

# STORMWATER MANAGEMENT PROGRAM (SWMP) 2023 PLAN UPDATE



**CITY OF MERCER ISLAND**



# Stormwater Management Program (SWMP) 2023 Plan Update

City of Mercer Island, Washington

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## Introduction and Background

In 1987, Congress amended the federal Clean Water Act to address municipal stormwater discharges through the National Pollution Discharge Elimination System (NPDES) permits. These are federally mandated permits developed by the Environmental Protection Agency (EPA). In Washington State, EPA delegated the power and duty to write, issue, and enforce NPDES permits to the Washington State Department of Ecology (Ecology). In 2007, NPDES Municipal Stormwater permits were issued in two phases, and were subsequently updated in 2009. Phase I permits were issued to large municipalities and county governments with populations over 100,000 (as of the 1990 census). Phase II Permits were issued to smaller governmental entities with populations under 100,000. The City of Mercer Island (City) is covered under Western Washington's Phase II Municipal Separate Stormwater Sewer System (MS4) NPDES permit (Phase II Permit).

The Phase II Permit allows for stormwater system discharges into Lake Washington on the condition that the City implements permit-required programs to protect the lake's water quality. These programs are intended to reduce the discharge of pollutants to the maximum extent practicable. The Phase II Permit requires the City to develop a Stormwater Management Program (SWMP) incorporating the following components:

- Develop/implement a stormwater planning program
- Develop/implement a public education and outreach program
- Create opportunities for public involvement in stormwater plans and initiatives
- Develop a program to improve mapping and documentation of MS4
- Continue implementation and tracking of illicit discharge detection and elimination (IDDE) program
- Adopt or amend ordinances for improved control of runoff from new development, redevelopment, and construction activities
- Develop/implement an operations and maintenance (O&M) program regulating impacts of City sites and activities on the MS4
- Establish a source control program for existing development

The Phase II Permit requires that the City compile the above elements of the SWMP in a written plan, to be updated annually. City staff, acting on the direction of the City Council and the Mercer Island community, developed this SWMP plan to satisfy the Phase II Permit requirements and guide stormwater-based projects and activities. Originally prepared in March 2008, this plan has since been updated annually to reflect

changes in permit requirements as well as the evolution of the City's infrastructure needs, community priorities, and industry best practices.

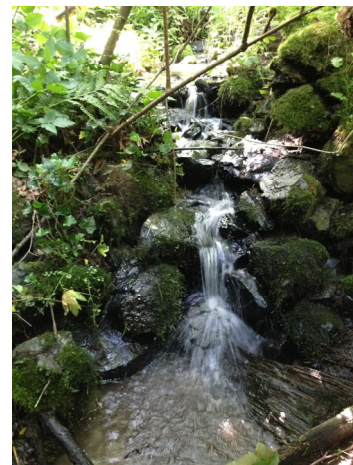
The Phase II Permit that became effective on February 16, 2007 expired on February 15, 2012 (2007-2012 Phase II Permit) but was reissued unmodified and remained effective through July 31, 2013. A 1-year permit was issued to cover the period from August 1, 2012, through July 31, 2013 (2012-2013 Phase II Permit). This 1-year permit was essentially unchanged from the 2007-2012 Phase II Permit. A new 5-year Phase II Permit became effective on August 1, 2013 and was going to expire on July 31, 2018. After careful consideration, the Washington State Department of Ecology decided to extend the permit coverage by one year, expiring on July 31, 2019. Regardless, the current 5-year Phase II Permit is referred to in this document as the 2019-2024 Phase II Permit.

## **Component 1: Stormwater Planning**

Per Section S5.C.1 of the 2019-2024 Phase II Permit, the City shall implement a Stormwater Planning program to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters. Components of this program can be summarized as follows:

- a. Convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program no later than August 1, 2020
- b. Coordination with long-range plan updates
  - i. The City shall describe how stormwater management needs and protection/improvement of receiving water health are informing the planning update processes and influencing policies and implementation strategies.
    - (a) March 31st, 2021: Respond to the series of Annual Report questions describing how anticipated stormwater impacts on water quality were addressed during the 2013-2019 permit term with updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans used to accommodate growth or transportation.
    - (b) January 1<sup>st</sup>, 2023: Submit a report responding to the same questions, to describe how water quality is being addressed during this 2019-2024 permit term.
- c. Low impact development (LID) code-related requirements.
  - i. The City shall continue to require LID Principles and BMPs as the preferred approach to site development. Annual assessment is to be conducted to identify and document possible administrative or regulatory barriers to the implementation of these codes/standards, as well as the mechanisms adopted to overcome them.

- d. Stormwater Management Action Planning (SMAP): The City shall conduct an assessment similar to the process and range of issues outlined in the *Stormwater Management Action Planning Guidance* (Ecology, 2019). The components of this process are as follows:
- i. *Receiving Water Assessment*: By March 31<sup>st</sup>, 2022 the City shall submit a watershed inventory of the receiving waters and contributing areas with description of their conditions.
  - ii. *Receiving Water Prioritization*: Informed by the assessment of receiving water conditions defined above, and other local and regional information, the City shall develop and implement a prioritization method to determine which receiving waters would receive the most benefit from stormwater management planning. Documentation of the prioritized and ranked list of receiving waters in due by June 30<sup>th</sup>, 2022.
  - iii. No later than March 31<sup>st</sup>, 2023 the City shall develop a SMAP for at least one high priority catchment area, which identifies the following:
    - (a) Description of stormwater facility retrofits
    - (b) Land management/development strategies for water quality management
    - (c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5.
    - (d) Identification of changes needed to local long-range plans (if applicable)
    - (e) A proposed implementation schedule and budget sources for short and long term actions
    - (f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.



## Planned Activities

**Table 1. 2023 Stormwater program planning objectives.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Continue holding monthly interdepartmental Storm Workgroup meetings	Discuss program progress, short/long range plans, and upcoming projects and deadlines	Every third Thursday of the month
Special meeting of the Utility Board (citizen advisory group)	Special meeting w/ stormwater focus covering NPDES Permit compliance measures, upcoming program goals/needs, possible barriers and mechanisms to overcome them	Monthly
Assess code requirements promoting LID Principles and BMPs	Identify barriers to implementation of these codes and determine mechanisms to overcome them (if any)	Annual
Search for grant funding opportunities	DOE Municipal Stormwater Capacity Grant	July/Aug 2023
Develop Stormwater Management Action Plan (SMAP)	Develop a SMAP for one high priority catchment area for stormwater quality management.	March 31, 2023
Review how anticipated stormwater impacts on water quality were addressed during the 2016-2024 permit term w/ updates to Comprehensive Plan	Respond to corresponding Annual Report questions with input from interdepartmental storm team	March 31st, 2023

## Component 2: Public Education & Outreach

The City of Mercer Island has a long history of educating the community on the impacts of illicit discharges and non-point pollution transported to Lake Washington from public and private property via the storm system. Such initiatives exist to keep citizens, business owners, and City staff informed and involved in stormwater management as a collective responsibility. While there are many actions the City can implement to prevent or counter contamination of the MS4, the day-to-day behaviors of residents can have an even greater impact on the surrounding landscape, infrastructure, and ultimately watershed health and safety.





Section S5.C.2 of the 2019-2024 Phase II Permit requires the City to develop and implement a public education and outreach program with the goal of **1)** building general awareness about methods to address and reduce impacts from stormwater runoff, **2)** effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts, and **3)** create stewardship opportunities that encourage community engagement in addressing the impacts from stormwater runoff. These three elements are further detailed below, followed by a table containing the City’s education and outreach activities planned for 2021.



- 1) **General Awareness.** To build general awareness, the City shall, at a minimum, annually select one target audience and one subject area from either (a) or (b) below.
  - a. Target audiences: General public (including overburdened communities, or school age children) or businesses (including home-based, or mobile businesses). Subject areas:
    - General impacts of stormwater on surface waters, including impacts from impervious surfaces
    - Low impact development (LID) principles and LID BMPs
  - b. Target audiences: Engineers, contractors, developers, or land use planners. Subject areas:
    - Technical standards for stormwater site and erosion control plans.
    - LID principles and LID BMPs
    - Stormwater treatment and flow control BMPs/facilities
- 2) **Behavior Change.** With the intent to effect behavior change, the City shall select, at a minimum, one target audience and one BMP of the below suggestions.
  - a. Target Audiences: Residents, landscapers, property managers/owners, developers, school age children, or businesses (including home-based or mobile businesses). BMPs:
    - Use and storage of: pesticides, fertilizers, and/or other household chemicals
    - Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials.
    - Prevention of illicit discharges
    - Yard care techniques protective of water quality
    - Carpet cleaning

- Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings
  - Pet waste management and disposal
  - LID Principles and LID BMPs
  - Stormwater facility maintenance, including LID facilities
  - Dumpster and trash compactor maintenance
  - Litter and debris prevention
  - Sediment and erosion control
  - (Audience specific) Source control BMPs (refer to S5.C.8)
  - (Audience specific) Locally-important, municipal stormwater-related subject area
- b. No later than July 1, 2020, the City shall conduct a new evaluation of the effectiveness of an ongoing behavior change campaign including documentation of lessons learned and recommendations for which option to select from permit section S5.C.2.a.ii.(c) (summarized by section C2.2.c of this plan, below). The City may forgo the above evaluation requirement if staff opt for strategy S5.C.2.a.ii.(c)3 (summarized by C2.2.c.iii of this plan, below), and it is deemed an evaluation will not add value to the overall behavior change program.
- c. By February 1, 2021, the City shall follow social marketing practices and methods, similar to community-based social marketing, to develop a campaign tailored to the community, complete with a program evaluation plan (with implementation scheduled to begin no later than April 1, 2021). One of the following shall be selected:
- i. Develop a strategy and schedule to implement the existing campaign more effectively,
  - ii. Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs, or
  - iii. Develop a strategy and schedule for a new target audience and BMP behavior change campaign.
- 3) **Stewardship Opportunities.** The City shall provide and advertise stewardship opportunities and/or partner with existing organizations to encourage community engagement in activities or events which address the impacts from stormwater runoff.

### ***Planned Activities***

**Table 2. Summary of the City's Public Education and Outreach activities planned for 2023.**



Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Develop plan and schedule for continued behavior change campaign	<b>Target Audience(s):</b> residents, dog owners & walkers, park/open space/swim beach users <b>Target BMP:</b> pet waste clean-up & disposal	Plan by March 31st, Implementation by April 1
Develop educational workshop for elementary school children.	Develop comprehensive set of BMP-related educational resources to help students understand their local ecosystem better through a hands-on informational workshop.	April 17, 2023
Consult with Youth & Family Services team on identifying overburdened community groups and better ways to reach/serve them	Example: YFS can likely advise on top non-English language groups on the island	Spring 2023 (most beneficial to meet in early stages of educational/BMP material development)
Expand translation options for non-native English speakers (identified as overburdened community group)	Translation options needed for: webpage, educational BMPs, explanation of code and permit regulations, outreach materials for businesses subject to upcoming Source Control Program, etc.	TBD (consult with IT)
Volunteer restoration events	Continue contracting with Earth Corps and Mountains to Sound Greenway Trust to host volunteer restoration events at City parks and open spaces (prioritizing steep slopes and wetland/watercourse buffers), draft language explaining the impact planting and maintaining healthy vegetation has on stormwater, then give to EC/MTSG to incorporate in their intro speeches	Events held every few weeks/months throughout the year, depending on public health and safety measures
City-wide Recycling Event	City sponsors two special events for “hard to recycle” items, including E-waste, with sale of heavily discounted rain barrels. Also serves as opportunity to educate public on proper disposal of hazardous waste (at King County centers).	Biannual (Spring & Fall)

Table 2. Continued

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
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<p>Mercer Island's Arbor Day Celebration</p>	<p>Annual Arbor Day tree planting event: One stormwater staff member will attend to man the booth, engage volunteers, answer questions, etc. Booth to contain info and swag from Pet Waste Behavior Change Campaign, as well as educational materials specifically aimed at relationship between stormwater and urban forests/street trees (BMPs tailored to the island's landscape of slopes, water courses, and shoreline property, how to prevent landslides with the use of bioengineering methods such as vegetation, woody debris, bioswales, etc.)</p>	<p>Third Saturday on October 14, 2023</p>
	<p>Arbor Day marketing campaign includes social media posts every day of the week leading up to event. One of the five days will be dedicated to highlighting the role urban forestry plays in stormwater management, and how residents can be a good steward for the environment, whether it be on their own property or City land (important to engage everyone, and not exclude apartment/condo dwellers)</p>	<p>Week leading up to Arbor Day (October 10-14, 2023)</p>
<p>Participation in regional stormwater groups and collective outreach initiatives</p>	<p>Regular attendance and participation in regional stormwater groups and symposia (STORM, SOG, NPDES Coordinators Forum) and Puget Sound Starts Here (PSSH) initiatives (contribute to PSSH bus ad campaign, PSSH Month, etc.)</p>	<p>Ongoing</p>
<p>Stormwater educational workshop</p>	<p>Hold a one-day in-person workshop for elementary age students to learn about stormwater and its effects on the local ecosystem.</p>	<p>Spring 2023</p>
<p>Educational signs at popular lake access and swim beach sites</p>	<p>Maintain new stormwater/healthy shoreline educational signs installed at recent shoreline restoration sites</p>	<p>Ongoing</p>
<p>Publish outreach materials via City's electronic outlets</p>	<p>Use range of city outlets (E-newsletter, social media, web news) to promote stormwater concepts and educate on watershed protection</p>	<p>Several publications throughout the year</p>
<p>Social media outreach</p>	<p>Utilize social media (Facebook, Instagram) as a channel to reach the community, especially w/ reduced recreational sites/activities due to COVID-19 regulations</p>	<p>Ongoing (plus events like PSSH Month, Arbor Day, National Scoop the Poop Week, etc.)</p>

## Component 3: Public Involvement and Participation

Public input is important to the development and implementation of the SWMP. The City engages public participation through multiple channels, with stormwater program plans and materials available for review along with opportunities for comment. The community is also encouraged to participate in municipal government via several boards and commissions that help guide short- and long-term planning goals.

When recruiting for these groups, or soliciting public input in general, the City values a diversified and balanced perspective, and continually seeks ways to better reach and represent underserved members of the community.

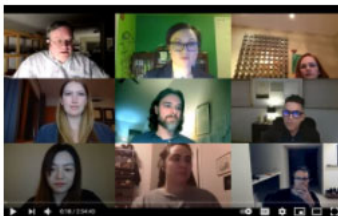
This section describes the Phase II Permit requirements related to public involvement, including planned compliance activities.

### ***2019-2024 Phase II Permit Requirements***

Section S5.C.2 of the 2019-2024 Phase II Permit requires the City to create opportunities for the public to participate in the decision-making processes involving development, implementation, and update of the SWMP, and comply with applicable state and local public notice requirements. The two main components include:

- a) Develop and implement a process for the public, including overburdened communities, to participate in the planning and implementation of the City's SWMP and SMAP.
- b) Post the Annual Report and SWMP Plan on the City's website no later than May 31 of each year (with all other submittals available upon request)

The City invites public comment on the contents of the 2023 SWMP plan update as well as ideas for content on the upcoming 2024 SWMP plan. This plan is intended to be a living document, subject to changes or additions where appropriate to better achieve its two leading objectives: **(1)** to provide a transparent, comprehensive summary of the City's stormwater assets and activities, and **(2)** to steer future development and implementation of the stormwater program, based on community priorities, industry best practices, and permit compliance measures.



### **Volunteer for Boards and Commissions**

Help improve the livability of Mercer Island by getting more involved in your community! The City Council is seeking a diverse range of community members to serve on several volunteer advisory boards.



## Planned Activities

**Table 3. Planned public involvement and participation opportunities.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Utility Board	Citizen advisory board to the City Council on matters regarding all utilities on island	Monthly (every second Tuesday of the month)
Public Involvement in the SWMP	Solicit feedback on website and in <i>M.I. Weekly</i>	Ongoing/Annual
Revise SWMP Plan for 2024 submission	Update SWMP Plan for 2024, taking into consideration feedback received from public, and incorporating program elements with 2023-2024 deadlines	Ongoing (to be finalized 2024)
Prepare, submit, and publish SWMP Plan update and Annual Report	Prepare 2023 Annual Report and 2024 SWMP Plan update with supplemental documentation to be submitted to Ecology and published on the City website	March 31, 2024
Evaluate effectiveness of current outreach and involvement opportunities	Evaluate effectiveness of current outreach activities and explore new methods or outlets to expand efforts in number and reach. Special consideration for impacts of COVID-19 on public activities, recreation and business restrictions, facility closures, event cancellations, and altered school and work routines.	Ongoing
Consider limitations in reach of the current program, and improve methods to engage a wider/more diversified range of community members	Identify possible underserved or overburdened community groups, and develop a strategy to better engage them (i.e. expand current language translation services – with Google Translate on the City website, publish SWMP and/or other educational materials in select non-English languages, etc.)	Ongoing
Community Emergency Response Team (CERT) training for citizens	Disaster preparedness training hosted by City's Emergency Operations Center engages and empowers residents to lead their neighborhood in the case of environmental emergencies	8 dates offered between April-June



## Component 4: MS4 Mapping and Documentation

The City shall maintain a MS4 mapping and documentation process meeting the minimum performance measures of the 2019-2024 permit term, as defined below.

### ***2019-2024 Phase II Permit Requirements***

- Ongoing Mapping: The City shall maintain mapping data for the features listed:
  - i. Known MS4 outfalls and known MS4 discharge points.
  - ii. Receiving waters, other than groundwater.
  - iii. Stormwater treatment and flow control BMPs/facilities owned or operated by the City.
  - iv. Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.
  - v. Tributary conveyances to all known outfalls and discharge points with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following features or attributes (or both) shall be mapped:
    - i. Tributary conveyance type, material, and size where known.

- ii. Associated drainage areas.
- iii. Land use.
- vi. Connections between the MS4 owned or operated by the City and other municipalities or public entities.
- vii. All connections to the MS4 authorized or allowed by the City after February 16, 2007. 9,10 b.



- New Mapping: The City shall:
  - i. No later than January 1, 2020, begin to collect size and material for all known MS4 outfalls during normal course of business (e.g. during field screening, inspection, or maintenance) and update records.
  - ii. No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system.
  - iii. No later than August 1, 2021, the required format for mapping is electronic (e.g. Geographic Information System, CAD drawings, or other software that can map and store points, lines, polygons, and associated attributes), with fully described mapping standards.
  - iv. To the extent consistent with national security laws and directives, the City shall make available to Ecology, upon request, available maps depicting the information required in S5.C.4.a through c, above.
  - v. Upon request, and to the extent appropriate, the City shall provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. This Permit does not preclude Permittees from recovering



reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities, and other Permittees.

### ***Planned Activities***

Table 4 summarizes 2023 planned mapping and documentation activities. City staff conduct all field tests/screenings/inspections/etc. via the asset management system CityWorks, which is fully integrated and regularly updated with the City's GIS data.

**Table 4. Planned mapping and documentation activities in 2023.**

<b>Activity</b>	<b>Task(s) or Deliverable(s)</b>	<b>Schedule/Frequency</b>
Mapping updates	Work with GIS technician to ensure maps are updated regularly based on changes to infrastructure from CIP projects and private development	Ongoing (all new infrastructure asbuilts sent to GIS tech upon development permit completion and entered on individual basis)
MS4 Outfall Mapping	Continue collecting outfall size and material data while performing field screening	Ongoing
Storm Camera	Conduct storm main inspections and investigations by utilizing Proteus camera crawler.	Ongoing
MS4 Catch Basin Mapping	Continue to edit/improve existing CB map data while performing biennial inspections (ensure location and data is accurate)	Ongoing
3D Modeling data collection	Collected CB pipe diameter, material, and measure down data w/properly oriented sketch for eventual 3D flow modeling and mapping for town center.	As resources allow, w/priority zones surveyed

## **Component 5: Illicit Discharge Detection and Elimination**



An illicit discharge is defined as any discharge into the stormwater system that is not composed entirely of stormwater or of non-stormwater discharges as defined by the Western Washington Phase II Municipal Stormwater Permit and found in the Mercer Island Municipal Code.

This section describes the Illicit Discharge Detection and Elimination (IDDE) Phase II Permit requirements, as well as the City's planned compliance activities for 2021.

## 2019-2024 Phase II Permit Requirements

Section S5.C.5 of the 2019-2024 Phase II Permit requires the City to include an ongoing IDDE Program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the stormwater system. The specific Phase II Permit requirements are as follows:

- a) The program shall include procedures for reporting and correcting or removing illicit connections, spills, and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4. Illicit connections and illicit discharges must be identified through, but not limited to: field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.
- b) The City shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.
- c) The City shall implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the Permittee's MS4 to the maximum extent allowable under state and federal law. Allowable and conditionally allowable discharges are defined in the Western Washington Phase II Municipal Stormwater Permit and the Mercer Island Municipal Code.
- d) The City shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the MS4. The program shall include the following components:
  - i. Procedures for conducting investigations of the MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections.



The City shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections shall be based on the *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual* (Herrera Environmental Consultants, Inc.; May 2013). The City shall also document the field screening methodology in the Annual Report.

The City shall complete field screening for an average of 12% of the MS4 each year. Annual tracking of the total percentage of MS4 screened began prior to the August 1, 2019 deadline.

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- ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges.
  - iii. An ongoing training program for all municipal field staff, who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4. Training covers the identification of an illicit discharge and/or connection, and the proper reporting, responding, disposal, and follow-up procedures. “Refresher” trainings shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. The City shall document and maintain records of the trainings provided and the staff trained.
  - e) The City shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the MS4. The program shall include:
    - i. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the City. Procedures shall address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge.
    - ii. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting, and analyzing water samples, and/or other detailed inspection procedures.
    - iii. Procedures for eliminating the discharge, including notification of appropriate authorities (including owners or operators of interconnected MS4s); notification of the property owner; technical assistance; follow-up inspections; and use of the compliance strategy developed pursuant to S5.C.5.c.iv, including escalating enforcement and legal actions if the discharge is not eliminated.
    - iv. Compliance with the provisions in (a), (b), and (c), above, shall be achieved by meeting the following timelines:
      - (a) Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.
      - (b) Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports, or monitoring information that indicates a potential illicit discharge.
      - (c) Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the



connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

- (d) Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.
- f) The City shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. The City shall document and maintain records of the training provided and the staff trained.



- g) Recordkeeping: The City shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report, the City shall submit data for the illicit discharges, spills and illicit connections including those that were found by, reported to, or investigated by the City during the previous calendar year. The data shall include the information specified in Appendix 12 and WQWebIDDE.

## Planned Activities

Table 5 summarizes the 2023 planned activities associated with the City's IDDE program.

**Table 5. Planned illicit discharge detection and elimination activities.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Continue implementation of IDDE field screening	Conduct wet and dry weather outfall inspections via City's asset management system. Inspection form adapted from <i>IC &amp; ID Field Screening &amp; Source Tracing Guidance Manual</i> , which includes outfall features/conditions (for mapping purposes) and water quality screening, if flow present. Additional tests conducted if possible illicit connection or discharge is suspected (dye testing, video inspection, source tracing up drainage basin, etc.)	Perform field screening on minimum 12% of the stormwater system annually
Publicize Phone Number for Reporting Spills and Illicit Discharges	Publicize phone number on website and in print material	Ongoing
Tracking System for Complaints, Investigations, and Spill Response	Use work order system to track IDDE reports and immediately upload to WQWebIDDE.	Ongoing, upload to WQWebIDDE
	Revise Cityworks IDDE form to reflect WQWebIDDE fields for ease of reporting and to ensure all requisite info is collected	ASAP
Spill kits	Inventory every vehicle in the City fleet for a spill kit and contents; replenish supplies, ensure the new laminated info-sheet (with instructions specific to City staff) to be included to each kit	Annual on Shop Clean-up Day
	30-gal drum spill kits to be purchased for every stormwater facility, equipment yard, major parks, and the two Customer Response Technician/On-call trucks in order to ensure quick access (<5 minutes) to a larger supply of materials no matter where the responding staff are on the island (in event the standard vehicle spill kit is insufficient to mitigate issue)	Ongoing
Staff Training	Stormwater team provides annual 45 min training to all field staff, including stormwater program/permit overview and instructions for identifying and responding to illicit discharges and spills	Annual (Nov/Dec)

## Component 6: Controlling Runoff from New Development, Redevelopment, and Construction Sites



The Community Planning and Development (CPD) Department is responsible for permitting, inspection, and code enforcement actions for construction-related activities in the City.

This section describes the Phase II Permit requirements related to controlling runoff from new development, redevelopment, and construction sites, including

planned activities.

### ***2019-2024 Phase II Permit Requirements***

Section S5.C.6 of the 2019-2024 Phase II Permit requires the City to develop and implement a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction activities for all private and public development. The Phase II Permit requirements are summarized as follows:

- h) Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects meeting the minimum requirements defined in the Phase II Permit by **June 30, 2022**.

Continue to implement a site planning process and BMP selection and design criteria that meet the “Technical Thresholds” in Appendix 1 of the Phase II Permit and will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy State requirements to apply all known, available, and reasonable methods of prevention, control, and treatment prior to discharge.

Continue to implement a permitting process with plan review, with the legal authority to inspect private stormwater facilities that discharge into the City stormwater system, using qualified personnel. Ongoing training program for planning and review staff.

Conduct inspections of construction sites prior to clearing and construction, during construction, and upon completion of construction.

The City shall manage maintenance activities to allow for inspections of all stormwater treatment and flow controls BMPs/facilities, and catch basins, in new residential developments every six months. This identifies any maintenance needs and ensures compliance with maintenance standards.



Provide ongoing training program for staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites.

Track and maintain records of the activities conducted throughout the year.

### ***Planned Activities***

Table 6 summarizes the City's planned activities associated with controlling runoff from new development, redevelopment, and construction sites.

**Table 6. Planned activities to control runoff from new development, redevelopment, and construction sites.**

<b>Activity</b>	<b>Task(s) or Deliverable(s)</b>	<b>Schedule/Frequency</b>
Develop/update documents and forms to improve the permitting process	Consider possible barriers, continue adjusting processes based on COVID-19 regulations	Ongoing
Update City's website to improve stormwater management and regulatory information	Ongoing updates at <a href="http://www.mercergov.org/StormwaterPermits">http://www.mercergov.org/StormwaterPermits</a>	Ongoing
Staff Training	All core stormwater staff to acquire CESCL certification	1-2 staff set to acquire cert in 2023
	Pursue training opportunities for development review and inspection staff	Ongoing
Review All Stormwater Site Plans	Continue current practices	Continue current practices and update as needed
Construction Site Inspections	Review and refine the inspection procedures used during construction to inspect/enforce TESC measures	Continue current practices and modify as needed
Record Keeping	Continue using electronic permit tracking system (TRAKiT/CRW Systems) to track the status of plan reviews, inspections, correction notices, and final project approvals	Ongoing
Notice of Intent Availability	Continue to support Ecology by informing applicants of the "Notice of Intent for Construction Activity"	Ongoing
Document codes, standards, enforcement measures for tracking.	Enforce codes, rules, standards to incorporate and require LID principles and LID BMPs. (Ord. 17C-09 § 1; Ord. 09C-09 § 1; Ord. 95C-118 § 1. Formerly 15.09.030)	Ongoing

## Component 7: Municipal Operations and Maintenance

In December 1995, the City of Mercer Island Municipal Code 15.09.02 established the City's Storm and Surface Water Utility. The code set forth the primary authority and responsibility for carrying out the Puget Sound Water Quality Management Plan including responsibilities for maintenance, operation, and improvement of the City's storm and surface water drainage system. The primary utility activities are specified in the Mercer Island Municipal Code and include: basin planning, capital improvements, and facility maintenance.



This section describes the Phase II Permit requirements related to municipal operations and maintenance (O&M), including planned activities.

### ***2019-2024 Phase II Permit Requirements***

Section S5.C.7 of the 2019-2024 Phase II Permit requires the City to develop and implement an O&M program with the ultimate goal of preventing or reducing pollutant runoff from the MS4 and municipal O&M activities. The specific Phase II Permit requirements are as follows:

- i. The City shall implement maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology.
  - (a) The purpose of the maintenance standard is to determine if maintenance is required. Exceeding the standard between inspections and/or maintenance is not a permit violation.
  - (b) Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:
    - Within 1 year for typical maintenance of facilities, except catch basins.
    - Within 6 months for catch basins.
    - Within 2 years for maintenance that requires capital construction of less than \$25,000.



Circumstances beyond the City’s control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond their control.

- b. Maintenance of stormwater facilities regulated by the City
- i. The program shall include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.7.a. The provisions shall include:
    - (a) Implementation of an ordinance or other enforceable mechanism that:
      - Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.7.a.
      - Requires inspection of facilities in accordance with the requirements in (b), below.
      - Establishes enforcement procedures.
    - (b) Annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4
  - ii. Compliance with the inspection requirements in above, shall be determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records.
  - iii. Records of maintenance inspections and maintenance activities shall be maintained.
- c. Maintenance of stormwater facilities owned or operated by the City.
- i. The City shall implement a program to annually inspect all municipally owned or operated stormwater treatment and flow control

BMPs/facilities and take appropriate maintenance actions in accordance with the adopted maintenance standards.

- ii. The City shall spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events (24-hour storm event with a 10 year or greater recurrence interval).



- iii. The City shall inspect all catch basins and inlets owned or operated by the City every two years.
  - (a) Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the Stormwater Management Manual for Western Washington.
  - (b) Decant water shall be disposed of in accordance with Appendix 6 – Street Waste Disposal.
- iv. Compliance with the inspection requirements in S5.C.7.c.i-iii, above, shall be determined by the presence of an established inspection program achieving at least 95% of required inspections.
- d. Implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance activities under the functional control of the City.
  - i. No later than December 31, 2022, document the practices, policies, and procedures.
  - ii. See permit details for activities to be addressed
- e. Implement an ongoing training program for employees of the City whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their



- job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided. The staff training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance.
- f. Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City in areas subject to this Permit that are not required to have coverage under the Industrial Stormwater General Permit or another NPDES permit that authorizes stormwater discharges associated with the activity. As necessary, update SWPPPs no later than **December 31, 2022**.
  - g. Maintain records of the activities conducted to meet the requirements of this Section.

**Planned Activities**

Table 7 summarizes the City’s planned activities associated with municipal O&M.

**Table 7. Planned municipal operations and maintenance activities.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Implement maintenance procedures and standards	Continue to review and modify if needed	Ongoing
Implement Stormwater Pollution Prevention Plans (SWPPPs)	Conduct ongoing Dry and Wet weather SWPPP inspections	Ongoing/Seasonal
Street sweeping	Performance measures annually (town center: 36 cycles, arterials: 18 cycles, residential: 2 cycles)	Ongoing
Vegetation control	Mowing, pruning, weed control to reduce debris clogging CB's and ditches	Seasonal
Record Keeping	Continue record updates. Document activities associated with SWPPPs.	Ongoing
Communication and Coordination	Monthly meetings with CPD staff regarding measures to protect water quality. Meetings with Public Works and Parks staff to review findings of SWPPPs and discuss practices to reduce stormwater impacts	Monthly/Ongoing

Table 7. Continued

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Staff Training	Refresher training on SWPPPs and source control BMPs (Parks & Public Works staff conduct weekly safety meetings, with topics related to facility/equipment storage/storm structure/etc. BMP's averaging once per month)	Monthly
City-owned treatment and flow control facility inspections	All detention basins, ponds and other stormwater facilities/BMPs inspected annually by stormwater staff and provided routine maintenance (regardless of whether maintenance thresholds were exceeded). Additional spot checks performed following major storm events	Annual/Ongoing
Privately-owned treatment and flow control facility inspections	Annual inspections required of all private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted according to S5.C.6.c. (property owners responsible for inspections, maintenance, and record retention, available to City staff on request). Community Planning & Development Dept updates list of regulated facilities annually, to be monitored by Stormwater staff.	Annual
City Shop Clean-up Day(s)	Two seasonal clean-up days at the City's material and equipment storage yards. Activities contributing to O&M facility maintenance standards include scheduled herbicide disposal, hazardous waste disposal runs, etc.	Twice annually (Spring/Fall)
Catch Basin Inspection Program	All City-owned catch basins inspected on a 2-year cycle and provided maintenance and/or vector services as needed (performed in-house or by a contractor). Additional spot-checks performed on list of "hot spots" likely to be plugged or damaged following major storm events.	Biennially, ongoing

<p>MS4 Jetting Program development</p>	<p>Formalize plan for new MS4 Jetting Program w/goal to jet (and video inspect, if feasible) every storm line within MS4 on 6 or 7 yr cycle</p>	<p>TBD: implementation will depend on budget and logistics (see below)</p>
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## Component 8: Source Control Program for Existing Development

The City shall develop and maintain a program dedicated to the prevention and reduction of pollutant runoff from areas which discharge to the MS4. The success of this



program relies on a comprehensive and up-to-date catalog of all publicly and privately owned institutional, commercial, and industrial sites with the potential to generate pollutants within discharge range of the MS4.

Development, application, and enforcement of a source control program will require the implementation of several key components over the next three years.

1. Review and, if necessary, revise current section of the Municipal Code pertaining to source control best management practices (BMP's) for pollutant generating sources (with defined regulatory/compliance measures).
2. Compile an inventory identifying all public and private pollutant generating sources meeting the below criteria.
3. Implement an inspection program for the identified sites, with accompanying education and/or technical assistance resources.
4. Apply a progressive enforcement policy to achieve timely compliance with required BMP's.
5. Develop a training program for staff involved in the implementation of the source control program, and maintain records of the training content and schedule, as well as participating staff.

These five main components to developing and implementing a source control program for existing development are explained with greater detail and permit deadlines in the requirements section below.



### ***2019-2024 Phase II Permit Requirements***

The minimum performance measures required of the City are as follows:

- i) The City shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include operational and structural source control BMP requirements for pollution generating sources with inventory, inspection, and enforcement program components.
- j) Minimum performance measures:
  - i. No later than August 1, 2022, the City shall adopt and make effective an ordinance(s) requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities.

Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the City and is used as determined necessary by the City, in accordance with below.

- ii. No later than August 1, 2022, the City shall establish an inventory that



identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory shall include:

- (a) Businesses and/or sites identified based on the presence of activities that are pollutant generating.
  - (b) Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.
- iii. No later than January 1, 2023, the City shall implement an inspection program for sites identified above.
  - (a) All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.
  - (b) The City shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in its source control inventory to assess BMP effectiveness and compliance with source control requirements. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.
  - (c) The City shall inspect 100% of sites identified through credible complaints.
  - (d) The City may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.
- iv. No later than January 1, 2023, the City shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below:
  - (a) If the City determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the City shall take appropriate follow-up action(s).
  - (b) When the City determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), enforcement action shall be taken, as established through authority in the Municipal Code, ordinances, or through the judicial system.
  - (c) The City shall maintain records (site visits, inspection reports, warning letters, notices of violations, and other enforcement

- records), demonstrating an effort to bring sites into compliance. The City shall also maintain records of sites that are not inspected because the property owner denies entry.
- (d) The City may refer non-emergency violations of local ordinances to Ecology, provided, the City also makes a documented effort of progressive enforcement. At a minimum, the City’s enforcement effort shall include documentation of inspections and warning letters or notices of violation.
  - v. The City shall train staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed and the City shall maintain records of the training provided and the staff trained.

**Planned Activities**

Table 8 summarizes the City’s planned activities associated with the development and implementation of a source control program for existing development.

**Table 8. Planned Source Control Program activities.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Conduct Source Control inspections	Complete inspections equal to 20% of business to assess BMP effectiveness and compliance with source control requirements.	Monthly/Ongoing
Implement progressive enforcement policy that requires sites to comply with stormwater requirements	Inspector shall take appropriate follow-up and enforcement actions for businesses to bring sites into compliance.	Ongoing
Train staff for implementing source control program	Training shall cover legal authority for source control, source control BMPs and their proper application	Summer 2023

**Monitoring**

This section provides a brief discussion of the Phase II Permit monitoring



requirements, including planned activities.

**2019-2024 Phase II Permit Requirements**

The 2019-2024 Phase II Permit requires the City to do the following:

Conduct stormwater discharge monitoring per requirements in S8.C

OR

Pay into a collective fund to implement a regional Stormwater Action Monitoring (SAM) Program that includes the following three components:

- Status and trends monitoring (small stream and marine nearshore)
- Stormwater management program effectiveness studies
- Source identification and diagnostic monitoring (Source Identification Information Repository [SIDIR])

The City is not required to conduct water quality monitoring for compliance with total maximum daily loads (TMDLs) pursuant to Section S7 and Appendix 2 of the Phase II Permit, since no TMDL implementation plans have been developed for Lake Washington. Thus the City has opted to contribute to the regional monitoring program, with annual payments due by August 15 every year beginning in 2020.

**Planned Activities**

**Table 9. Planned monitoring activities in 2023.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Regional Status & Trends Monitoring	Pay into SAM collective fund each year	August 15 (annual)
Effectiveness & Source Identification Studies	Pay into SAM collective fund each year	August 15 (annual)

**Reporting**

This section provides a brief discussion of Phase II Permit reporting requirements, including planned activities.

**2019-2024 Phase II Permit Requirements**

The 2019-2024 Phase II Permit requires the City to submit the following on March 31 of each year of the Phase II Permit term:

- a) A copy of the current SWMP Plan

Appendix 3 – Annual Report Form for Cities, Towns, and Counties

Notification of any annexations, incorporations, or jurisdictional boundary changes resulting in an increase or decrease in the geographic area of Phase II Permit coverage during the reporting period.

**Planned Activities**

The City will be submitting an Annual Report and SWMP Plan to Ecology by March 31, 2023. The SWMP Plan will be posted on the City’s website by May 31, 2023.

**Table 10. Planned reporting activities.**

Activity	Task(s) or Deliverable(s)	Schedule/Frequency
Annual Report & SWMP Plan	Prepare and submit 2022 Annual Report and 2023 SWMP Plan update w/ supplemental items (submit to Ecology and post on City website)	March 31, 2023
Stormwater Management Action Plan	Develop a SMAP for at least one high priority catchment area.	March 31, 2023