



9605 NE 24<sup>th</sup> Street • Clyde Hill, Washington 98004  
425-453-7800 • Fax: 425-462-1936 • [www.clydehill.org](http://www.clydehill.org)

***THE CITY OF CLYDE HILL STORMWATER  
MANAGEMENT PLAN***

***March 9, 2017***

## **TABLE OF CONTENT**

### **Executive Summary**

#### **1.0 Background**

#### **2.0 Minimum Control Measures**

##### **2.1 Public Education and Outreach**

- 2.1.1 Permit Requirement
- 2.1.2 Existing Public Education Programs and BMPs
- 2.1.3 Enhancements and Additional BMPs for Public Education and Outreach
  - 2.1.3.1 BMP1 – City Newsletter Storm Water Quality Measures
  - 2.1.3.2 BMP2 – Municipal Website Storm Water Information
  - 2.1.3.3 BMP3 – Storm Drain Labeling
- 2.1.4 Measurable Goals and Implementation Schedule
- 2.1.5 Annual Reporting

##### **2.2 Public Involvement/Participation**

- 2.2.1 Regulatory Requirement
- 2.2.2 Existing Pump Involvement/Participation Programs and BMPs
- 2.2.3 Enhancements and Additional BMPs for Public Involvement
  - 2.2.3.1 BMP1 – Comply with State and Local Public Notice Requirements
- 2.2.4 Measurable Goals and Implementation Schedule
- 2.2.5 Annual Reporting

##### **2.3 Illicit Discharge Detection and Elimination**

- 2.3.1 Regulatory Requirement
- 2.3.2 Existing Illicit Discharge Detection and Elimination Programs and BMPs
- 2.3.3 Existing Illicit Discharge Detection and Elimination Programs and BMPs
  - 2.3.3.1 Enhancements and Additional BMPs for Illicit Discharge Detection and Elimination
    - 2.3.3.2 BMP1 – Program to Detect and Eliminate Illicit Discharges
    - 2.3.3.3 BMP2 – Storm Sewer System Map
    - 2.3.3.4 BMP3 – Illicit Discharge Ordinance
- 2.3.4 Measurable Goals and Implementation Schedule
- 2.3.5 Annual Reporting

##### **2.4 Construction Site Storm Water Controls**

- 2.4.1 Regulatory Requirement
- 2.4.2 Existing Construction Site Storm Water Controls Programs and BMPs
- 2.4.3 Enhancement and Additional BMPs for Construction Site Storm Water Controls
  - 2.4.3.1 BMP1 – Erosion and Sedimentation Control Code
  - 2.4.3.2 BMP2 – Site Inspection
  - 2.4.3.3 BMP3 – Reporting Hotline

- 2.4.4 Measurable Goals and Implementation Schedule
- 2.4.5 Annual Reporting

## **2.5 Post Construction Storm Water Management for New Development / Redevelopment**

- 2.5.1 Regulatory Requirement
- 2.5.1.1 Existing Post Construction Storm Water Management For New Development/Redevelopment Programs and BMPs
- 2.5.1.2 Enhancements and Additional BMPs For Post Construction Storm Water Management for New Development/Redevelopment
- 2.5.1.3 BMP1-Evaluate and Update Ordinances
- 2.5.1.4 BMP2 – Update Plan Review and Inspection Programs
- 2.5.4 Measurable Goals and Implementation Schedule
- 2.5.5 Annual Reporting

## **2.6 Pollution Prevention/Good Housekeeping For Municipal Operations**

- 2.6.1 Regulatory Requirement
- 2.6.2 Municipal Operations and Facilities Covered Under the SWMP
- 2.6.3 Existing Programs and Best Management Practices Pollution Prevention/Good Housekeeping for Municipal Operations
- 2.6.4 Enhancements and Additional BMPs for Pollution Prevention/Good Housekeeping
- 2.6.4.1 BMP1 – Program to Reduce or Eliminate Polluted Runoff From Municipal Operations
- 2.6.4.2 BMP2 – Training Program
- 2.6.4.3 BMP3 – Structural Control Maintenance
- 2.6.5 Measurable Goals and Implementation Schedule
- 2.6.6 Annual Reporting

## **2.7 Monitoring**

- 2.7.1 Regulatory Requirement
- 2.7.2 Municipal Operations and Facilities Covered Under the SWMP
- 2.7.3 Existing Programs and Best Management Practices Monitoring
- 2.7.4 Enhancements and Additional BMPs for Monitoring
- 2.7.5 Measurable Goals and Implementation Schedule
- 2.7.6 Annual Reporting

## **3.0 Annual Reporting**

### **EXECUTIVE SUMMARY**

The City is required to submit a Storm Water Management Plan (SWMP) in accordance with its Western Washington NPDES Phase II Stormwater Permit. The permit authorizes Small Municipal Separate Storm Sewer Systems (MS4s) and MS4s located in an urbanized area to discharge storm water and certain non-storm water discharges from their storm sewer system. The City of Clyde Hill is designated as a small MS4 located in an urbanized area. This document outlines the City of Clyde Hill's program to develop, implement and enforce a SWMP. The program is designed to prevent

pollution in storm water to the maximum extent practicable and effectively prohibit illicit discharges to the system.

The City of Clyde Hill's SWMP addresses five minimum control measures (since there are no monitoring requirements) as required by the Western Washington NPDES Phase II Permit. The City researched existing ordinances, guidance manuals, materials, best management practices (BMPs), and current programs prior to selecting the BMPs for the program. The BMPs and measurable goals were selected based on the City's ability to effectively implement them in a way that is consistent with the City's needs, resources, and circumstances.

## **STORM WATER MANAGEMENT PROGRAM**

The plan outlines the Minimum Control Measures to prevent storm water pollution as required under the DOE Western Washington Phase II General Permit. The plan details the existing Best Management Practices (BMPs) currently implemented by the City of Clyde Hill and details the future enhancement of the existing BMPs and the resulting measurable goals that can be achieved, which will lead to reductions in pollutants discharged to the storm sewer system.

A summary table of the implementation of each Minimum Control Measure (MCM) and associated BMP is located in Appendix AD. The table outlines the implementation schedule over the remainder of the permit term.

## **REPORTING REQUIREMENTS**

Clyde Hill will submit a concise annual report for each year of the permit term. The report will include the status of compliance with the permit conditions, an assessment of the appropriateness of the BMPs and progress towards achieving the measurable goals for each of the minimum control measures.

## **1.0 BACKGROUND**

The City of Clyde Hill is located in the Seattle Metro area of King County. The City is approximately 632 acres. The City is bordered by the Cities and Towns of Bellevue, Kirkland, Medina, Yarrow Point and Hunts Point.

The Western Washington Phase II NPDES General Permit issued by the DOE on August 1, 2013 lists six (5) Minimum Control Measures (MCMs) to be implemented by the owner and operator of a small MS4. The MCMs are as follows:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Controlling Runoff from New Development, Redevelopment and Construction Sites.
5. Municipal Operations and Maintenance

Section 2.0 addresses the following Permit Requirements for the SWMP pertaining to each MCM:

- The existing BMPs currently implemented by the City of Clyde Hill.
- Details of the further enhancement of existing BMPs and/or the addition of one or more BMPs.
- Measurable goals for each BMP

- The responsible City Department and/or personnel responsible for implementation.
- A schedule for the implementation of the BMPs of the 5-year term of the permit.
- Summary of information to be included in the SWMP Annual Report.

Key City of Clyde Hill ordinances and guidance documents which may be affected by the Storm Water Management Program:

- Subdivision Codes
- Drainage Codes
- Zoning Codes
- Storm Drainage Design Guidelines
- Public Works Standards

The above referenced ordinances and guidance documents are revised, as needed, to address elements of the Storm Water Management Program.

## **2.0 MINIMUM CONTROL MEASURES**

### **2.1 Public Education and Outreach**

#### **2.1.1 Permit Requirement**

*The following is a summary of the DOE's requirement for Public Education and Outreach MCM:*

Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities that will inform the public. The City may determine the most appropriate sections of the population at which to direct the program. The efforts must be designed in such a way as to be measureable as to the public's understanding of the issues. Clyde Hill will consider the following groups in the program:

1. Residents
2. Visitors
3. Public Service Employees
4. Commercial Facilities
5. Construction Site Personnel

The outreach will inform the public about the impact that storm water run-off can have on water quality, hazards associated with illegal discharges and improper disposal of waste, and steps that they can take to reduce pollutants in storm water runoff.

The City must document activities conducted and materials used to fulfill the control measure. Documentation shall be detailed enough to demonstrate the amount of resources used to address the effort. This documentation shall be retained in the annual reports required as part of the General Permit.

#### **2.1.2 Existing Public Education Programs and BMPs**

The City is currently providing public education programs associated with storm water issues to residents in the following ways:

1. The Public Works Department is led by the Public Works Director who oversees several

programs to educate the public on storm water issues.

- Information coordinated by the Public Works Department for the City related to storm water discharges includes recycling, street sweeping, and drainage maintenance.
  - Residents and businesses are informed of efforts through materials available at City Hall.
2. The Public Works Department posts signs in all of the City parks directing the removal and proper disposal of animal feces.
  3. The Public Works Department oversees Pre-Construction meetings required of all Contractors performing construction within the City of Clyde Hill. The meetings include detailed discussion of the implementation of Storm Water Pollution Prevention Plans and Sediment and Erosion Control Plans.

### **2.1.3 Enhancements and Additional BMPs for Public Education and Outreach**

The City implements BMPs that target homeowners, community businesses, and the general public. The ultimate goal of educational BMPs is to raise citizen awareness of common daily activities, such as illegal dumping and yard care, that can adversely impact water quality, and to prevent those seemingly harmless activities from polluting storm water.

To comply with the requirements of the NPDES General Permit, each BMP will have associated Measurable Goals. Appropriate City Staff will have oversight of each BMP, and the measurable goals will be documented and included in the SWMP Annual Report.

#### **2.1.3.1 BMP1 – City Newsletter Storm Water Quality Messages**

Clyde Hill will develop and use a City Stormwater Newsletter that can be posted on the City’s website. This Newsletter will contain messages pertaining to the storm water management program that are of interest to the general public, such as proper management of pesticides and fertilizers, prevention of littering, improving storm water quality and public reporting of illicit discharges and dumping. Utilizing the Newsletter on the website will allow the City to reach a diverse audience. The messages may be repeated periodically throughout the remainder of the 5-year permit period.

#### **Measurable Goals**

The City will post two storm water quality related messages per year during each permit year. Responsible Persons –The Public Works Director is responsible for implementation of Public Education BMP1 to meet the Measurable Goal.

#### **2.1.3.2 BMP2 – Municipal Website Storm Water Information**

Clyde Hill is in the process of developing a new Municipal website. Staff will be able to inform the public about the storm water management program. It will include general storm water quality information, as well as topics of interest to the general public, such as proper management of animal feces, automotive fluids, pesticides and fertilizers, prevention of littering, best management practices at construction sites, and public reporting of illicit discharges and dumping. The topics may be repeated periodically throughout the remainder of the 5-year permit period.

#### **Measurable Goals**

The City will develop a page on the City’s website for the storm water management program in 2017. The site will be updated in the remaining permit years. The City will create a new e-mail address that will be dedicated for receiving questions and concerns about the Program that are

expressed on the website.

Responsible Persons - The Public Works Director is responsible for implementation of Public Education BMP2 to meet the Measurable Goal.

### 2.1.3.3 BMP3 – Storm Drain Labeling

Label residential storm drain inlets with a message that deters dumping and which promotes awareness about storm drain outflow.

#### Measurable Goals

Label the storm drains each year as new basins are installed. This BMP will be evaluated by documenting the number of labels installed on storm drains per year. Responsible Persons- The City Engineer is responsible for implementation of Public Education BMP3 to meet the Measurable Goal.

### 2.1.4 Measurable Goals and Implementation Schedule

TARGET DATE	ACTIVITY
2017	<ul style="list-style-type: none"><li>• Post 2 storm water quality messages in the City Newsletter.</li><li>• Continue current public education programs and affiliations.</li><li>• Document the number of events and the number of people attending.</li><li>• Continue labeling of newly installed storm drains.</li></ul> Document the number of drains labeled.
2018	<ul style="list-style-type: none"><li>• Post 2 storm water quality messages in the City Newsletter.</li><li>• Develop page on the municipal website with storm water quality</li><li>• Continue labeling of newly installed storm drains.</li></ul> Document the number of drains labeled. <ul style="list-style-type: none"><li>• Continue current public education programs and affiliations.</li></ul>

### 2.1.5 Annual Reporting

The City of Clyde Hill will document all of the SWMP activities pertaining to Public Education and Outreach. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- Documentation of announcements, agendas and handouts from meetings.
- Documentation of storm water related faxes and information derived from the information hotline, as well as written transcripts of any storm water related messages left by callers.
- Count of the number of storm drain markers placed on catch basins.
- Documentation of the City Newsletters containing storm water information.
- Summary of the Web Page containing storm water information.

## 2.2 Public Involvement/Participation

### 2.2.1 Regulatory Requirement

*The following is a summary of the DOE's requirement for Public Involvement/*

***Participation MCM:***

Provide ongoing opportunities for public involvement through advisory boards and commissions, watershed committees, public participation in developing rate structures and budgets, stewardship programs, environmental activities or other similar activities. The public must be able to participate in the decision-making processes involving the development, implementation and update of the Program.

The City must make the SWMP document and Annual Compliance Report available to the public, including posting on the City’s website.

**2.2.2 Existing Public Involvement/Participation Programs and BMPs**

In 2015, the City hired an outside engineering firm to update the Comprehensive Stormwater Management Plan. This plan is used to perform a gap analysis of current level of effort versus what efforts are required by the Phase II Permit. This analysis, system modeling/mapping will be reviewed by the City and citizens to discuss various viewpoints and provide input concerning appropriate future storm water management policies and BMPs.

The next iteration of the finalized Comprehensive SWMP will be presented to the City Council and adopted by the City. All meetings will be open to the public. Further, the adopted Comprehensive SWMP will permanently be posted on the website and remain open for public review and comment. The site will also contain the contact information for the City Staff, to whom the public can directly make comments and give input.

**2.2.3 Enhancements and Additional BMPs for Public Involvement**

The City will include the public in continued development, review, and implementation of the SWMP.

**2.2.3.1 BMP1 - Comply with State and Local Public Notice Requirements**

The City will comply with state and local public notice requirements when implementing a public involvement/participation program. The required public notices will be prepared and published by the City Clerk. The City staff will convey the notices to the Public via mailing inserts, etc.

**Measurable Goals**

The measurable goal for implementation of BMP1 is to provide state and local required public notice in the process of implementing a public involvement/participation program. Responsible Persons - The City Public Works Director is responsible providing the Notices to the City Clerk for publishing required legal notices to meet the Measurable Goal for BMP1.



## 2.2.4 Measurable Goals and Implementation Schedule

TARGET DATE	ACTIVITY
2017	<ul style="list-style-type: none"> <li>• Provide State and local Required Public Notices for meetings, hearings and publications regarding storm water management.</li> <li>• Post the SWMP for Public Review at the Office of the City Clerk. A copy will be posted on the city web site.</li> <li>• Document the public input regarding the SWMP and responses to comments and input by engineering staff.</li> </ul>
2018	<ul style="list-style-type: none"> <li>• Continue to Provide State and local Required Public Notices for meetings, hearings and publications regarding storm water management.</li> <li>• Post updates to the SWMP (if plan is updated) for public review and comment at the Office of the City Clerk. A copy will be posted on the city web site.</li> <li>• Post SWMP Annual Report for public review and comment</li> </ul>

## 2.2.5 Annual Reporting

The City of Clyde Hill will document all of the SWMP activities pertaining to Public Involvement. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- Documentation of announcements, agendas and minutes from all public hearings and meetings pertaining to storm water management
- Summary of the web page that shows the posting of the SWMP, Annual Report, and surveys that document public's understanding of education effort
- Documentation of any written comments or input from the public pertaining to storm water management along with documentation of the City Staff's response.

## 2.3 Illicit Discharge Detection and Elimination

### 2.3.1 Regulatory Requirement

*The following is a summary of the DOE's requirement for Public Involvement/ Participation MCM:*

Illicit Discharges:

A section of the SWMP must be developed to establish a program to detect and eliminate illicit discharges to the City's storm sewer system. The SWMP must include the manner and process to be used to effectively prohibit illicit discharges. An ordinance or other regulatory mechanism must be utilized to prohibit and eliminate discharges. Elements must include:

1. Detection - The SWMP must list the techniques used for detecting illicit discharges.
2. Elimination – The SWMP must include appropriate actions and, to the extent allowable under state and local law, establish enforcement procedures for removing the source of an illicit discharge.

### Allowable Non-Storm Water Discharges

Certain non-storm water flows listed within the Permit do not need to be considered by the City, such as roof drains or water from crawl-space sump pumps, unless the City identifies the flow as a significant source of pollutants to the storm system.

### Storm Sewer Map

A map of the storm sewer system must be developed and will include the following:

1. Location of all outfalls.
2. The names and location of all waters of the U.S. that receive discharges from the outfalls.

### 2.3.2 Existing Illicit Discharge Detection and Elimination Programs and BMPs

#### **Enforcement:**

The City of Clyde Hill relies on the Clyde Hill Municipal Code Ordinances as legal authority to prevent spills, dumping, or disposal of materials on the roadways and on public and private property, which includes the storm sewer and drainage systems.

The City's Public Works Department, Building/Code Inspectors and the Police Department enforce the above mentioned laws and ordinances that protect the storm water drainage systems from spills and illegal dumping.

#### **Detection and Elimination:**

The City currently uses the preventive practices of thorough inspection and verification during the entire construction phase to try and avoid the need for more extensive detection of illicit connections. The Public Works Department and/or the Building/Code Inspectors respond to reports of illicit connections at the time they are reported.

### Allowable Non-Storm Water Discharges

The City of Clyde Hill understands that there are allowable non-storm water discharges that enter the storm sewer and drainage systems. At present, the City will only allow the following water discharges to be excluded as an illicit discharge.

Diverted stream flows

Rising ground waters

Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))

Uncontaminated pumped ground water

Foundations drains

Air conditioning condensations

Irrigation water from agricultural sources that is comingled with urban stormwater Springs

Water from crawl space pumps

Flows from riparian habitats and wetlands

Non stormwater discharges covered by another permit Discharges from emergency firefighting activities

Any other non-storm water discharge will be considered for exclusion as an illicit discharge on a case-by-case basis.

## **Storm Sewer Mapping**

The Public Works Department continues to map the existing storm sewer and roadway systems in a GIS format from as-built construction plans and City records. Approximately 20 miles of storm sewer pipe that is owned and maintained by the City of Clyde Hill are currently mapped. The GIS map attributes include the location, length, size, age, and type of material of the pipes and the location, size and type of the inlet structures.

### **2.3.3 Enhancements and Additional BMPs for Illicit Discharge Detection and Elimination**

#### **2.3.3.1 BMP1 - Program to Detect and Eliminate Illicit Discharges**

The City will evaluate existing procedures and develop and implement a program to detect and eliminate illicit discharges to the storm sewer system. Field staff from Public Works and Inspection/Code Enforcement will be provided with initial training and annual refresher training conducted by the Public Works Department, to be aware of signs of illicit discharges. Field staff will be instructed to document unusual dry weather flows (those not classified as allowable non-stormwater discharges), illegal dumping, sewage overflows, or anything else unusual.

Once documentation is completed by field staff, it will be submitted to the Public Works Director for further investigation. Public Works staff will work to identify the source of the discharge and remove and/or correct the discharge or connection if it is within the City's jurisdiction. If the discharge or connection originates from a private source, the proper enforcement division will be contacted to respond.

A database to document the number of investigations conducted and the number of illicit connections or discharges addressed will be maintained by the Public Works Director.

Information from the database may be transferred to the GIS storm sewer map to help identify problem areas.

#### **Measurable Goals**

Develop the water quality observation cards and formal training program in 2017. Conduct the initial training and formally begin the observation and reporting program in 2017. Continue annual training and reporting through the remainder of the Permit.

Responsible Persons - The Public Works Director is responsible for development and implementation of the illicit discharge program to meet the Measurable Goal.

#### **2.3.3.2 BMP2 - Storm Sewer System Map**

The existing GIS storm sewer map will be updated with newly constructed facilities and will be expanded to include man-made channels, ditches, the location of all outfalls, and the names and location of all waters of the United States that receive discharges from those outfalls. The information for the updates will be taken from as-built construction plans and a Global Positioning System (GPS) will be used to capture outfall locations. Citizen complaints, visual screening data, inspections, and the number of investigations will also be input into the GIS and a water quality database established.

#### **Measurable Goals**

Update the existing GIS storm sewer map during the remainder of the current permit to include

ditches, manmade channels, and all facilities constructed during the last three years; and locate, identify and map 33% of the outfall structures and receiving waters of the United States per year during Permit Years 2, 3 and 4. The map will be updated annually based on as-built construction plans. This BMP will be evaluated on its usefulness in determining the extent of illicit and non-storm water discharges and identifying the possible sources of the illicit and non-storm water discharges and the particular water bodies they may be affecting.

Responsible Persons -The City Engineer is responsible for implementation of this BMP2 to meet the Measurable Goal.

**2.3.3.3 BMP3 - Illicit Discharge Ordinance**

The City of Clyde Hill has developed an ordinance to effectively prohibit illicit discharges and illegal dumping into the storm sewer system and has implemented enforcement response procedures and penalties for noncompliance. It authorizes access for municipal employees to storm sewers on private property for inspection and investigation purposes. If it is determined that any non-storm water discharges significantly contribute pollutants to the storm sewer system, the ordinance prohibits those non-storm water discharges.

**Measurable Goals**

The City will evaluate existing ordinances associated with illicit discharges and illegal dumping in 2017. The City will determine if the ordinance should be updated in 2018. The revised ordinance will be implemented in 2018 and amended to include any additional non-storm water discharges identified as pollutants during the 2017 evaluation.

Responsible Persons - The Public Works Director and the City Attorney are responsible for development and implementation of the illicit discharge ordinance to meet Measurable Goal 2.3.3.3.

**2.3.4 Measurable Goals and Implementation Schedule**

TARGET DATE	ACTIVITY
2017	<ul style="list-style-type: none"> <li>Update the existing GIS storm sewer map.</li> <li>Review the existing illicit discharge ordinance and determine if the current ordinance should be updated. Start the update to the Illicit Discharge ordinance if it is determined to be necessary.</li> </ul>
2018	<ul style="list-style-type: none"> <li>Verify the location of the outfall structures and receiving waters of the U.S. and update the GIS storm sewer map. Update map with storm water quality data and new facilities.</li> <li>Finalize illicit discharge management ordinance.</li> </ul>

**2.3.5 Annual Reporting**

The City of Clyde Hill will document all of the SWMP activities pertaining to Illicit Discharge Detection and Elimination. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- a) Documentation of any completed and submitted Water Quality Observation Documentations or Correspondence.

- b) Documentation of any Ordinance or Ordinance Revisions regarding enforcement of storm water issues.
- c) Documentation of any corrective actions taken by the City for removal of illicit connections and discontinue illicit discharges
- d) Documentation of any public records regarding enforcement actions required to remove illicit connections and discontinue illicit discharges.
- e) Documentation and description of any non-listed allowable non-storm water discharge that was considered and accepted on a case-by-case basis.
- f) General descriptions of modifications and updates to the storm sewer map.

## **2.4 Controlling Runoff from New Development, Redevelopment and Construction Sites**

### **2.4.1 Regulatory Requirement**

*The following is a summary of the DOE's requirement for Controlling Runoff from New development, Redevelopment and Construction Sites:*

Develop, implement, and enforce a program to reduce pollutants in stormwater runoff (i.e., illicit discharges) to the municipal separate storm sewer system (MS4) from new development, redevelopment and construction site activities. The program must apply to both private and public projects, including roads, and address all construction/development-associated pollutant sources.

Adopt regulations (codes and standards) and implement plan review, inspection, and escalating enforcement processes and procedures necessary to implement the program in accordance with Permit conditions, including the minimum technical requirements in Appendix 1 of the Permit (i.e., 2014 Ecology Stormwater Management Manual for Western Washington)

Provide provisions and processes and procedures (plan review, inspection, and enforcement) to allow non-structural preventive actions and source reduction approaches such as Low Impact Development techniques (LID), measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation.

Adopt regulations (codes and standards) and provide provisions to verify adequate long-term operations and maintenance of new post-construction permanent stormwater facilities and best management practices (i.e., private drainage system inspections) in accordance with Permit conditions, including an annual inspection frequency and/or approved alternative inspection frequency and maintenance standards for private drainage systems as protective as those in Chapter IV of the 2014 Ecology Stormwater Management Manual for Western Washington.

Provide training to staff on the new codes, standards, processes and procedures and create public outreach and education materials.

Develop and define a process to record and maintain all inspections and enforcement actions by staff for inclusion in the Annual Compliance Report.

Summarize annual activities for the "Controlling Runoff" component of the Annual Compliance Report; identify any update to Program document.

## **2.4.2 Existing Construction Site Storm Water Controls Programs and BMPs**

The City of Clyde Hill enforces the following ordinances to reduce pollutants in any storm water runoff to the storm sewer system from construction activities:

1. The City of Clyde Hill has adopted ordinances and standards to reduce erosion and sedimentation from private property onto public places and public right-of-way. The code applies to any person, firm, corporation or business proposing to develop land or improve property within the City. It requires the developers to submit a plan that contains structural and operational BMPs and all other measures to reduce sedimentation in streams, waterways, storm drains, etc., protect the quality of water in Clyde Hill, and provide for restoration of sites to reduce the negative environmental impacts of construction. The plan shall include sufficient information to evaluate the environmental characteristics of the affected areas, the potential impacts of the proposed grading on water resources, and the effectiveness and acceptability of measures proposed to minimize soil erosion and off-site sedimentation. In addition, the plan must be submitted to the City for approval prior to the commencement of construction and must be included in the engineering construction plans. Storm water controls are included in City inspections and noncompliance can be a cause for the City to issue a stop work order until the situation is remedied.
2. City Code also declares it unlawful for the owner of the property, the developer of the property, the contractor and the franchise utility to allow litter, spillage, or tracking of dirt or other construction related material to occur through the transportation of construction/related trucks to and from construction sites anywhere within the city limits of City of Clyde Hill.

## **2.4.3 Enhancement and Additional BMPs for Construction Site Storm Water Controls**

### **2.4.3.1 BMP1 – Erosion and Sedimentation Control Code**

The City of Clyde Hill will review the existing Erosion and Sedimentation Control Code to ensure compliance with the Phase II Rule. The City will review the NPDES permit requirements for large and small construction activities and the DOE Construction BMP Manual and look for opportunities to coordinate the ordinance with the federal/state permits and the construction manual. The City will also review any other ordinances, regulations, and specifications affecting erosion and sedimentation control. If necessary, the ordinances, regulations, and specifications will be amended to ensure compliance with the Phase II Rule.

#### **Measurable Goals**

The measurable goal for implementation of BMP1 is to review existing ordinances in permit year 2017. If necessary, the ordinances, regulations, and specifications will be updated and adopted in 2018.

Responsible Persons – The Public Works Director has responsibility for implementation of BMP1 to meet the Measurable Goals.

### **2.4.3.2 BMP2 – Site Inspections**

Clyde Hill will review existing site inspection procedures and establish written procedures that

contain appropriate frequencies for inspection of construction storm water BMPs as well as procedures for record keeping of inspections and compliance actions.

**Measurable Goals**

The City will establish site inspection procedures during 2017 and implement the procedures immediately upon completion.

Responsible Persons – The Public Works Director has responsibility for implementation of BMP2 to meet the Measurable Goal.

**2.4.3.3 BMP3 – Reporting Hotline**

Clyde Hill will utilize the same reporting hotline discussed in Illicit Discharge Detection and Elimination MCM for the public to report construction site problems. The number will be posted on the stormwater webpage and City newsletter. This will facilitate the ability of the public to provide information that will assist in detection of problem discharges. The City will establish and implement procedures for addressing information submitted by citizens on the hotline and forwarding the information to City inspectors. The City will also establish procedures for record keeping of complaints and corrective actions taken.

**Measurable Goals**

The City will establish and implement procedures for addressing information submitted on the hotline in Permit Year 2017 and set up and publicize the hotline in the Permit Year 2018. This BMP will be evaluated by the number of citizen complaints received and addressed, and the number of corrective actions taken.

Responsible Persons – The Public Works Director is responsible for the implementation of procedures to address information submitted on the hotline and for the setup of the hotline to meet the Measurable Goal.

**2.4.4 Measurable Goals and Implementation Schedule**

TARGET DATE	ACTIVITY
2017	<ul style="list-style-type: none"> <li>• Review existing ordinances, regulations, and specifications for compliance with Phase II Rule.</li> <li>• Make information available to Developers of NOI for DOE Construction Permits</li> <li>• Track Costs associated with implementation.</li> <li>• Document any citizen complaints and corrective action taken.</li> <li>• Document any stop work orders given.</li> <li>• Review the program and prescribe changes for succeeding permit term if necessary.</li> </ul>

2018

- Make information available to Developers of NOI for DOE Construction Permits
- Track Costs associated with implementation
- Update and adopt any necessary ordinances, regulations and specifications for compliance with Phase II Rule.
- Implement procedures for site inspection.
- Set up and publicize the hotline.
- Document any citizen complaints and corrective action taken.
- Document any stop work orders given.
- Review the program and prescribe changes for succeeding permit term if necessary.

#### **2.4.5 Annual Reporting**

The City of Clyde Hill will document all of the SWMP activities pertaining to Construction Site Storm Water Runoff Control. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- Documentation of proposed and/or adopted Ordinances or amended ordinances that impact construction runoff control.
- Procedures for review of contractor storm water BMPs.
- Documentation of construction site visits.
- Documentation of enforcement actions or stop-work notifications issued to contractors.
- Documentation of any citizen or public complaints related to construction site runoff.

### **2.5 Post Construction Storm Water Management for New Development/Redevelopment**

#### **2.5.1 Regulatory Requirement**

*The following is a summary of the DOE's requirement for Post-Construction Storm Water Management in New Development and Redevelopment:*

To the extent allowable under state and local law, the MS4 operator must develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre of land, including projects less than one acre that are part of a larger common plan of development or sale that will result in disturbance of one or more acres, that discharge to the MS4. The program must ensure that controls are in place that would minimize water quality impacts. The permit holder shall:

- a. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the community;
- b. Use an ordinance or other regulatory mechanism to address post-construction runoff for new development and redevelopment projects to the extent allowable under state and local law, and;
- c. Ensure adequate long term operation and maintenance of BMPs.



## **2.5.2 Existing Post Construction Storm Water Management for New Development/Redevelopment Programs and BMPs**

Clyde Hill relies on the following ordinances as legal authority to address storm water runoff from new development and redevelopment:

- a. The City's Drainage Ordinance provides for the comprehensive management of storm drainage improvements within the city limits. The Public Works Director administers the ordinance and enforces improvements to local drainage within new developments to control increased runoff that might increase the danger of flood hazards to users, or to other properties adjacent to, downstream, or upstream of the development.
- b. The Subdivision Ordinance prescribes rules and regulations governing plats and subdivisions of land within the corporate limits. Drainage and storm sewer systems shall be designed and constructed in conformance with the provisions of the City of Clyde Hill Public Works Standards and related City of Clyde Hill ordinances.
- c. Ordinances such as Landscape Regulations of the Comprehensive Zoning Code establish certain regulations pertaining to landscaping.

## **2.5.3 Enhancements and Additional BMPs for Post Construction Storm Water Management for New Development/Redevelopment**

### **2.5.3.1 BMP1 – Evaluate and Update Ordinances**

The City of Clyde Hill will review the Comprehensive Zoning Ordinance, the Subdivision Ordinance, and the Drainage Ordinance. These ordinances may be amended to require regulated development and redevelopment to comply with the stormwater criteria and standards to ensure proper long-term operation and maintenance of structural BMPs.

#### **Measurable Goals**

Review and amend ordinances requiring regulated development and redevelopment projects to comply with long-term maintenance of post-construction storm water management BMP's. Implement and enforce all applicable post-construction storm water management criteria and standards immediately.

Responsible Persons -The Public Works Director has responsibility for implementation of BMP1 to meet the Measurable Goal.

### **2.5.3.2 BMP2 – Update Plan Review and Inspection Programs**

Clyde Hill will integrate post-construction storm water quality requirements into plan review and inspection programs. They will evaluate existing procedures and identify needed changes and implement the revised programs.

#### **Measurable Goals**

The measurable goal for implementation of BMP2 is to evaluate existing procedures and identify needed changes in 2017 and to implement the revised programs upon adoption.

Responsible Persons - The Public Works Director has responsibility for implementation of BMP2 to meet the Measurable Goal.

## 2.5.4 Measurable Goals and Implementation Schedule

TARGET DATE	ACTIVITY
2017	<ul style="list-style-type: none"> <li>• Review Applicable Ordinances</li> <li>• Complete review of, make any required City revisions, and amend City ordinances to comply with the manuals and requiring long-term maintenance of post-construction storm water management BMPs.</li> <li>• Evaluate existing plan review and inspection procedures and identify needed changes</li> <li>• Implement and enforce all applicable post-construction storm water management criteria and standards.</li> </ul>
2018	<ul style="list-style-type: none"> <li>• Continue 2017 activities</li> </ul>

## 2.5.5 Annual Reporting

The City of Clyde Hill will document all of the SWMP activities pertaining to Post Construction Storm Water Management for New Development/Redevelopment. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- Document the review process in regards to the Clyde Hill Municipal Code. Document proposed and adopted ordinance amendments.
- Document plan review and inspection procedures

## 2.6 Municipal Operations and Maintenance

### 2.6.1 Regulatory Requirement

*The following is a summary of the DOE's requirement for Municipal Operations and Maintenance:*

Develop and implement an operations and maintenance (O&M) program that includes a training element with the ultimate goal of preventing or reducing pollutant runoff from municipal separate stormwater system and municipal operations and maintenance activities.

Establish maintenance standards for the municipal separate stormwater system that are at least as protective as those specified in the *2014 Stormwater Management Manual for Western Washington*.

Perform required inspection frequency of stormwater flow control and treatment facilities and catch basins, unless previous inspection data show that a reduced frequency is justified.

Have processes and procedures in place to reduce stormwater impacts associated with runoff from municipal operation and maintenance activities including but not limited to streets, parking lots, roads or highways owned or maintained by the City, and to reduce pollutants in discharges from all lands owned or maintained by the City.

Train staff to implement the modified processes and procedures and document that training. Prepare Stormwater Pollution Prevention Plans (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City.

Summarize annual activities for the “Pollution Prevention and Operations and Maintenance for Municipal Operations” component of the Annual Compliance Report; including any updates to the SWMP document.

### **2.6.2 Municipal Operations and Facilities Covered Under the SWMP**

The City of Clyde Hill performs the following operations that are impacted and covered by this SWMP:

1. Park and open space maintenance;
2. Street and road maintenance;
3. Fleet and Building maintenance;
4. Storm water system connections and maintenance;
5. New construction and land disturbances;
6. Emergency operations (Police).

### **2.6.3 Existing Programs and Best Management Practices Pollution Prevention/Good Housekeeping for Municipal Operations**

Street and Roadway Maintenance BMP:

The City of Clyde Hill performs its own street sweeping of the major streets once a month, weather providing. The Public Works Division cleans ditches, curb inlets, drains, and repairs erosion areas based on visual inspections and citizen complaints. Sediment from the ditches and inlets is recycled.

Storm Water System Maintenance BMP:

The City performs annual cleaning of the concrete drainage channels as well as the periodic inspections of the inlets, junction boxes and storm water outfalls to ensure that the system is free and clear of sediment and floatables as well as to ensure that the system is intact and operating properly. The city also performs periodic removal of trees and invasive non-native plants from drainage ditches to ensure that the drainage ways are flowing well and capable of conveying the design flow.

Parks and Open Space BMP:

The Public Works Department has regularly scheduled brush removal as needed each week for the parks, open spaces and City facilities to prevent floatables and trash from entering the storm sewer system. Trash is removed on a daily basis as necessary. The Parks utilizes native and adapted vegetation to reduce water, fertilizer and pesticide needs. The City uses integrated pest management, where appropriate, so that the use of pesticides can be limited. The Parks staff posts signs associated with the removal and proper disposal of animal feces in all of the public parks.

Fleet and Building Maintenance BMP:

The City staff will conduct on-going operations and maintenance of all buildings, permanent structures, parking lots, and storage yards. The Public Works shop building has one service bay. Equipment maintenance is performed by outside vendors.

## **2.6.4 Enhancements and Additional BMPs for Municipal Operations and Maintenance**

### **2.6.4.1 BMP1 – Program to Reduce or Eliminate Polluted Runoff from Municipal Operations**

The City will continue the development and revision of the list of municipal facilities and operations that may contribute significant pollutants to the storm water system. The existing pollution prevention practices, maintenance procedures, and other practices will be evaluated with regard to reducing the discharge of pollutants. Pollution prevention plans for municipal operations, such as maintenance and storage yards, fleet maintenance, and pesticide and herbicide treatments will be revised and implemented as needed.

#### **Measurable Goals**

Develop a list of municipal facilities and operations that may contribute significant pollutants to the storm water system in 2017. Evaluate the existing pollution prevention practices, maintenance procedures, and other practices, and identify any additional controls that need to be implemented as soon as identified. Develop and implement the pollution prevention plans in 2017. This BMP will be evaluated by the reduction or the elimination of floatables and water quality pollutants.

Responsible Persons – The Public Works Director has responsibility for implementation of BMP1 to meet Measurable Goal.

### **2.6.4.2 BMP2 – Training Program**

The City of Clyde Hill will develop a training program for applicable employees associated with park maintenance, fleet and building maintenance, new construction, facilities maintenance, and storm water maintenance. The training program will include training materials directed at preventing and reducing storm water pollution from municipal operations.

The City will make presentations at safety meetings on pollution prevention/good housekeeping topics, participate in cooperative training opportunities available through DOE, develop informational tools for maintenance crews, and post pollution prevention/good housekeeping signs at maintenance facilities and yards.

#### **Measurable Goals**

The City will obtain: print materials; other training materials; and a database of peer-to-peer courses and seminars; and develop a training program for applicable employees in 2017. The training program will be implemented in Permit Year 3. This BMP will be evaluated by a reduction in waste and pollution generation in municipal operations and on municipal facilities.

Responsible Persons - The Public Works Director has responsibility for implementation of BMP2 to meet the Measurable Goal.

### **2.6.4.3 BMP3 – Structural Control Maintenance**

Clyde Hill will develop a list of existing pollution prevention structural controls. Written maintenance activities, maintenance schedules, and long-term inspection procedures for these structural controls will be developed and implemented. The program will include procedures for the proper disposal of waste removed from the structural controls and collected as a result of municipal

operations and activities.

**Measurable Goals**

Develop a list of existing pollution prevention structural controls, maintenance activities, maintenance schedules and long-term inspection procedures in 2017. Evaluate the list and develop inspection and maintenance schedules necessary to minimize the discharge of pollutants from the storm sewer. Develop procedures for the proper disposal of waste including dredge spoil, accumulated sediments and floatables in 2018. Develop and implement the program to regularly inspect and maintain structural controls in 2017. This BMP will be evaluated by the reduction or the elimination of floatables and water quality pollutants.

Responsible Persons - The Public Works Director has responsibility for implementation of BMP3 to meet the Measurable Goal.

**2.6.5 Measurable Goals and Implementation Schedule**

TARGET DATE	ACTIVITY
2017 & 2018	<p>Develop a list of municipal facilities and operations that may contribute significant pollutants to the storm water system.</p> <p>Develop a list of existing pollution prevention structural controls, maintenance activities, maintenance schedules and long-term inspection procedures.</p> <p>Continue pollution prevention practices and controls already in place.</p> <p>Evaluate the existing pollution prevention practices, maintenance procedures, and other practices for municipal operations. Identify any additional controls that need to be implemented.</p> <p>Obtain print materials and other training materials in order to develop a training program for applicable employees.</p> <p>Evaluate the structural controls, maintenance activities and schedules and long term inspection procedures for municipal operations.</p> <p>Develop inspection and maintenance schedules to minimize the discharge of pollutants from the storm sewer. Continue pollution prevention practices and controls already in place.</p> <p>Develop procedures for the proper disposal of waste including dredge spoil, accumulated sediments and floatables.</p> <p>Develop and implement the pollution prevention plans for municipal operations.</p> <p>Implement the training program.</p> <p>Develop and implement the inspection and maintenance program</p>

Document employee training sessions and materials distribution.

### **2.6.6 Annual Reporting**

The City of Clyde Hill will document all of the SWMP activities pertaining to Municipal Operations and Maintenance. Documentation will be placed in the SWMP Annual Report and will include, but may not be limited to the following items:

- Listing of municipal facilities and operations that may contribute significant pollutants to the storm water system.
- Listing of existing pollution prevention structural controls, maintenance activities, maintenance schedules and long-term inspection procedures.
- Documentation of any cleaning and maintenance of structural controls.
- Documentation of employee training.

### **3.0 Reporting Requirements**

No later than March 31 of each year beginning in 2008, The City will submit an annual report. The reporting period for the first annual report will be from the effective date of this permit through December 31, 2007. The reporting period for all subsequent annual reports will be the previous calendar year.

An electronic (PDF) copy of each attachment shall be submitted to Ecology with the report. All submittals are submitted through the Secure Access Washington reporting site.

The City will be required to keep all records related to this permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records shall be submitted to Ecology only upon request,

The City will make all records related to this permit and the City's SWMP available to the public at reasonable times during business hours. The City will post the most current SWMP on the City's website. In addition, the City will provide a copy of the most recent annual report to any individual or entity, upon request.

A reasonable charge may be assessed by the City for making photocopies of records. The City may require reasonable advance notice of intent to review records related to this Permit.

Each annual report shall include the following:

- A copy of the City's current Stormwater Management Program as required by S5.A.2.
- Submittal of *MS4 Annual Report Phase II Western Washington*, which is intended to summarize the City's compliance with the conditions of this permit, including:
  - Status of implementation of each component of the SWMP in section S5 *Stormwater Management Program for Cities, Towns and Counties*.
  - An assessment of the City's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.

- A description of activities being implemented to comply with each component of the SWMP, including the number and type of inspections, enforcement actions, public education and involvement activities, and illicit discharges detected and eliminated.
  - The City's SWMP implementation schedule and plans for meeting permit deadlines, and the status of SWMP implementation to date.
- 
- Corrective steps taken and proposed
  - Expected dates that the deadlines will be met
  - A summary of the City's evaluation of their SWMP, according to section S5.A.4.
  - If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
  - Updated information from the prior annual report plus any new information received during the reporting period.
  - Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.

The City will include with the annual report, notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the City's geographic area of permit coverage during the reporting period, and implications for the SWMP.