (near Paradise Street)
- MS-DS – Mill Slough downstream of Rubicon gate
- WC – Willow Creek at WWTF bridge

Surface water level data are collected at 5 locations (Figure A):

- MS-UP – Mill Slough upstream of City property boundary (near Paradise Street)
- MS-DS – Mill Slough upstream of the Rubicon gate
- MS-DS – Mill Slough downstream of the Rubicon gate
- WC – Willow Creek at WWTF bridge
- CCWC – Canyon County Ditch

Groundwater Monitoring Locations

Groundwater monitoring (including water quality sample collection, and temperature and water level monitoring) occurs at four monitoring well locations and two piezometer locations (Figure A) as described below:

- MW-1 – Downstream of the Operational Zone (OZ) 5; near the end of the field and north of Mill Slough
- MW-2 – Upstream of OZ 5; near the supplemental irrigation ditch and power lines
- MW-3 – Downstream of city farm property; north of the Mill Slough, north of double culverts
- MW-4 – Upstream of the City's property; located along the north property line near the center of the property
- PZ-PS – Located east of pilot study pump station; originally used as large diameter dewatering well

PZ-BR – Near Boise River upstream of Mill Slough on north bank; installed with backhoe in shallow gravels; considered close approximation of Boise River water level due to close hydraulic connection

Constituents and Frequency

Water quality constituents and sampling frequency vary by type of source, purpose, risk and need (Table A). The constituents planned for monitoring were selected to allow annual phosphorus and thermal loading analyses, the primary focus of the study, and to establish and track environmental conditions around the study site.

Table A Constituents and Sampling Frequency

Type	#	Elev.	Temp	Flows	TP	DOP	NO3	NH3	TN/ TKN	TSS	TDS	Other
Water												
Reclaimed	1	--	**C**	**C**	**W**	**M**	**M**	**M**	**M**	**M**	**M**	
Irrigation	1	--	**C**	**C**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
Surface	4	**M**	**C**	**C**	**Q**	**Q**	**Q**	**Q**	--	**Q**	**--**	EC, pH
Groundwater	4	**M**	**C**	--	**Q**	--	**Q**	**Q**	--	--	**Q**	EC, pH
Replicate	1			--	**Q**	--	**Q**	**Q**	--	**Q**	**Q**	EC, pH

Notes: W= weekly, M = monthly (when applying), C = continuous, Q = quarterly

Additionally, soil samples are collected bi-annual (in spring and fall), and crop tissue samples and crop weights will be collected after each harvest. (See QAPP for more definitive list including soils and crop tissue)

ACM3 Attachment - Map of selected outfalls