City of Wenatchee

Stormwater Pollution Prevention

Operations and Maintenance Plan

City of Wenatchee
1350 Mckittrick Street
Wenatchee, WA 98801

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Acknowledgements

The template for this Stormwater Pollution Prevention Operations and Maintenance Plan was developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee, consisting of representatives from the City of Wenatchee, the City of East Wenatchee, Chelan County, and Douglas County. Contributions to the project were made by other Eastern Washington communities, including stormwater program managers from the Cities of Kennewick, Moses Lake, Richland, Spokane, and Spokane Valley, Spokane and Walla Walla Counties, and the Eastmont Metropolitan Park District. The Operations and Maintenance Plan Template project was funded by a grant from the Washington State Department of Ecology.

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Glossary

The majority of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Stormwater Management Manual for Eastern Washington and EPA's NPDES website glossary.

Best Management Practices (BMPs) The activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to downstream or down gradient systems.

Catch Basin A drainage structure which collects water. May be either a structure where water enters from the side or through a grate.

Conveyance System The drainage facilities, both natural and man-made which collect and carry surface and stormwater flow. Includes gutters, drainage inlets, pipes, catch basins, manholes, channels, swales, ditches, small drainage courses, streams, and rivers.

Drywell A stormwater disposal system designed to disperse water below the land surface. Drywells are regulated by the Department of Ecology under the Underground Injection Control (UIC) program.

Erosion and Sedimentation Control (ESC) Any temporary or permanent measures taken to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Groundwater Water in a saturated zone or stratum beneath the land surface.

Hazardous Substance 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive or chemically reactive. 2) Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hyper-chlorinated Water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.

Illicit Discharge Any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Maintenance Activities conducted to extend the life cycle and ensure proper operation of existing facilities. Maintenance should not expand the use or capacity of a facility beyond the existing or designed use and results in no significant adverse hydrologic impact.

Maintenance Standard Describes the condition when cleaning, repair, or other maintenance is required for a given facility.

Manhole An entrance provided to a drainage facility for the purpose of inspection and cleaning. This may consist of a circular manhole shaft, frame and round cover or an opening into a structure where the top of the structure is at the surface. The opening may be round or rectangular.

Material Storage Facility An uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

National Pollutant Discharge Elimination System The national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Oil/Water Separator A vault, usually underground, designed to provide a quiescent environment to separate oil from water.

Phase II Permit	Eastern Washington Phase II Municipal Stormwater Permit issued by the Department of Ecology on August 1, 2012 and effective August 1, 2014.
Pollutant	A waste material that pollutes wind, water, or soil. A non-stormwater discharge that enters the stormwater collection and conveyance system.
Receiving Waters	Any water body receiving stormwater runoff, including surface water, groundwater, and the stormwater collection and conveyance system.
Sediment	A naturally occurring material that is broken down by weathering and erosion and transported by wind, water, or other fluids.
Stormwater	Rainwater runoff, snowmelt runoff, and surface runoff and drainage.
Swale	A shallow drainage conveyance with relatively gentle side slopes, generally manmade.
Water Quality	The chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.
Waters of the State	Those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington state and "waters of the state" as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Acronyms and Abbreviations

BMPs	Best Management Practices
CONSTRUCTION PERMIT	General NPDES Permit for Stormwater Discharges Associated with Construction Activities
ECOLOGY	Washington State Department of Ecology
EPA	Environmental Protection Agency
FTE	Full Time Equivalents
INDUSTRIAL PERMIT	General NPDES Permit for Stormwater Discharges Associated with Industrial Activities
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PHASE II PERMIT	Eastern Washington Phase II Municipal Stormwater Permit
RCRA	Resource Conservation and Recovery Act
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

Section 1—Introduction

Purpose

The City of Wenatchee is currently subject to the requirements of both the National Pollutant Discharge Elimination System (NPDES) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. Under the Phase II Permit, the City of Wenatchee is required to develop and implement a municipal Operations and Maintenance (O&M) Plan to protect water quality and reduce the discharge of pollutants into receiving waters. Receiving waters include surface waters, groundwater, and the stormwater collection and conveyance system.

The City of Wenatchee's municipal employees engage in a number of activities that may positively or negatively impact water quality. This O&M Plan includes stormwater pollution prevention and good housekeeping practices that should be utilized during municipal maintenance activities in the following areas:

- Stormwater Collection and Conveyance System
- Roads, Highways, and Parking Lots
- Vehicle Fleets
- Municipal Buildings
- Parks and Open Space
- Water Utility
- Wastewater Utility

This O&M Plan also addresses stormwater pollution prevention during Construction Projects. Appendices D, E and F have site specific Stormwater Pollution Prevention Plans (SWPPP) for the City of Wenatchee's municipal storage areas.

O&M Plan Development

This Stormwater Pollution Prevention O&M Plan was prepared based on a Stormwater Pollution Prevention O&M Plan Template developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a Washington State Department of Ecology (Ecology) Grant. The inspection schedules, maintenance standards and Best Management Practices (BMPs) included in this plan are based on Ecology's *Stormwater Management Manual for Eastern Washington* (2004), the *Model Municipal Stormwater Program for Eastern Washington*, and other guidance documents from Ecology and EPA.

Common Pollutants, Sources, and Impacts

Stormwater runoff contains pollutants that can harm human health, degrade water quality and habitat, and impair ecosystem functions. These pollutants originate from vehicles, businesses, homeowner activities, and municipal activities, and include oil, hydrocarbons,

heavy metals, deicers, sediment, pesticides/herbicides, fertilizer, and bacteria. During rain and snow melt events, stormwater runoff may accumulate these pollutants which are then washed into the receiving waters. Table 1-1 shows the sources of common stormwater pollutants and the potential impacts.

Table 1-1
Common Stormwater Pollutants, Sources, and Impacts

Pollutant	Sources	Impacts
Sediment	Construction sites; eroding stream banks and lakeshores; winter sand and salt application; vehicle/boat washing; agricultural sites.	Destruction of plant and fish habitat; transportation of attached oils, nutrients and other pollutants; increased maintenance costs, plugged conveyance systems, flooding.
Nutrients (phosphorus, nitrogen)	Fertilizers; malfunctioning septic systems; livestock, bird & pet waste; vehicle/boat washing; grey water; decaying grass and leaves; sewer overflows; leaking trash containers, leaking sewer lines.	Increased potential for nuisance or toxic algal blooms; increased potential for hypoxia/anoxia (low levels of dissolved oxygen which can kill aquatic organisms).
Hydrocarbons (petroleum compounds)	Vehicle and equipment leaks; vehicle and equipment emissions; pesticides; fuel spills; equipment cleaning; improper fuel storage & disposal.	Toxic to humans and aquatic life at low levels.
Heavy Metals	Vehicle brake and tire wear; vehicle/equipment exhaust; batteries; galvanized metal; paint and wood preservatives; fuels; pesticides; cleaners.	Toxic at low levels; drinking water contamination.
Pathogens (bacteria)	Livestock, bird and pet wastes; malfunctioning septic systems; sewer overflows; damaged sanitary lines.	Risk to human health leading to closure of shellfish areas and swimming areas; drinking water contamination.
Toxic Chemicals	Pesticides; dioxins; Polychlorinated Biphenyls (PCBs); spills, illegal discharges and leaks.	Toxic to human and aquatic life at low levels.
Debris/Litter	Improper waste disposal and storage; fishing gear; leaking rubbish containers; cigarette butts; littering.	Potential risk to human and aquatic life, aesthetically displeasing, can plugged conveyance systems, flooding.

Source: Rabasca and Rinehart, 2006

What are Best Management Practices (BMPs)?

BMPs are the activities, actions, procedures, prohibitions of practices, structural facilities, and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants into receiving waters.

There are three broad categories of BMPs:

- Operational BMPs are those activities and actions that municipal staff should perform on a regular basis to prevent the release of pollutants into the stormwater system. For example, street sweeping is an operational BMP. Putting tarp over material stockpiles at the end of each day is an operational BMP.
- Structural BMPs are permanent facilities or structures that are constructed to prevent pollutants from coming into contact with stormwater. For example, constructing a roof over a material storage area is a structural BMP.
- Treatment BMPs are the facilities that are used to remove pollutants from stormwater before it is released downstream into the surface waters or groundwaters. For example, oil/water separators and vegetated swales are Treatment BMPs.

This O&M Plan is focused on operational and structural BMPs that will be utilized to protect the City of Wenatchee's receiving waters. Section 3 also describes the maintenance of the existing stormwater treatment BMPs, as regular maintenance is required to keep treatment BMPs functioning as they are intended.

Management Considerations

Preventing stormwater pollution during maintenance activities is a significant responsibility that impacts the activities of nearly every department in the City of Wenatchee. Maintenance activities must be carefully planned, coordinated, and documented to meet the requirements of the Phase II Permit, avoid duplication, and make best use of limited staff time and resources. Section 13 of this O&M Plan describes the planning, budgeting, and recordkeeping activities associated with stormwater pollution prevention and good housekeeping during municipal maintenance activities.

Section 2—Program Overview

Organization/Structure

The City of Wenatchee Public Works Department is primarily responsible for the maintenance of the city's stormwater infrastructure. This includes inspecting and cleaning catch basins and manholes, clearing roadside ditches, and maintaining stormwater treatment and disposal facilities.

To protect receiving waters from stormwater pollution, the following City of Wenatchee divisions are covered under this Stormwater Pollution Prevention O&M Plan:

- Streets
- Fleets & Facilities
- Parks
- Water
- Wastewater
- Stormwater

Stormwater Infrastructure Inventory

The City of Wenatchee completed a mapped inventory of the public stormwater infrastructure in 2010. The inventory is continually updated as new structures and facilities are added to the system. As of October 2013, the City of Wenatchee's stormwater system was comprised of approximately:

- 3,700 catch basins and manholes
- 75 miles of stormwater pipe
- 0.5 mile of conveyance ditches
- 36 underground injection control (UIC) wells
- 13 stormwater management facilities (see Table 2-1)
- 14 surface discharges to the Columbia River.

Table 2-1
Summary of Major Stormwater Management Facilities

Name/Number/Designator	Facility Type	Location/Address	Year Constructed
Linden Tree Park	Wet pond	Riverfront Park, Ninth & Walla Walla	1996
Fifth Street Stormwater Filter	Contech Storm Filter	Fifth & North Mission	2004
North Wenatchee Avenue Stormwater Facility	Bio-infiltration swale and dry pond	North Wenatchee Avenue adjacent to BNSF	1997

Walla Walla Stormwater System	Infiltration trenches, and subsurface infiltration	Walla Walla Avenue between North Miller and Ninth Street	2007
Walnut-Hawley Swales	Bio-infiltration swale and retention pond	Walnut Street from Pine to North Wenatchee Avenue	2008
Stella Street Stormwater System	Subsurface infiltration	Stella Street adjacent to the Public Services Center	2008
Broadview Pond	Dry pond	West of Maiden Lane behind 2018 Maiden Lane	1995
Riverside Drive Filter	Contech Storm Filter	Riverside Drive and Island View	2009
Riverside Drive Tree Boxes	Tree Boxes with Curb Inlets	Riverside Drive from 9th to Fifth	2009
Pierre Street Swales & Filter	Contech Storm Filter	Pierre and Fifth Street	2009
Worthen Street Tree Boxes	Tree Boxes with Curb Inlets	Worthen Street from First to Yakima	2013
South Wenatchee Ave Pond	Infiltration Pond	South Wenatchee Ave & Malaga-Alcoa Highway	2013
George Sellar Bridge Pond	Infiltration Pond	South side of bridge interchange	2013

In addition to the stormwater system owned and operated by the City of Wenatchee, there are a number of private stormwater management facilities that are owned and operated by commercial/industrial businesses or residential homeowners associations. The city's program related to private facility maintenance is discussed in Section 3.

Facilities, Equipment, and Storage Areas

The City of Wenatchee is responsible for the operation and maintenance of a number of municipal facilities as shown in Figure 2-1. These facilities include:

- City Hall
- Public Services Center
- Police Station
- IS Center
- Fire Station #1
- Fire Station #2

- Wenatchee Convention Center
- Community Center
- Cemetery & Mausoleum
- Carnegie Building
- Wastewater Treatment Plant
- Museum & Annex Building
- City Pool
- Decant Facility
- Public Works South Storage Yard
- Child Care Center
- Regional Water Facilities
- Parks Facilities (band stands, shelters & restrooms) Refer to Figure 2.1.

Contracted Activities

The City of Wenatchee typically contracts with private companies to perform the following maintenance activities:

- Janitorial services for municipal buildings
- Grease Trap/Interceptor Cleaning
- Window & Vent Cleaning
- Safety Equipment Inspections
- Boiler Maintenance
- Electronics & Equipment Calibration
- Large Tree Removal

Private contractors performing work on behalf of the City of Wenatchee are also subject to the provisions protecting stormwater runoff. This O&M Plan should be referenced when preparing contract documents.

Section 3—Stormwater Collection and Conveyance System

Table 3-1 Implementation Checklist Stormwater Collection and Conveyance System	
Potential Pollutants: Sediment, Nutrients, Hydrocarbons, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Regular inspections of stormwater conveyance & treatment infrastructure (Refer to Table 3-2)	Stormwater Collections, Environmental
Catch Basin Inspection – 100% of high priority areas inspected annually	Stormwater Collections, Environmental
Catch Basin Inspection – 1/4 of low priority areas inspected annually on a circuit based schedule.	Stormwater Collections, Environmental
Conduct maintenance activities based on inspections.	Stormwater Collections, Water, Streets
Video inspection of stormwater mains	Stormwater Collections
Maintain inspection records	Stormwater Collections, Environmental,
Implement IDDE program	Public Works
UIC registration & assessment	Environmental

Overview

The Public Works Department is responsible for maintenance of the stormwater collection and conveyance system, including catch basins and manholes, pipes, ditches, and stormwater management/treatment facilities. Maintenance activities focus on removing sediment, debris, and pollutants from the stormwater system before they can be flushed downstream into receiving waters, resulting in adverse effects on aquatic life and water quality. Regular maintenance is also needed to keep stormwater management facilities (e.g. detention ponds, treatment swales) functioning as they were designed.

Maintenance for the stormwater collection and conveyance system consists of inspection, cleaning, repairs, and replacement. The Phase II Permit requires a shift from responsive maintenance to preventative, standards-based maintenance. Regular inspections will be used to identify when cleaning or repairs are needed to keep the stormwater system functioning at an optimal level. The maintenance activities should then be performed, utilizing the BMPs in this section.

The activities related to stormwater collection and conveyance system maintenance that are covered in this O&M Plan include:

- Facility Inspections
- Conveyance System Maintenance
- Stormwater Management Facility Maintenance
- Small Construction Activities
- Waste Disposal
- Private Facilities
- Recordkeeping

Facility Inspections

The Phase II Permit requires regular inspection of the City of Wenatchee's stormwater facilities to check system performance and identify maintenance needs. Stormwater facility inspections will be performed by the Public Works Department.

Inspection Schedule

Table 3-2 shows the proposed inspection frequencies for each type of stormwater management facility. Most stormwater management facilities will be inspected on an annual basis including dry wells, vaults and ponds. The municipal stormwater permit requires that a minimum of 95% of all known stormwater treatment and flow control facilities (except catch basins) owned, operated, or maintained by the City of Wenatchee shall be inspected once every two years, with problem facilities inspected more frequently. All catch basins and inlets owned or operated by the City of Wenatchee shall be inspected at least once by December 31, 2018 and every two years thereafter. High priority areas such as areas that are subject to major sanding or neighborhoods with significant tree cover will be inspected annually. Lower priority catch basins will be put on a reduced inspection schedule once enough data has been gatherered regarding how often maintenance is needed. Main lines, laterals and manhholes will be cleaned at least once every five years. Video inspections will also be used to determine the condition of stormwater mains.

Spot checks for potentially damaged stormwater treatment and flow control facilities are to be conducted after major storm events (24 hour storm event with a 10-year or greater recurrence interval). Any needed maintenance or repair shall be performed as soon as practicable pursuant to the findings of a regular inspection or spot check.

Table 3-2 Stormwater Facility Inspection Frequencies		
Facility Type	**Inspection Frequency**	**Timing**
Management Facilities		
Drywells – UIC wells	Annually	March - October
Infiltration Basins and Trenches	Annually	March - October
Treatment Swales	Annually	March - October
Tanks and Vaults	Annually	March - October
Ponds (Detention, Water Quality, Evaporation, Infiltration)	Annually	March - October
Control Structures	Annually	March - October
Contech Filters	Annually	March - October
Conveyance System		
Catch Basins: <High priority area>	Annually	March - October
All Catch Basins at least once	Before 12/31/2018	March - October
<1/2 of low priority areas>	Year 1 after 2018	March - October
<1/2 of low priority areas>	Year 2 after 2018	March - October
Mains	Every 5 years	March - October
Roadside Ditches	Every Two Years	March - October
Culverts	Every Two Years	March - October

Inspection Activities

During inspections, field inspectors should utilize GIS and/or the inspection forms in Appendix A to document the condition of each facility and identify any required maintenance activities. Any identified maintenance needs should be reported to the supervisor, so that work orders can be developed to complete the required repair or cleaning.

In addition to documenting the condition of each stormwater facility, field inspectors should continually verify and update (as needed) the City of Wenatchee's inventory map. Field inspectors should immediately report any spills or illicit discharge concerns to the Environmental Division.

Standards and BMP Selection

The Stormwater Management Manual for Eastern Washington includes required facility maintenance standards related to the physical condition and function of each type of stormwater management facility. The maintenance standards cover topics such as sediment depth, erosion, vegetation growth, accumulated trash and debris, and structural integrity. For example, one of the maintenance standards for catch basins states that a structure should be cleaned when sediment exceeds 60 percent of the sump depth or when sediment has accumulated to within 6 inches of the lowest pipe invert.

The inspection checklists in Appendix A list the required maintenance standards for each type of stormwater management facility. Field inspectors should use the checklists during regular inspection to indicate when cleaning or repairs are needed. The Phase II Permit then requires that the City of Wenatchee to correct an observed problem "…as soon as practicable" after the condition is identified during a regularly scheduled inspection or spot check.

Beyond the inspection requirements, the Phase II Permit requires the City of Wenatchee to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. The following operational and structural BMPs will help the City of Wenatchee meet the permit requirements.

Conveyance System Maintenance

The following BMPs apply to the maintenance of the stormwater collection and conveyance system, including catch basins and manholes, outfalls, pipes, ditches, and drywells. Regular inspection and cleaning of catch basins and manholes should reduce the need for frequent cleaning of storm sewer pipes.

Operational BMPs

- Regularly inspect catch basins and outfalls according to the inspection schedule outlined in this O&M Plan to determine maintenance. Complete maintenance activities as identified during inspections.
- Clean catch basins and manholes when sediment and debris exceeds 60 percent of the sump depth or when sediment has accumulated to within 6 inches of the lowest pipe invert.

- Clean storm sewer pipes when accumulated sediment and debris exceeds 20 percent of the pipe diameter.
- Clean roadside ditches when accumulated sediment and debris exceeds 20 percent of the design depth.
- Conduct ditch cleaning during low water periods, minimizing the disturbance of existing vegetation.
- Test and dispose of sediment and debris according to the Waste Disposal Protocol in Appendix B.
- If vegetation is removed during ditch cleaning, the ditch side slopes should be seeded and mulched as soon as possible after cleaning.
- Develop a "hot spot" list of frequent flooding locations. Conduct spot checks of those locations following major precipitation events, exceeding 1.3 inches of rainfall in any 24 hour period.
- Implement the City of Wenatchee's Illicit Discharge Detection and Elimination Program to regularly inspect outfalls for evidence of unreported spills, illicit connections, or illegal dumping.
- Register all UIC wells with Ecology. Required information includes: operator/owner information, site location (latitude and longitude), BMPs used to protect groundwater quality, and a UIC well description.
- Complete a UIC well assessment, evaluating the potential for pollutants to enter the stormwater runoff that flows to each UIC well. The well assessment should consider land use and groundwater protection areas and may consider local geology and depth to groundwater for wells that are considered a high threat to groundwater.

Structural BMPs

- New or replaced catch basin grates are imprinted with, "Dump No Pollutants - Drains to Stream" or similar wording.
- Prioritize, schedule, and complete repairs and replace damaged components of the stormwater conveyance system identified during inspections.
- Retrofit UIC wells identified during the well assessment as being high threats to groundwater. A retrofit may include changing the source control activities and/or Structural BMPs around the well, adding an upstream catch basin or spill control device, adding pretreatment facilities, and/or well decommissioning. For more details, see the Ecology document entitled, Guidance for UIC Wells that Manage Stormwater, Publication Number 05-10-067.

Stormwater Management Facility Maintenance

The following BMPs apply to the maintenance of stormwater management facilities, including detention and infiltration ponds, underground tanks and vaults, treatment swales, oil/water separators, and proprietary treatment devices.

Operational BMPs

- Regularly inspect stormwater management facilities according to the inspection schedule outlined in this O&M Plan to determine maintenance. Complete maintenance activities as identified during inspections.
- Remove sediment when it exceeds the sediment storage depth (typically 12 inches) in ponds or when it exceeds 15 percent of the vault storage depth or tank diameter.
- Remove sediment when it exceeds a depth of 2 inches in treatment swales.
- Whenever possible, coordinate catch basin cleaning to coincide with municipal street sweeping.
- Test and dispose of sediment and debris according to the Waste Disposal Protocol in Appendix B.
- Develop a "hot spot" list of major stormwater retention facilities. Conduct spot checks of those locations following major precipitation events, exceeding 1.3 inches of rainfall in any 24 hour period.

Structural BMPs

- Prioritize, schedule, and complete repairs and replace damaged components of the stormwater conveyance system identified during inspections.

Vegetation Management BMPs

- Mow vegetation in ponds and swales at least once per year to prevent the establishment of woody vegetation.
- If vegetation is removed during sediment removal, seed and mulch the area as soon as possible after cleaning.

Small Construction Activities

Sediment and erosion control measures should be implemented when stormwater system repair or replacement projects include grading, soil transfer, or vegetation removal. The following BMPs apply when making structural repairs or replacing components of the stormwater infrastructure.

Small Construction BMPs

The same BMPs used on sites larger than one acre and subject to the NPDES Construction Permit may also be applicable to small construction projects.

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas. Use mulch or other erosion control measures when soils are exposed for more than a week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a General *NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acres and has the potential to discharge to a water of the state.

For larger construction projects that include the addition of new stormwater system components or the replacement of culverts in streams or other perennial water bodies, follow the construction activity guidelines in Section 8.

Waste Disposal

Waste generated from cleaning of catch basins and other stormwater management and treatment facilities must be disposed of according to the requirements of Waste Management, Inc. In some cases, the waste material must be tested to determine the proper disposal method. Material in catch basins with obvious contamination (unusual color, staining, corrosion, unusual odors, fumes, and oily sheen) should be left in place or segregated from other wastes until testing results can identify the nature of the contaminants. The City of Wenatchee's waste testing and disposal protocol is included in Appendix B.

Private Facilities

In addition to the stormwater system owned and operated by the City of Wenatchee, there are a number of stormwater facilities that manage stormwater runoff from private property. These facilities are owned and operated by private property owners – either commercial/industrial businesses or residential homeowners associations. While the maintenance of these systems is the responsibility of the private owner, the City of Wenatchee is required to implement a private facilities maintenance program for facilities

that discharge to the City of Wenatchee's stormwater collection and conveyance system or to local receiving waters. The purpose of the program is to verify that maintenance is performed and the private facilities are functioning to manage and protect water quality.

The private facility maintenance program is administered by the Environmental Manager. Details of the program are described in Appendix C and the Post-Construction Stormwater Management for New Development and Redevelopment Program.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. The Operations & Maintenance Manager is responsible for keeping records of stormwater collection and conveyance system maintenance activities. In accordance with the Phase II Permit, the following documentation must be kept for at least five years following work activity:

- Inspection schedules and checklists for stormwater treatment and flow control facilities;
- Repairs or maintenance actions completed

In addition, the City will track the following information to help with planning and budgeting for future maintenance activities.

- Catch basins cleaned each year
- Amount of street sweepings and eductor debris collected
- Results of sediment testing

Hard copy reports should be stored in rolling files at the Public Services Center. Inspections, catch basin cleaning, and facility maintenance should also be imported into the City of Wenatchee's GIS system, so the Public Works Director can geographically track maintenance activities and plan for future work.

In addition, material or liquid spills should be promptly reported to Operations & Maintenance Manager and all paperwork related to the spill and cleanup activities should be maintained at the Public Services Center.

Section 4—Roads, Highways and Parking Lots

Table 4-1 Implementation Checklist Roads, Highways, and Parking Lots	
Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Sweep major arterials quarterly when weather permits	Streets
Sweep all residential streets quarterly when weather permits	Streets
Store swept material in a covered and contained site	Streets
Minimize water usage when street flushing	Streets
Use sand & deicers at lowest rate necessary for public safety	Streets
Use pesticides only if there is a pest problem	Streets
Whenever possible store material stockpiles under a permanent cover or use plastic sheeting	Streets

Overview

Pollutants accumulate on roadway surfaces and parking lots from pavement and vehicle wear, atmospheric deposition, and littering. Hydrocarbons, copper, and other heavy metals are deposited on roads from clutch and break wear, vehicle exhaust, and leaking motor fluids. Degrading road surfaces, litter, and trash, also add pollutants to stormwater runoff. Anti-icing chemicals that include acetate can deplete dissolved oxygen, increase conductivity, and increase pH of receiving waters. Sand used for winter traction can accumulate in the stormwater collection and conveyance system, carrying pollutants into receiving waters. If not properly managed, regular municipal street maintenance activities can negatively impact the health of local aquatic resources.

The Street Division of Public Works is responsible for implementing this O&M Plan during maintenance of the City of Wenatchee's roads and highways as well as repairs and striping in municipal parking lots. The Parks Division is responsible for implementing this O&M Plan during maintenance of all municipal parking lots over 5,000 square feet and parking areas associated with parks and municipal buildings. Parking lots not associated with a park or building include:

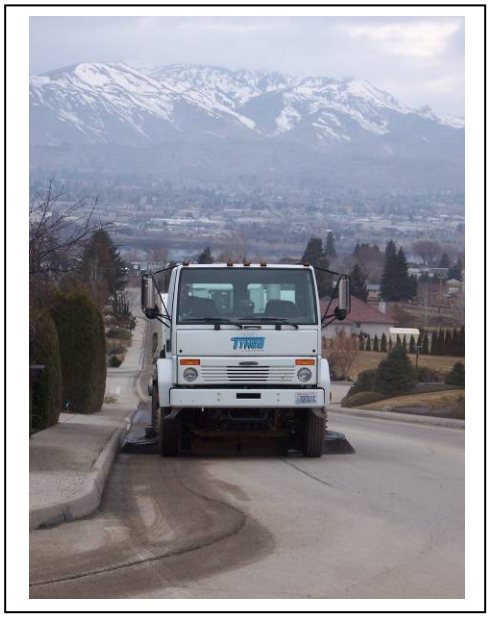
- North Columbia Street Public Parking Lot (N. Columbia & Palouse)
- Burlington Northern Santa Fe Train Station Parking Lot (Thurston & S. Columbia)
- Firestone Lot (Chelan & Kittitas)

Stormwater pollution prevention during roadway and parking lot maintenance focuses on collecting sediment, debris, and pollutants before they can enter the stormwater collection and conveyance system. This plan also covers proper vegetation management and application and storage of materials used for snow and ice control.

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of roads, highways, and parking lots. The City of Wenatchee's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Wenatchee has identified BMPs related to each of the following activities:

- Street Sweeping
- Winter Activities
- Street Repair and Maintenance
- Vegetation Management
- Recordkeeping



In general, the focus on selecting road, highway, and parking lot BMPs is to reduce the amount of sediment and debris that is washed from the roadways into the stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters and help reduce the cost of maintaining the stormwater collection and conveyance system.

Street Sweeping

The City of Wenatchee conducts street sweeping for aesthetic, safety, and public health reasons. Effective sweeping removes pollutants before they can be carried into the stormwater collection and conveyance system and may reduce the frequency of catch basin cleaning.

Street Sweeping Schedule

The City of Wenatchee's street sweeping schedule was developed to produce the most cost-effective reduction of pollutants, taking into account pollutant loads and weather patterns (sweeping before the onset of wet weather). High priority areas that are subject to winter sanding will be swept on a more frequent basis. In general, the City of Wenatchee aims to sweep most arterials and residential streets at least quarterly when weather permits. Sweeping can begin as early as February and go through October or November.

Street Sweeping BMPs

- Use both Air and Regen sweepers on curb and gutter streets.
- Maintain sweeping equipment in good working condition.
- Store swept material in a covered and contained site whenever possible until it can be disposed of following the City of Wenatchee's Waste Disposal Protocol in Appendix B.
- Coordinate street sweeping schedules to coincide with important pollution prevention events such as the end of curbside leaf collection, winter sanding operations, and peak pollen production in the spring.
- Whenever possible, coordinate street sweeping to occur just prior to catch basin cleaning.
- Schedule additional street sweeping following special events that generate higher than normal pollutant loadings (i.e. Apple Blossom Festival).
- Train operator on factors that influence pollutant removal, including sweeper speed, brush adjustment, rotation rate, sweeping pattern, and maneuvering around parked vehicles.
- Consider periodic parking restrictions to ensure curbs are cleared before sweeping takes place.
- Track street sweeping waste (total volume or weight per mile of road swept) and modify sweeping schedules based on accumulated sediment loads.
- Avoid wet cleaning or flushing and utilize dry methods whenever possible.
- If wet cleaning or flushing is absolutely necessary, sweep and remove debris prior to flushing.

Waste Disposal

Street waste is generally not considered a dangerous waste. However, high traffic loads or spills can lead to waste that requires special handling and disposal. Waste generated from street sweeping must be disposed of according to the requirements of Waste Management, Inc. In some cases, the waste material must be tested to determine the proper disposal method. The City of Wenatchee's waste testing and disposal protocol is included in Appendix B.

Winter Activities

The City of Wenatchee conducts winter activities such as anti-icing, deicing, sanding, snow plowing, and snow removal to enhance public safety during inclement winter weather. Proper selection and application of deicing chemicals is important to prevent negative environmental impacts to water quality and plants.

Anti-icing, Deicing and Sanding

- Minimize the use of chemicals while still providing adequate public safety.
- Follow manufacturer's recommendations when applying chemical deicer.
- Calibrate equipment to optimum levels according to manufacturer instructions.
- Apply sand and deicers at the lowest rate necessary to provide for vehicle traction; avoid excessive application.
- Sweep streets in early spring to collect accumulated sand after the winter season.

Snow Removal

Snow is typically plowed to the sides or center of the roads. Occasionally, snow from the medians in the downtown area is picked up and stored on city property, such as the parking lot at the city pool or the former public works site.

- Whenever possible, avoid covering inlets of the stormwater collection and conveyance system during plowing, so snowmelt can drain.
- Snow shall not be disposed of within 25 feet of surface waters, 75 feet of private water supplies, 200 feet from any community water supply, or 400 feet from any municipal well.

Material Storage

Uncovered material storage stockpiles are a major source of pollutants as sand, cinder, salts, or other road maintenance materials can be carried into the stormwater system during rain or snow melt events. Vehicle, equipment, and material storage areas should be maintained according to the SWPPP included in Appendix D. The following operational BMPs should be implemented to limit the transport of materials into the stormwater collection and conveyance system:

- Limit deicer and sand purchases to the amount that is expected to be needed for the upcoming season.
- Whenever possible store material stockpiles in a building or within a paved and bermed covered area. If material must be stored in the open use plastic sheeting to cover stockpiles when feasible.
- Store chemical anti-icing and deicing materials following manufacturer recommendations.
- Sweep parking lots, material storage areas, and driveways regularly to collect dirt, waste, debris, and loose stockpile materials.
- Whenever possible collect and recycle stored materials back into the stockpile.

Street Repair and Maintenance

Street repair and maintenance activities include road surfacing (repairing potholes, sealing cracks, overlaying roads, and paving shoulders), pavement marking, signage and signal repairs, and small construction projects. The BMPs related to these activities are described below.

Street Repair and Maintenance BMPs

- When possible, avoid work in wet weather.
- Carry a spill kit during maintenance activities.
- Prevent paving materials, paint, pavement markings, and wastes from entering the storm drainage system.
- Collect any loose sand, gravel, asphalt, or other material as soon as possible after repair activities.
- Sweep or vacuum dust and debris before using water to clean up work sites.
- Avoid striping operations when the pavement is wet or if rain is likely.
- When possible, use portable drip trays under equipment to catch spills.
- Properly contain and dispose of unused paint, cleaning materials, and debris following repair activities.

Small Construction BMPs

The following BMPs apply when making small roadway repairs that include grading, soil transfer, or vegetation removal:

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas. Use mulch or other erosion control measures when soils are exposed for more than a week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acres and has the potential to discharge to a water of the state.

For larger construction projects that create new impervious surfaces or have the potential to disturb large areas of soil, follow the construction activity guidelines in Section 8.

Vegetation Management

Vegetation management includes maintaining landscaping for roadway right-of-ways and medians and controlling noxious weeds, pests, and unwanted vegetation growth. Disturbed soil, removed vegetation, and chemicals can all negatively impact receiving waters. All landscaped areas are maintained by the Parks Department and unwanted vegetation in the right-of-way is managed by the Street Department. For more information on the BMPs implemented by the Parks Department, refer to Section 7.

Pesticide and Herbicide BMPs

- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare chemicals near storm drain inlets.
- Follow product labels for proper application of any pesticide or herbicide.
- Use the minimum amount of chemical needed for the job.
- Avoid pesticide applications within 100 feet of a water body.
- Use products specifically labeled for dry ditches when treating roadside ditches.

Storage and Disposal

- Follow federal, state, and local laws governing the storage and disposal of pesticides and herbicides.
- Store herbicides/pesticides in enclosed areas or in covered impervious containment in accordance with the City of Wenatchee's SWPPP. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
- Rinse water from equipment cleaning and/or from herbicide/pesticide/fertilizer containers should be used as product, recycled into product, or disposed of properly.
- Following use, dispose of unused pesticide as hazardous waste.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. The Street Supervisor is responsible for keeping records of road and parking lot maintenance activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Spills should be reported to Street Supervisor and all paperwork related to the spill and cleanup activities should be maintained at the Public Services Center.

The following records may also assist the Public Works Director in planning for future maintenance activities:

- Street sweeping – location, frequency;
- Total volume/weight of materials collected per mile of road swept;
- Winter de-icing/sanding activities – location, type, frequency;
- Amount of street waste removed, and
- Results of sediment testing.

Hard copy reports should be stored in the rolling files at the Public Services Center.

Section 5—Vehicle Fleets

Table 5-1 Implementation Checklist Vehicle Fleets	
Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Sweep vehicle storage parking lot quarterly when weather permits	Streets
Maintain spill kit onsite at all times	Fleets
Conduct employee training on fueling procedures	Fleets
Conduct all vehicle washing in the car wash bay or at a commercial facility	All City Departments
Implement SWPPP for Public Services Center	Public Works
Conduct vehicle maintenance inside whenever possible	Fleets

Overview

The City Services Division is responsible for maintaining City of Wenatchee vehicles and equipment in proper working order. Most vehicle maintenance is conducted at the Public Services Center. Vehicle maintenance activities have the potential to spill or leak fluids, fuel, or other polluting liquids. Vehicle washing can also contribute soap, debris, and pollutants into the stormwater collection and conveyance system.

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of vehicle fleets. The City of Wenatchee's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Wenatchee has identified BMPs related to each of the following activities:

- Vehicle Storage Areas
- Vehicle Fueling
- Vehicle Maintenance
- Vehicle Washing
- Recordkeeping

In general, the focus on selecting vehicle fleet BMPs is to prevent spills and reduce the potential for non-stormwater discharges into the into the stormwater collection and

conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters.

Vehicle Storage

When vehicles and equipment are parked or stored outside without cover they have the potential to leak or drip hazardous fluids that can be carried to the stormwater system during a rain or snow melt event. The City of Wenatchee's primary vehicle storage area is located at the Public Services Center. The Public Services Center has covered parking, partially covered parking and designated outside parking areas. Passenger vehicles are also stored overnight at Fire Station #1, the Police Station and City Hall. In addition to the following BMPs, the Public Services Center should be maintained according to the SWPPP included in Appendix D.

Operational BMPs

- Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
- Use drip pans or containers under vehicles and equipment that drip or are likely to drip liquids.
- Remove liquids from vehicles retired for scrap.

Structural BMPs

- Implement Structural BMPs to address vehicle storage areas in accordance with the City of Wenatchee's SWPPP.
- Two oil removal systems are located at the vehicle storage area at the Public Services Center.

Vehicle Fueling

The City of Wenatchee uses a fueling station owned and operated by Public Utility District No. 1 of Chelan County (PUD). The following BMPs should be implemented to minimize contact between stormwater runoff and spilled fuel, oil or other leaked vehicle fluids at equipment fueling areas.

Operational BMPs

- Train employees on the proper use of fuel dispensers and spill response procedures.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly after-hours when the fueling station is unattended.
- Hosing down of leaks, drips and spills is prohibited.

Vehicle Maintenance

Vehicle and equipment maintenance and repair conducted by the City of Wenatchee may include vehicle fluid removal, engine and parts cleaning, body repair and painting. If conducted outdoors, all of these activities have the potential to discharge pollutants into the stormwater system.

Structural BMPs

- Vehicle maintenance activities should be conducted inside the Fleets Maintenance Shop located at the Public Services Center whenever possible. The shop has six bays, parts storage, vehicle lifts, chemical and material storage with secondary containment and ventilation. Drains inside the shop discharge to the sanitary sewer system.

Operational BMPs

- Whenever possible, conduct vehicle maintenance indoors or within a paved, bermed and covered area.
- Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
- Maintenance activity areas should be kept clean, well organized and equipped with cleanup supplies.
- Inspect for leaks all incoming vehicles, parts, and equipment stored temporarily outside.
- Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents according to hazardous waste disposal guidelines.
- Vehicle maintenance activities (fluid removal, engine and parts cleaning, and body repair and painting) should be done in accordance with the City of Wenatchee's SWPPP.

Vehicle Washing

In accordance with the City of Wenatchee's Illicit Discharge Ordinance (Wenatchee City Code 4.10), vehicle wash water is prohibited from entering the stormwater collection and conveyance system. In addition to the potential impacts from soapy water, wash water may contain other hazardous vehicle fluids. The City of Wenatchee primarily washes vehicles at the wash bay located at the Public Services Center.

Operational BMPs

- Vehicle and equipment washing areas should be inspected monthly and cleaned as needed.
- Use phosphate-free biodegradable soaps and detergents whenever practical.
- Do not remove original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
- Minimize water usage.
- Conduct vehicle/equipment washing off-site at a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer.

Structural BMPs

- If vehicle washing is to be conducted at a location other than the Public Services Center or a commercial car wash, city staff must use a car wash kit, berms or wash vehicles inside a garage are where the wash water can drain to the sanitary sewer system.

Recordkeeping

The Phase II Permit requires long term recordkeeping of events and activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Material or liquid spills should be promptly reported to the Fleets & Facilities Supervisor and all paperwork related to the spill and cleanup activities should be maintained at the Public Services Center.

Section 6—Municipal Buildings

Table 6-1 Implementation Checklist Municipal Buildings	
Potential Pollutants: Sediment, Nutrients, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Maintain a spill kit onsite where applicable	Facilities
Cover storm drain inlets prior to pressure washing, limit water usage	Facilities
Sweep paved areas and storage areas regularly	Facilities
Use drop cloths underneath outdoor painting activities	Facilities
Store toxic materials under cover	Facilities
Discharge pool water if pH is higher than 0.1 and filter backwash to the sanitary sewer	Pool Staff
Sweep paved areas and storage areas regularly	Facilities
Use sand & deicers at lowest rate necessary for public safety	Facilities

Overview

Municipal building maintenance includes cleaning, washing, painting, and landscape maintenance. Potential pollutants from these activities include organic compounds, oil and grease, soap, heavy metals, and particulate matter. The City Services Division is primarily responsible for the maintenance of the City of Wenatchee's municipal buildings including:

- City Hall
- Public Services Center
- Police Station
- Fire Station #1
- Fire Station #2
- IS Center
- Wenatchee Convention Center
- Community Center
- Cemetery & Mausoleum
- Carnegie Building
- Wastewater Treatment Plant
- Museum & Annex Building
- City Pool
- Child Care Center
- Decant Facility

- Public Works South Storage Yard
- Regional Water Facilities
- Parks Facilities (band stands, shelters & restrooms) refer to Figure 2.2.

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of municipal buildings. The City of Wenatchee's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Wenatchee has identified BMPs related to each of the following activities:

- General Facility Housekeeping
- Building Cleaning and Washing
- Painting
- Vegetation Maintenance
- Winter Activities
- Swimming Pools
- Other Maintenance Activities
- Recordkeeping

In general, the goals in selecting municipal building maintenance BMPs are to prevent spills, to reduce the potential for a non-stormwater discharge into the stormwater collection and conveyance system, and to reduce the amount of sediment and debris that is washed into the stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters and help reduce the cost of maintaining the stormwater collection and conveyance system.

General Facility Housekeeping

The purpose of general facility housekeeping is to keep municipal areas clean and free of debris and other pollutants that could be washed into the stormwater collection and conveyance system during a rainfall event. General facility housekeeping also includes storing materials under cover and handling materials and waste products in a way that minimizes the risk to stormwater.

Operational BMPs

- Keep open areas clean and orderly.
- Pick-up litter.
- Promptly contain and clean up solid and liquid pollutant leaks and spills.
- Sweep paved material handling and storage areas regularly.
- Inspect all structural BMPs regularly, particularly after a significant storm.

- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
- Promptly remove debris and old equipment.
- Store hazardous materials as specified by the manufacturer.
- Conduct regular employee training to reinforce proper housekeeping actions.

Building Cleaning and Washing

Municipal building cleaning and washing activities may include washing of carpet and other interior items and/or conducting pressure washing of buildings, rooftops, and other large structures associated with a municipal building. Wash water from municipal building washing practices has the potential to be contaminated with pollutants harmful to stormwater such as sediment and chemicals.

Operational BMPs

- Dispose of carpet or interior wash water to the sanitary sewer. Do not dispose of any wash water outdoors or to a storm drain system.
- Report any spills or accidental discharges to the storm drain system to the Fleets and Facilities Supervisor.
- Limit water usage when washing a building.
- Collect wash water from building structures and convey it to an appropriate treatment device, such as the sanitary sewer system. If wash water contains oils, biodegradable soaps, or detergents, or nothing at all it may be directed to soils that have sufficient natural attenuation capacity for dust and sediment. A sump pump, wet vacuum, or similarly effective device may be used to collect the runoff and loose materials.
- Use storm drain covers for any inlets in the vicinity of the work area when conducting pressure washing activities. The cover(s) must be in place prior to engaging in the washing activity. Collect any accumulated runoff and solids with a wet vacuum or broom, and properly dispose of wastes before removing the cover(s) at the end of the work day.

Painting

Painting activities associated with interior or exterior municipal buildings include surface preparation and application of paints, stains, finishes and other coatings. Paints, stains, and finishes contain harsh chemicals and will contaminate stormwater if allowed to comingle.

Operational BMPs

- Never dump any toxic substance or liquid waste on the pavement or the ground.

- Report any spills or accidental discharges to the storm drain system to the Fleets & Facilities Supervisor.
- Train employees in the careful application of paints, finishes, stains, and coatings to reduce misuse and over spray.
- Use ground cloths or drop cloths underneath outdoor painting, scraping, sandblasting work, paint mixing, and tool cleaning.
- Wipe up spills with rags and other absorbent materials immediately. Do not hose down the area to a storm drain, receiving water, or conveyance ditch that drains to a receiving water.
- Clean brushes and tools covered with non-water based paints, finishes, or other materials in a manner that allows collection of used solvents (e.g., paint thinner, turpentine, xylol, etc.) for recycling or proper disposal.
- Store toxic materials under cover (tarp, etc.) during precipitation events and when not in use to prevent contact with stormwater.

Vegetation Maintenance

Vegetation maintenance includes maintaining landscaping for landscaped areas associated with municipal buildings and controlling noxious weeds, pests, and unwanted vegetation growth. The Parks Maintenance Department is primarily responsible for vegetation maintenance at municipal buildings. Refer to Chapter 7 for the BMPs used by the Parks Maintenance Department.

Winter Activities

Winter activities around municipal buildings include anti-icing, deicing, sanding, and snow removal on sidewalks and small parking lots. (Winter activities related to large parking lots are discussed in Section 4.) These activities enhance protect public safety during inclement winter weather. In addition to the BMPs described below, see Section 4 for BMPs related to storage of sand and deicer.

Deicing and Sanding

- Whenever possible, limit the use of chemical deicers. When chemical application is needed, select produces with the least adverse environmental impact while still providing for public safety.
- Apply sand and deicer at the lowest rate necessary to provide for public safety; avoid excessive application.
- Sweep parking lots in early spring to collect accumulated sand after the winter season.

Snow Removal

- Whenever possible, avoid piling snow over inlets of the stormwater collection and conveyance system so snow melt can drain.
- Snow removed from sidewalks and municipal parking lots shall be deposited on adjacent landscaped areas or within a parking stall.
- Avoid depositing snow within 25 feet of surface waters, 75 feet of private water supplies, 200 feet from any community water supply, or 400 feet from any municipal well.

Swimming Pools

In addition to the potential impacts from building maintenance, chlorinated pool water poses an additional threat to aquatic species. Excessive chlorine concentrations may kill nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain.

Swimming Pool Maintenance BMPs

- Pool water must be dechlorinated to a concentration of 0.1 ppm or less, volumetrically controlled to prevent the mobilization of sediments, and pH adjusted prior to discharge to the stormwater collection and conveyance system.
- Pool water that cannot meet the requirements for discharge to the stormwater system must be discharged to the sanitary sewer system with prior approval from the Wastewater Division.
- During pool maintenance discharge filter backwash and wastewater from pool maintenance (i.e. acid cleaning) to sanitary sewer system with prior approval from the Wastewater Division.

Other Maintenance Activities

Additional maintenance activities associated with municipal buildings include building repair, remodeling, and construction projects.

Operational BMPs

- Use a storm drain cover if dust, grit, wash water, or other pollutants have the potential to enter a storm drain inlet. Collect any accumulated runoff and solids with wet vacuums and brooms as needed.
- Use ground cloths or drop cloths underneath outdoor painting, scraping, and sandblasting work and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Store and maintain a spill control kit and ensure employees are familiar with proper spill control procedures.

- Report spills or accidental discharges to the stormwater conveyance system to the Fleets & Facilities Supervisor.

Recordkeeping

The Phase II Permit requires long term recordkeeping of events and activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Material or liquid spills should be promptly reported to the Fleets & Facilities Supervisor and all paperwork related to the spill and cleanup activities should be maintained at Public Services Center.

Section 7—Parks and Open Space

Table 7-1 Implementation Checklist Parks and Open Space	
Potential Pollutants: Sediment, Nutrients, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Minimize use of chemical fertilizers	Parks
Inspect irrigation systems regularly	Parks
Maintain vegetative cover	Parks
Dispose of waste vegetation in designated areas	Parks
Use pesticides only if there is a pest problem	Parks

Overview

The maintenance of parks and open space areas frequently includes fertilization, mowing, pesticide application, and supplemental irrigation. Potential pollutants from these activities include nutrients, chemicals, organic debris, and sediment. Improving the way park and open space maintenance activities are conducted can reduce the amount of stormwater pollution that is conveyed to local aquatic resources.

The Parks Maintenance Department is responsible for the maintenance of the following park properties and the associated parking lots:

- Centennial park
- Chase Park
- Community Center
- Lincoln Park
- Locomotive Park
- Memorial Park
- Methow Park
- Pennsylvania Park
- Pioneer Park
- Rainbow Park
- Rotary Park
- Washington Park
- Wenatchee Cemetery
- Hale Park
- Saddlerock Trail Head
- Castlerock Trail Head

- Western Hills Park

The Parks Maintenance Department is responsible for maintaining open space and undeveloped properties owned by the City of Wenatchee. These properties include:

- Former Public Works Site – 25 N. Worthen
- Adam's Triangle
- Ninth & Miller Triangle
- Upper Ninth S-Curve
- 19th Street, East Wenatchee
- Jefferson Reservoir
- Okanogan Sub-station
- Rocklund Reservoir
- Okanogan Reservoir
- DOT North
- Horselake
- Dolco Right-of Way
- Wenatchee Avenue Streetscape
- Russell-Kittitas Strips
- Skyline Drive

Standards and BMP Selection

Unless park areas include stormwater management facilities, the Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of parks and open space. (BMPs for maintenance of stormwater management facilities are included in Section 3). The City of Wenatchee's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Wenatchee has identified BMPs related to each of the following activities:

- Vegetation Management
- Trash and Debris
- Small Construction Projects
- Buildings and Structures
- Stormwater Facilities
- Storage Areas
- Recordkeeping

In general, the goals in selecting park and open space maintenance BMPs are to prevent spills, to reduce the potential for a non-stormwater discharge into the stormwater collection and conveyance system, and to reduce the amount of sediment and debris that is washed into the stormwater collection and conveyance system. Implementing these BMPs will help

prevent the discharge of pollutants into receiving waters and help reduce the cost of maintaining the stormwater collection and conveyance system.

Vegetation Management

Proper turf management and landscape maintenance practices have the potential to reduce the amount of stormwater runoff and the amount of pollutants that drain to receiving waters. Vegetated spaces provide an excellent opportunity to infiltrate precipitation as it falls and filter pollutants before they can be washed downstream. Vegetation management includes maintaining landscaping throughout park and open space area and controlling noxious weeds, pests, and unwanted vegetation growth. BMPs should be used to prevent disturbed soil, removed vegetation, and chemicals from causing a negative impact to receiving waters.

Vegetation Management BMPs

- Maintain vegetative cover on medians and embankments to prevent soil erosion. When vegetation is removed, apply mulch or other cover measures to prevent soil erosion.
- Allow natural revegetation in suitable areas and clearly designate "no mow" areas.
- Use side discharge type mowers.
- Dispose of vegetated waste (clippings, leaves, branches) at a designated disposal area; landscape material should not be disposed of in streams or storm drains.
- Avoid loosening the soil during weed control.
- Do not use leaf blowers to blow waste into streets, storm drains, or ditches.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Never apply fertilizer within 5 feet of pavement, 25 feet of a storm drain inlet, or 50 feet of a stream or water body.
- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the City of Wenatchee's SWPPP. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

Irrigation BMPs

- Inspect the irrigation system regularly to minimize excess watering and prevent the runoff of fertilizer.
- Repair leaks to the irrigation system as soon as they are observed or reported.
- Use drip irrigation, rather than sprinklers; irrigate in the morning or evening to conserve water when possible.
- Monitor soil for moisture content and adjust irrigation times accordingly.

Pesticide and Herbicide BMPs

- Use mechanical methods of vegetation removal rather than herbicides when feasible.

- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).
- Use the least toxic pesticide for the job; avoid the use of copper-based pesticides if alternatives are available; select products with low water solubility and low persistence.
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare pesticides near storm drain inlets.
- Follow product labels for proper application of any pesticide.
- Use the minimum amount of chemical needed for the job.
- Avoid pesticide applications within 100 feet of a water body and avoid application on or near most stormwater collection and conveyance facilities, excluding dry roadside ditches.
- Use products specifically labeled for dry ditches when treating roadside ditches.

Storage and Disposal

- Follow federal, state, and local laws governing the storage and disposal of pesticides and herbicides.
- Store herbicides/pesticides in enclosed areas or in covered impervious containment in accordance with the City of Wenatchee's SWPPP. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
- Rinse water from equipment cleaning and/or from herbicide/pesticide/fertilizer containers should be used as product, recycled into product, or disposed of properly.
- Dispose of unused pesticide as hazardous waste.
- Maintain a spill kit in the storage area.

Trash and Debris

Trash and debris collection is important to maintain the aesthetic and livability of the City of Wenatchee's parks. Prompt trash removal also helps prevent garbage and leachate from entering the stormwater conveyance system and polluting receiving waters.

Trash and Debris Removal BMPs

- When possible, store garbage containers beneath covered structures.
- Covered trash containers are used in the streetscape along Wenatchee Avenue.
- Locate dumpsters on a flat, concrete surface that does not slope or drain into the storm drain system.

- Regularly inspect garbage and recycling containers for cracks and leaks; make repairs promptly.
- Properly dispose of hazardous waste, gasoline, oil, and other chemical liquids. Never dispose of hazardous waste in park dumpsters or garbage containers.

Buildings and Structures

The building facilities in Centennial Park, Lincoln Park, Pennsylvania Park, Pioneer Park, Rotary Park, Washington Park, and the Wenatchee Cemetery shall be maintained according to the BMPs in Section 6 of this O&M Plan.

Storage Areas

Maintenance vehicles, equipment, and uncovered material stockpiles have the potential to leak or contribute pollutants to the stormwater system during rain or snow melt events. Vehicle, equipment, and material storage areas should be maintained according to the SWPPP included in Appendix D. The following operational BMPs should be implemented to limit the transport of materials into the stormwater collection and conveyance system:

- Sweep parking lots, material storage areas, and driveways regularly to collect dirt, waste, debris, and loose stockpile materials. Do not hose down the areas to a stormwater conveyance system.
- Whenever possible, store material stockpiles in a building or within a paved and bermed covered area. Place temporary plastic sheeting over stockpiles that are exposed to the elements.
- Whenever possible, collect and recycle stored materials back into the stockpiles.
- Park/store all vehicles and equipment in a designated parking area.
- Use drip pans or containers under vehicles and equipment that drip or are likely to drip liquids.

Recordkeeping

The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Material or liquid spills that occur in parks or their parking lot should be promptly reported to the Parks Maintenance Supervisor and all paperwork related to the spill and cleanup activities should be maintained at the Public Services Center. Hard copy reports should be stored in the rolling files at the Public Services Center.

Section 8—Construction Projects

Section 8—Construction Projects

Municipal construction projects are subject to the same requirements as those projects proposed by private developers. During construction, proper erosion and sediment controls should be used to prevent sediment-laden stormwater from flowing away from the site and into the stormwater collection and conveyance system. Ecology requires construction sites that disturb greater than one acre to document their planned sediment and erosion control techniques and to obtain separate NPDES Permit coverage. It is the responsibility of the City of Wenatchee, to enforce and implement the Minimum Technical Requirements for Stormwater Management at New Development and Redevelopment Sites (Appendix 1 of Eastern Washington Phase II Municipal Stormwater Permit, 2014). For all municipal projects, it is the responsibility of the City of Wenatchee to ensure that the construction company completes and executes all aspects of a Stormwater Pollution Prevention Plan and the Minimum Technical Requirements.

The following construction projects are required to have a *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* (Construction Permit). Refer to Ecology's website or regional office for additional information.

- Clearing, grading and/or excavation (including forest practices) that results in the disturbance of one or more acres and discharges stormwater to surface waters of the State; or
- Clearing, grading and/or excavation on sites smaller than one or more acres that are part of a larger common plan of development or sale that will ultimately disturb one acre or more, and discharge stormwater to surface waters of the State; or
- Any size construction activity discharging stormwater to waters of the State that Ecology determines to be a significant contributor of pollutants to waters of the State of Washington or that Ecology reasonably expects to cause a violation of any water quality standard.

The following construction activities are exempt from NPDES permit coverage:

- Construction activities that discharge all stormwater and non-stormwater to ground water, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.
- Construction activities covered under an Erosivity Waiver (Condition S2.C).
- Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Municipal projects that are subject to the NPDES Construction permit should refer to Ecology's website for information regarding the required erosion and sediment control practices.

All municipal and public projects that meet the **regulatory threshold** are required to implement construction and post-construction controls that are required in Appendix 1 in the Eastern Washington Phase II Municipal Stormwater Permit. The regulatory threshold is defined as one-acre size new development or re-development projects with construction

activities that will disturb equal to or greater than one acre and construction activities and projects that are less than one acre that are part of a larger common plan of development or sale.
These requirements include, but are not limited to:

- Preparation of a Stormwater Site Plan- All construction projects are subject to the Minimum Technical Requirements and shall complete a Stormwater Site Plan with regard to the *Stormwater Management Manual for Eastern Washington* (2004)
- Construction Stormwater Pollution Prevention Plan -All construction and redevelopment projects are responsible for preventing erosion and the discharge of pollutants. The SWPPP shall be implemented beginning with the first soil disturbance. This plan shall include elements that cover all of the following criteria (More detailed explanation of each requirements found in Appendix 1 in the Eastern Washington Phase II Municipal Stormwater Permit.).
    - Preserve Vegetation/ Marking Clearing Limits
    - Establish Construction Access
    - Control Flow Rates
    - Install Sediment Controls
    - Stabilize Soils
    - Protect Slopes
    - Protect Drain Inlets
    - Stabilize Channels and Outlets
    - Control Pollutants
    - Control De-Watering
    - Maintain BMPs
    - Manage the Project
- Source Control of Pollution- All projects shall apply all known, available, and reasonable source control BMPs. Operational and structural source control BMPs shall be selected, designed, and maintained according to the *Stormwater Management Manual for Eastern Washington* (2004).
- Preservation of Natural Drainage System- Projects must preserve the natural drainage system to the best possible extent of the site. The manner of which runoff is discharged from the site must not cause any sort adverse impact on downstream receiving waters and down-gradient properties.
- Runoff Treatment- Runoff Treatment is required for all Basic, Metals, Oil, or Phosphorus Treatments are met. Treatment facilities shall be selected, designed, sized, constructed, operated, and maintained with this element of the Minimum Technical Requirements Core Element #5.
    - Basic Treatment: To remove solids, is required for all **new development** projects creating more than 5,000 square feet of pollutant generation impervious surface area. Treatment is required for all discharges into waters of the State.

  - Metals Treatment: Required in addition to Basic Treatment for **new development projects** with **moderate-use sites, high-use sites,** and any industrial site (defined by EPA 40 CFR 122.26(b) (14)), on-street parking areas, highway rest areas, and runoff from metal roofs not coated with inert, non-leachable material.
  - Oil Treatment: Required for all **high-use sites** and **high average daily traffic (ADT) roadways and parking areas** at **new development and redevelopment** projects. Oil treatment is required in addition to any other treatment method that is included in this section.
  - Phosphorus: Phosphorus treatment is only required where federal, state or local government has determined that that a water body is sensitive to phosphorus and that a reduction in phosphorus from a new development or redevelopment is necessary to achieve an water quality standard that is acceptable to protect its beneficial uses.
- Flow Control- Any new development projects that result in 10,000 or more of new impervious surfaces shall construct stormwater flow facilities for any discharge of stormwater directly, or through a conveyance system into surface water. Redevelopment does not require any type of flow facility unless required by other federal, state, or local requirement.
- Operation and Maintenance- Where any structural BMPs are required, property owners shall operate and maintain the facilities in accordance with an Operation and Maintenance Manual in accordance with the *Stormwater Management Manual for Eastern Washington.*

The Phase II Permit requires the City of Wenatchee to "…assess water quality impacts in the design of all new flood management projects that are associated with the MS4 or that discharge to the MS4…." The City meets this obligation by reviewing all projects under Wenatchee City Code 12.10. The Engineering Department is responsible for the design and review of proposed flood management projects. During the design of all new flood management projects, the City's engineers will assess the water quality impacts of the proposed project and consider the use of controls to minimize impacts to site hydrology. The City of Wenatchee does not currently have any flood management facilities.

Section 9—Storage Areas

Section 9—Storage Areas

The NPDES Permit requires all material storage areas, heavy equipment storage areas, and maintenance areas to develop and implement a SWPPP to protect water quality and prevent the discharge of contaminated stormwater to surface or groundwater. The SWPPP describes both operational and structural BMPs that will be implemented at each facility.

The following City of Wenatchee properties are covered by the SWPPPs which are included in Appendix D, Appendix E and Appendix F.

- Public Services Center
- Decant Facility.
- Public Works Department South Storage Yard

A copy of the SWPPP must also be kept on hand at each of the facilities listed above.

Section 10—Other Facilities and Activities

Section 10—Other Facilities and Activities

Table 10-1 Implementation Checklist Other Facilities and Activities	
Potential Pollutants: Sediment, Nutrients, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter	
Stormwater Activity	Responsibility
Water System	
Dechlorination/flow control of domestic water discharges	Water
Install catch basin inserts for flushing and construction	Water
Sweep after small construction projects	Water
Manage excavation activities to prevent discharges of sediment	Water
Maintain spill kits in vehicles	Water
Rock entrances to small construction sites	Water
Limit flushing activities	Water
Maintain system to minimize domestic water overflow	Water
Store materials in covered areas or designated locations to prevent stormwater pollution	Water
Wastewater System	Responsibility
Wastewater Collection System Management Program	Wastewater Collections
Weekly inspections – Maintenance as needed of lift stations.	Wastewater
Quarterly cleaning of lift stations with high pressure water and Vactor truck	Wastewater Collections
Jetting & vacuuming of sewer lines every 3-5 years	Wastewater Collections
Public Outreach brochures on what can and cannot be flushed into the sewer system	Wastewater
Maintain spill kits in vehicles	Wastewater
All storm drains at the treatment plant are tied back into sewer.	Wastewater

The City of Wenatchee also conducts several other maintenance activities that have the potential to impact stormwater runoff. This section covers the following municipal activities:

- Water System
- Wastewater System

The BMPs associated with each activity are listed in the individual sections below.

Water System

The City of Wenatchee is responsible for operation and maintenance of a 5 square mile water system, 4 reservoirs totaling 15 million gallons of storage and two pump stations. Maintenance and repairs to the water system have the potential to impact receiving waters.

Water Line & Hydrant Flushing

The Phase II Permit allows planned discharges from potable water sources into the stormwater collection and conveyance system under certain conditions. These conditions apply to potable water line flushing, fire hydrant system flushing, and pipeline hydrostatic testing.

- The velocity and volume of discharges must be controlled so as not to mobilize sediment deposits or cause soil erosion around the storm drain system.
- Discharges must be dechlorinated to a concentration of 0.1 ppm or less and be pH-adjusted. Excessive chlorine concentrations may kill nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain. At the same time, overuse of common chemicals used for the dechlorination process has the potential to deplete dissolved oxygen or alter the pH of receiving waters.

When water line flushing is likely to drain into the stormwater collection and conveyance system, the preferred dechlorination method is:

- Using a dechlorinating diffuser and chemical tablet chamber,
- Laying a dechlorination mat or strip across the flow path and over the nearby storm drains to diffuse sodium sulfite into the chlorinated flow prior to discharge into the stormwater system.
- Placing a catch basin insert at the point of discharge into the stormwater system and allowing the water to flow over dechlorination tablets placed in the insert.

Small Construction Activities

Sediment and erosion control measures should be implemented when water or sewer repair or replacement projects include grading, soil transfer, or vegetation removal. The following BMPs apply when making structural repairs or replacing components of the water or sewer utility infrastructure.

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas. Use mulch or other erosion control measures when soils are exposed for more than a week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, compost socks, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a General *NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acres and has the potential to discharge to a water of the state.
- Develop an Erosion and Sediment Control Plan for all jobs smaller.
- Any size construction activity discharging stormwater to waters of the State that Ecology determines to be a significant contributor of pollutants to waters of the State of Washington or that Ecology reasonably expects to cause a violation of any water quality standard.

For larger construction projects that include the addition of new stormwater system components or the replacement of culverts in streams or other perennial water bodies, follow the construction activity guidelines in Section 8.

Wastewater System

The City of Wenatchee operates and maintains approximately 120 miles of sewer lines as well as 5 sewer lift stations. Maintenance and repairs to the sewer collection system has the potential to impact receiving waters.

Collection System Maintenance Activities

The primary goal of collection system maintenance is to insure that waste is conveyed to the wastewater treatment plant without overflows or back-ups. When a sanitary sewer overflow occurs, there is the potential for raw sewage to enter the stormwater system. To prevent this situation the city implements several BMPs:

- The City of Wenatchee has a Collection System Management Program that addresses operation and maintenance activities, including procedures and recordkeeping.
- Sewer lift stations are maintained weekly and cleaned quarterly with high pressure water and the Vactor truck. The lift stations are also equipped with alarms to notify wastewater staff of any equipment malfunctions.
- The City jets and vacuums the sewer lines throughout the system about every 3-5 years.
- Public outreach brochures and newsletters are used to educate the public on what can and cannot be flushed in the sewer system. Some products cause blockages in sewer mains as well as problems at the lift stations.

Wastewater Treatment Plant

The wastewater treatment plant is located at 201 North Worthen Street. All of the stormwater captured at the wastewater treatment plant is routed to the headworks and is treated with the sanitary sewer. Landscaping and building maintenance is conducted by wastewater treatment plant staff or other public works staff as needed. BMPs from Section 6 Municipal Buildings and Section 7 Parks and Open Spaces are applicable at the wastewater treatment plant.

Section 11—Planning, Budgeting and Recordkeeping

The focus of this O&M Plan is to implement activities and practices that will protect receiving waters and comply with the NPDES Phase II Permit. Many of the BMPs in this plan were already being implemented by city staff. Increased inspection frequencies and recordkeeping are expected to have the most impact on current city resources.

Management Philosophy

This O&M Plan was developed to meet the requirements of the NPDES Phase II Permit. The Permit includes required inspection schedules and maintenance standards for the stormwater collection and conveyance system. Beyond that, the Permit is prescriptive when it comes to implementing BMPs for other City of Wenatchee departments. Instead, the BMPs in this plan have been selected based on the requirements to "…reduce the discharge of pollutants to the maximum extent practicable (MEP)" (Permit Section S4.C) and to "…use all known, available, and reasonable methods of prevent, control and treatment (AKART) to prevent and control pollution of waters of the State of Washington." (Permit Section S4.D)

The BMPs and activity schedules in this O&M Plan have also been developed based on:

- The level of service expected by local citizens;
- The level of service requested by the City Council; and
- The maintenance frequencies needed to prevent costly repairs of the stormwater collection and conveyance system.

For example, the Phase II Permit does not have required street sweeping frequencies, so the frequencies listed in this plan are those necessary to maintain aesthetics, prevent excessive build-up of sediment in catch basins, and prevent significant trash, debris, and sediment accumulation in bike lanes.

Staff Assignments and Work Orders

The Public Works Director is responsible for developing the annual work plan and making crew assignments to implement the practices and activities outlined in this O&M Plan. Each year a work plan is developed that lists activities and projects, timelines, as well as staff and equipment assignments.

Annual Budget

The cost of implementing this O&M Plan for all City of Wenatchee facilities and operations was estimated to be between $500,000 on an annual basis. This represents about 70% of the expenses related to the stormwater management program. The City is currently

inspecting catch basins every two years. Over time, the frequency may be able to be reduced based on maintenance records. Increased requirements in the next permit cycle may result in increases to the cost of implementing this element of the stormwater management program.

Equipment Needs

The City of Wenatchee is generally well-equipped to address the maintenance needs identified in this O&M Plan. The Operations & Maintenance Manager and the Fleets and Facilities Supervisor maintain a list of vehicles and a replacement plan.

Coordination with Phase II Permit

This O&M Plan is focused on meeting the requirements of Section S5.B.6 of the Phase II Permit. However, a number of other permit requirements are intertwined with the City of Wenatchee's operations and maintenance activities. Implementing this O&M Plan will assist the City of Wenatchee with compliance with the following:

Illicit Discharge Detection and Elimination

Field inspectors play a key role in verifying and updating information in the City of Wenatchee's stormwater system inventory. Field inspectors and maintenance crews are also the front lines for identifying spills and potential illicit discharge concerns. Illicit discharge issues will be promptly reported to the Environmental Manager and all paperwork related to the spill and cleanup activities should be maintained at the Public Services Center. In addition, the spill clean-up training required under Section S5.B.3 is applicable to spills of potential pollutants during municipal maintenance activities.

Recordkeeping

The Phase II Permit focuses primarily on keeping records of activities related to inspection, maintenance, and repair of the stormwater collection and conveyance system. The inspection checklists in Appendix A and the City's GIS system are key components to the City of Wenatchee's recordkeeping system. As described in Section 3, the Phase II Permit requires that the following documentation be kept for at least five years following work activity:

- Inspection schedules and checklists for stormwater treatment and flow control facilities;
- Records of spot checks performed following major storm events,
- Repairs or maintenance actions completed as a result of inspections and spot checks,
- Number and type of enforcement actions related to private facilities, and
- Number and type of illicit discharges detected and eliminated.

In addition, tracking the following information may be helpful in planning and budgeting for future maintenance activities.

- Catch basins cleaned each year,
- Amount of sediment collected and date removed,
- Results of sediment testing,
- Street sweeping – location, frequency;
- Total volume/weight of materials collected per mile of road swept;
- Winter de-icing/sanding activities – location, type, frequency;
- Amount of street waste removed, and
- Results of sediment testing.

The Public Works Superintendent is also responsible for keeping records of crew activities for the overall maintenance program.

Annual Report

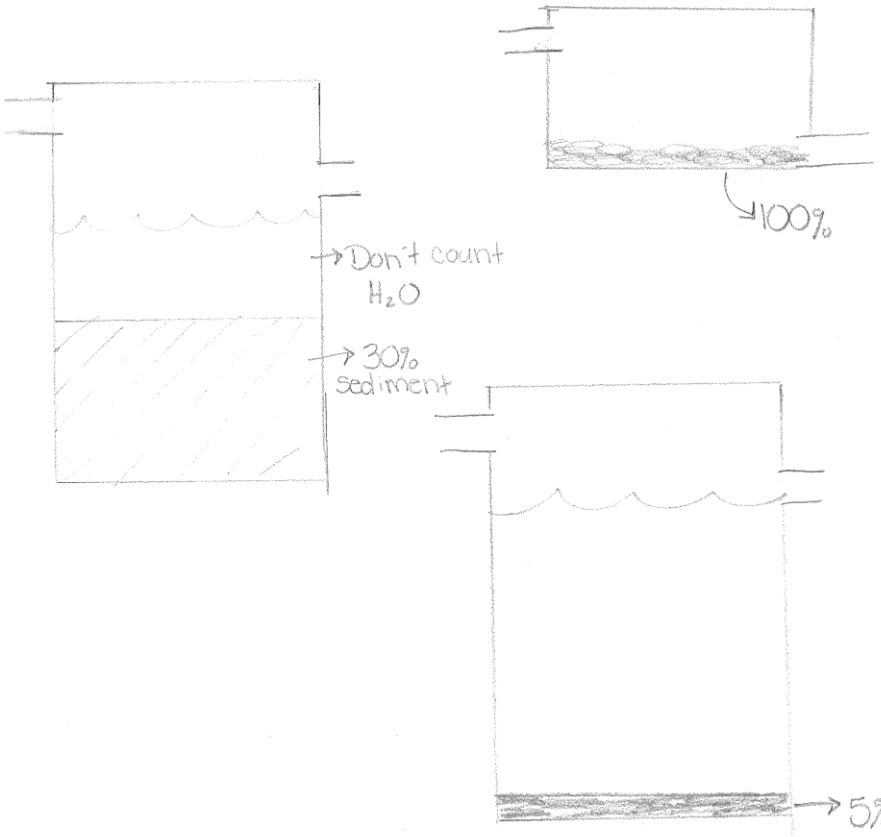
Inspection checklists and maintenance records developed during the implementation of this O&M Plan will assist the City of Wenatchee in completing the Phase II Permit annual report that must be submitted to Ecology by March 31st of each year. While the maintenance records do not need to be submitted with the annual report, the City of Wenatchee does have an obligation to supply Ecology with the records if requested.

Appendix A
Stormwater Facility Inspection Checklists

Cleaning Operational Procedure

When cleaning a manhole or catch basin, the SOP is as follows.

1. After you have stopped in front of the manhole or catch basin and set your parking break you will want to make sure you have on your safety vest and hard hat on.
2. Then get out of the rig and the first thing that you will want to do is to set out your safety cones in back and in front of the vehicle. Remember Safety First.
3. You would then inspect the catch basin. Inspection procedure would be to take your inspection measuring rod and insert it between the vanes in the great and check the depth of the sediment and debris in the bottom of the catch basin. The measurements are 0 – 10% full, and 10 – 25% full, which would require no cleaning. Then there is 25 – 50% full, 50 – 75% full, and 75 – 100% full, which would require cleaning.
4. The next thing you will want to get is the tubes for the vacuum and hook it to the vacuum hose.
5. Set the vacuum tube in the manhole or catch basin to be cleaned.
6. Get the hand gun out and get it ready for use.
7. Engage the vacuum and water, pull the crate or manhole lid, vacuum up all debris and rinse down the sides and bottom of the structure.
8. Replace the lid or grate. Disconnect the tube and put it up, raise the boom as high in the air as possible. With the boom extended out and up engage the vacuum and increase the RPM's. Spray water into the end of the hose while you are retracting the boom. Let it run for a little bit till you think that it has sucked in all the clear water.
9. Shut the RPM's down and the vacuum off and replace the boom. This will help to keep the dirty water off the windshield when you stop at stop signs.
10. Next put away the hand gun and pick up the cones in front of the truck. Look before stepping out into traffic and go to the back and pick up the cones and put them away.
11. Enter the cleaning and all of the other information from the structure in the iPad in ARCGIS. Then proceed to the next to be cleaned and have a safe day, remember "SAFTEY FIRST"



Clean

- Greater than 25% full of sediment

OR

- Floating debris and garbage

Inspection Operational Procedure

Stormwater Inspection Standard Operating Procedure

Supplies Needed

Safety Equipment: Safety vest, traffic cones, and if needed a traffic control plan including signage.

A traffic control plan is not needed if it is considered a "moving operation", which is work that takes less than 15 minutes. Per the MUTCD, "*Appropriately colored or marked vehicles with high-intensity rotating, flashing, oscillating, or strobe lights may be used in place of signs and channelizing devices for short-duration or mobile operations. Where feasible, warning signs should be placed along the roadway and moved periodically as work progresses."*

If work will be less than 15 minutes, park truck behind the catch basin being inspected, turn on the truck lights and set a traffic cone at the end of the bumper. Work in front of the truck. If work will be on a long stretch of road, but still moving from catch basin to catch basin, place "Utility Worker" signs at each end of the road. If working on a corner, consider placing a sign on with either side of intersecting street and using vehicle with strobe lights as protection.

iPAD: turn iPad on and when screen comes on place finger on screen and slide to the right to unlock.

PASSWORD: 10 20 30

To enter stormwater inspections

1. Click on ArcGIS Collector located in the lower right hand corner.
2. On the next page you will open Portal for ArcGIS
3. Then you will see a panel that says "Organization URL" pick that.
4. A line of text will appear under that box that says https://maps.wenatcheewa.gov/arcgis pick that.
5. Next tap the Continue panel.
6. The next screen will be the sign in screen.
7. Simply type in your name and password that you normally use to log into our City Network.
8. You are now in the map gallery. Simply pick the "Stormwater System Maintenance map" and the map application will open.
9. You are now in the "Stormwater Inspection map". If you do not see the area that you are in click on the GIS icon that is just to the right of the word Maps. It will track you.

Visual Inspection: (Note: do not remove lid if possible)

What should we be looking for?

1. The catch basin percent of fullness of sediment and debris.
2. Visually notice if catch basin is wet or dry, this is an indicator of an illicit discharge.
   If wet,
   a) Try to detect any odor if possible.
   b) Look for oil sheen, signs of detergent, sewage waste, etc., and if found notify the Environmental Division by calling the stormwater hotline and leave a message if necessary.
3. Is there garbage or excessive plant debris in or around the catch basin?
4. General condition of catch basin: any damage to lid or sides of catch basin?
   a) High priority would be if the grate is missing. You would then notify your supervisor immediately.
   b) Lower priority would be something like damage to catch basin or damage to the inlet pipe, or the side of the wall or bottom of the catchbasin. This will be put on a spreadsheet or if sever enough, notify your supervisor.
5. What are the conditions of the inlet and outlet pipes?
6. Does the catch basin need to be cleaned.

****If there is a safety hazard, treat as a priority. Secure the area until catch basin can be repaired or replaced and send information to your supervisor.**

*****Note: If manhole is labeled as a catch basin or vice versa, bring info back to Ron and he will change it in the database.**

******Have a safe day so you can go home SAFE.**

Inspection and Maintenance Checklist
Stormwater Collection and Conveyance System

Date of Inspection: _____ Inspection Area: _____

Field Inspector(s): _____ Reason for Inspection: _____

Current Weather: _____ Rain (inches): In Last 24 hrs: _____ In Last Week: _____

Facility Type	Location		Sediment Build-up		Maintenance Needed		Maintenance Follow-up	
(CB, Pond, etc)	GIS#/GPS	Description	Depth (in)	Needs Removal?	Code	Description/Action Needed	Date Completed	Initials

Maintenance Codes:

1 – Accumulated Sediment
2 – Trash & Debris
3 – Vegetation Concerns
4 – Water Quality Concerns
5 – Impeded Water Flow
6 – Erosion
7 – Structural Repairs
8 – Cover/Frame/Grate
9 – Damaged Pipes
10 – Mosquito/Vector Breeding
11 – Other
12 – Could Not Locate

See maintenance standards for detailed code descriptions for each facility type. Maintenance standards are based on the Washington State Department of Ecology's *Stormwater Management Manual for Eastern Washington* (September 2004).

Make additional copies of this page as needed for field inspections.

Inspection and Maintenance Checklist
Stormwater Collection and Conveyance System- Dry Season Inspection Packet

Date(s) of Inspection: _____

Field Inspector(s): _____ Reason for Inspection:_____(Annual, 10 yr. rain event, other)

Current Weather: _____ Rain (inches): In Last 24 hrs: _____ In Last Week: _____

Maintenance Codes:
OK- No maintenance needed
1 – Accumulated Sediment
2– Trash & Debris
3 – Vegetation Concerns
4 – Water Quality Concerns
5 – Impeded Water Flow
6 – Erosion
7 – Structural Repairs
8 – Cover/Frame/Grate
9 – Damaged Pipes
10 – Mosquito/Vector Breeding
11 – Other
12 – Could Not Locate

How to use this packet:
For each of the facilities listed Inspect using the Maintenance Codes to the left.
Use the Maintenance Needed Section to use which codes apply. To add additional detail, used the "Description/Location or part of facility" to specify the condition of the facility.
Use the Response Priority to indicate the urgency in which maintenance is needed on a scale of 1-3, with 1 being the lowest urgency and 3 being most urgent.

Facility Name (Type)	Date	Maintenance Needed		Response Priority: 1: Low priority- repair at convenience 2: Repair before end of season 3: Repair before next rainfall- will not function as designed
		Code	Description/Location or part of facility	
Linden Tree - Wet Pond (Inlet, Weir, Pond)				
Linden Tree Vault				
George Seller Bridge Pond-Infiltration Pond				
Broadview - Dry Pond				
N. Wenatchee Ave. Stormwater Facility (Chick Ditch)- Bio-Infiltration Swale & Dry Pond				

Facility Name (Type)	Date	Maintenance Needed		Response Priority: 1: Low priority- repair at convenience 2: Repair before end of season 3: Repair before next rainfall- will not function as designed
		Code	Description/Location or part of facility	
Walla Walla Swales- Infiltration Sales & Subsurface Infiltration				
Hawley-Walnut Swales- Bio-Infiltration Swale & Retention Pond				
Riverside Drive Swales				
Stella St. Swales & Infiltration Gallery- Subsurface Infiltration				
Piere Street Swales				
Piere Street Filter				

Facility Name (Type)	Date	Maintenance Needed		Response Priority: 1: Low priority- repair at convenience 2: Repair before end of season 3: Repair before next rainfall- will not function as designed
		Code	Description/Location or part of facility	
South Wenatchee Avenue- Infiltration Pond				
Worthen Street Tree Boxes				
Riverside Drive Tree Boxes				
Island View Filter				
Fifth Street Filter- 5th & N. MIssion				
Snohomish Vault				
Columbia Vault				

Maintenance Standards
Catch Basins and Manholes

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment exceeds 60% of sump depth. Sediment depth within 6 inches of the invert of the lowest pipe.
2	Trash & Debris	Trash or debris in front of catch basin opening or blocking inlet by more than 10%. Trash or debris exceeds 60% of sump depth. Trash or debris within 6 inches of the invert of the lowest pipe. Trash or debris blocking more than 1/3 of any inlet or outlet pipe. Trash and debris blocking more than 20% of grate surface. Dead animals or vegetation that generate odors and cause complaints or dangerous gases (e.g., methane).
3	Vegetation	Vegetation growing across and blocking more than 10% of the grate opening. Vegetation growing in inlet/outlet pipe joints that is more than six inches tall.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing in catch basin during dry weather – report as potential illicit discharge concern.
5	Water Flow	Impeded water flow due to vegetation or sediment (use appropriate code from above).
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Frame separated by more than ¾ inch from top slab. Frame not securely attached. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread. Grate with opening wider than 7/8 inch. Grate damaged or missing.
8	Structure	Top slab with holes larger than 2 square inches or cracks wider than 1/4 inch. Fractures or cracks in basin walls or bottom. Grout at inlet/outlet pipes has separated or cracked wider than ½ inch and longer than one foot. Soil is entering the catch basin through cracks in the structure. Settlement has created a safety, function, or design problem. Field inspector judges that structure is unsound.
9	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.

Maintenance Standards derived from the Washington State Department of Ecology's *Stormwater Management Manual for Eastern Washington* (September 2004).

Maintenance Code	Type	Conditions When Maintenance Is Needed
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges. Catch basin insert requires replacement if: • Sediment, trash or debris blocks water flow through the insert, • Effluent water from the insert has a visible sheen, or • Insert is saturated with water or oil and can no longer absorb.
12	Could Not Locate	Field inspectors are unable to locate the catch basin or manhole.

Maintenance Standards
Control Structures

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth exceeds 60% of sump depth. Sediment accumulated within 6 inches of the orifice plate or lowest pipe invert.
2	Trash & Debris	Trash or debris exceeds 60% of sump depth. Trash or debris within 6 inches of the orifice plate or lowest pipe invert. Trash or debris blocking openings in the control structure. Trash or debris blocking more than 1/3 of any inlet or outlet pipe. Dead animals or vegetation that generate odors and cause complaints or dangerous gases (e.g., methane).
3	Vegetation	Vegetation growing in inlet/outlet pipe joints that is more than six inches tall.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants.
5	Water Flow	Impeded water flow due to vegetation or sediment (use appropriate code from above).
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Frame separated by more than ¾ inch from top slab. Frame not securely attached. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	Damaged or missing orifice plate. Control structure is not securely attached to manhole wall. Control structure is not in upright position. Connection between control structure and outlet pipe is not water tight. Holes (other than design openings) in the control structure. Cleanout gate is not watertight, is missing, is rusted, or cannot be moved up and down by one maintenance person applying normal pressure. Top slab with holes larger than 2 square inches or cracks wider than 1/4 inch. Fractures or cracks in basin walls or bottom. Grout at inlet/outlet pipes has separated or cracked wider than ½ inch and longer than one foot. Soil is entering the catch basin through cracks in the structure. Settlement has created a safety, function, or design problem. Field inspector judges that structure is unsound.
9	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.

Maintenance Code	Type	Conditions When Maintenance Is Needed
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.
12	Could Not Locate	Field inspectors are unable to locate the structure.

Maintenance Standards
Conveyance Systems (Pipes and Ditches)

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment or debris exceeds 20% of pipe diameter or 20% of debris barrier openings. Accumulated sediment that exceeds 20% of the design depth of the ditch.
2	Trash & Debris	Trash and debris accumulated in pipe or ditch. Visual evidence of dumping
3	Vegetation	Vegetation reduces movement of water through pipes. Excessive vegetation that reduces free movement of water through ditches.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing in pipes or ditch during dry weather – report as potential illicit discharge concern.
5	Water Flow	Impeded water flow due to vegetation or sediment (use appropriate code from above). Standing water in the pipe or swale between storm events.
6	Erosion	Erosion damage over 2 inches deep where cause is still present or there is potential for continued erosion. Native soil is visible beneath the rock lining of a conveyance ditch.
7	Cover/Frame/ Grate	N/A
8	Structure	Debris barrier/trash rack is missing or not attached to pipe. Debris barrier/trash rack bars are bent by more than 3 inches. Debris barrier/trash rack bars are loose or rust is causing 50% deterioration to any part of the barrier.
9	Damaged Pipes	Protective coating is damaged or rust is causing more than 50% deterioration to any part of pipe. Any dent that decreases the flow area by more than 20% or puncture that impacts performance.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the pipe or ditch.

Maintenance Standards
Drywells

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth exceeds 2 feet or impedes flow from inlet pipes.
2	Trash & Debris	Trash or debris exceeds 2 feet or impedes flow from inlet pipes. Trash or debris blocks more than 1/3 of any inlet or outlet pipe. Dead animals or vegetation that generate odors and cause complaints or dangerous gases (e.g., methane).
3	Vegetation	Vegetation growing in inlet/outlet pipe joints that is more than six inches tall. Root systems entering drywell.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing into drywell during dry weather – report as potential illicit discharge concern.
5	Water Flow	Facility does not drain within 72 hours. Impeded water flow due to vegetation or sediment (use appropriate code from above).
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Frame separated by more than ¾ inch from top slab. Frame not securely attached. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	Top slab with holes larger than 2 square inches or cracks wider than 1/4 inch. Grout at inlet/outlet pipes has separated or cracked wider than ½ inch and longer than one foot. Settlement has created a safety, function, or design problem. Field inspector judges that structure is unsound.
9	Damaged Pipes	Inlet piping damaged or broken and in need of repair.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the drywell.

Maintenance Standards
Energy Dissipators

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Accumulated sediment exceeds 20% of the design depth. Over 1/2 of perforations in dispersion pipe are plugged with sediment.
2	Trash & Debris	Visual evidence of dumping Over 1/2 of perforations in dispersion pipe are plugged with trash or debris.
3	Vegetation	Excessive vegetation reduces free movement of water through the flow spreader or energy dissipator.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing through facility during dry weather – report as potential illicit discharge concern.
5	Water Flow	Visual evidence of water discharging at concentrated points from the dissipator (normal condition is a “sheet flow” of water from the facility). Water in receiving area has potential to cause significant erosion or landslide.
6	Erosion	Only one layer of rock above native soil in an area five square feet or larger. Any exposure of native soil within rock pad area. Soil erosion in or adjacent to rock pad.
7	Cover/Frame/ Grate	N/A
8	Structure	Flow spreader has deteriorated to1/2 of original size or concentrated worn spots exceeding one square foot making structure unsound. See Conveyance System standards for pipes and debris barriers/trash racks.
9	Damaged Pipes	See Conveyance System standards for pipes and debris barriers/trash racks.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the energy dissipator facility.

Maintenance Standards
Green Roofs (or Roof Gardens)

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Inlets to roof drainage system clogged with sediment.
2	Trash & Debris	Inlets to roof drainage system clogged with trash or debris. Trash and debris accumulated on the roof.
3	Vegetation	Planted vegetation becomes excessively tall. Presence of poisonous or nuisance vegetation or noxious weeds. Planted vegetation is sparse or bare or eroded patches occur in more than 10% of roof garden.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants.
5	Water Flow	Water stands in the green roof between storms and does not drain freely.
6	Erosion	Eroded or scoured areas due to wind or water.
7	Cover/Frame/ Grate	N/A
8	Structure	Membrane or roof structure is compromised by either roots and/or water damage.
9	Damaged Pipes	N/A
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g., standing water for more than 72 hours in areas accessible to mosquitoes)
11	Other	Irrigation system leaking or malfunctioning.
12	Could Not Locate	Field inspectors are unable to locate the facility.

Maintenance Standards
Infiltration Trenches

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Two inches or more of accumulated sediment. Percolation test indicates infiltration rate is less than 90% of design capacity. Inlet pipe is clogged with sediment.
2	Trash & Debris	Trash or debris impeding water flow. Visual evidence of dumping. Inlet pipe is clogged with trash and debris.
3	Vegetation	Poisonous or nuisance vegetation constituting a hazard to maintenance personnel or the public. Evidence of noxious weeds.
4	Water Quality	Evidence of oil, gasoline, contaminants, or other pollutants.
5	Water Flow	Little or no water visibly flows through trench during heavy rain storms.
6	Erosion	Erosion damage over 2 inches deep where cause is still present or there is potential for continued erosion.
7	Cover/Frame/ Grate	N/A
8	Structure	N/A
9	Damaged Pipes	Protective coating is damaged or rust is causing more than 50% deterioration to any part of pipe. Any dent that decreases the flow area by more than 20% or puncture that impacts performance.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the trench.

Maintenance Standards
Media Filters (e.g. Stormfilter)

Note: Manufacturer maintenance standards should supersede those shown below.

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth on filters exceeds 1/4-inch. Sediment depth in vault exceeds 6-inches in first chamber. Drain pipes and/or clean-outs become full with sediment.
2	Trash & Debris	Trash and debris accumulated on compost filter bed. Drain pipes and/or clean-outs become full with trash or debris.
3	Vegetation	Root systems entering the structure.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing into the system during dry weather – report as potential illicit discharge concern.
5	Water Flow	Drawdown of water through the media takes longer than 1 hour and overflow occurs frequently. Flows do not properly enter filter cartridges.
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	Cracks wider than 1/2-inch. Evidence of soil particles entering structure through cracks. The vault is not structurally sound. Baffles corroding, cracking, warping and/or showing signs of failure.
9	Damaged Pipes	Any part of the pipes that are crushed or damaged due to corrosion and/or settlement. Inlet piping damaged or broken and in need of repair.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structural wall, missing rungs, has cracks and/or is misaligned.
12	Could Not Locate	Field inspectors are unable to locate the facility.

Maintenance Standards
Oil/Water Separators

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth in bottom of structure exceeds 6-inches.
2	Trash & Debris	Trash and debris accumulation in vault, or pipe inlet/outlet, floatables and non-floatables.
3	Vegetation	Root systems entering the structure.
4	Water Quality	Discharge shows obvious signs of poor water quality. Oil accumulations that exceed 1-inch at the surface of the water. Water flowing into the system during dry weather – report as potential illicit discharge concern.
5	Water Flow	Water is not flowing properly through the facility.
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	Cracks wider than 1/2-inch. Any evidence of soil entering the structure through cracks. The vault is not structurally sound. Baffles or walls corroding, cracking, warping and/or showing signs of failure.
9	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structural wall, missing rungs, has cracks and/or is misaligned.
12	Could Not Locate	Field inspectors are unable to locate the facility.

Maintenance Standards
Ponds: Detention, Infiltration, Evaporation, Water Quality

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Inlet/Outlet pipe clogged with sediment. Sediment accumulation in pond bottom exceeds 6 inches or 10% of the designed pond depth unless otherwise specified.
2	Trash & Debris	Trash and debris exceeding 5 cubic feet (equivalent to one standard size garbage can) per 1,000 square feet of pond area. Visual evidence of dumping. Inlet/Outlet pipe clogged with trash or debris.
3	Vegetation	Poisonous or nuisance vegetation constituting a hazard to maintenance personnel or the public. Evidence of noxious weeds. Tree growth does not allow access or interferes with slope mowing, silt removal, vactoring, or equipment movements. Dead, diseased, or dying trees identified by a certified Arborist. Tree growth on berms over 4 feet high that may lead to piping and eventual berm failure. Tree growth on emergency spillways.
4	Water Quality	Prevalent and visible oil sheen. Evidence of oil, gasoline, contaminants or other pollutants.
5	Water Flow	First cell (if applicable) is empty, doesn't hold water.
6	Erosion	Erosion of the pond's side slopes exceeding 2 inches deep where there is potential for continued erosion. Scouring of the pond bottom exceeding 6-inches deep, or where continued erosion is prevalent.
7	Cover/Frame/ Grate	See Control Structures for additional maintenance standards.
8	Structure	See Control Structures for additional maintenance standards. Liner is visible and has more than three 1/4-inch holes in it. Any part of the berm or emergency spillway that has settled 4 inches lower than the design elevation. Discernable water flow through pond berm. (Consult with Geotechnical Engineer to evaluate condition and recommend repair.) Emergency spillway: only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of flow path of spillway. (Rip-rap on inside slopes need not be replaced.) Internal spillway not level.
9	Damaged Pipes	See Conveyance System standards for pipes and debris barriers/trash racks.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)

Maintenance Standards derived from the Washington State Department of Ecology's *Stormwater Management Manual for Eastern Washington* (September 2004).

Maintenance Code	Type	Conditions When Maintenance Is Needed
11	Other	Evidence of rodent holes or any evidence of water piping through dam or berm via rodent holes. (Consult with Geotechnical Engineer to evaluate condition and recommend repair.) Beaver dam within the pond, resulting in change or function of the facility. Insects such as wasps and hornets that interfere with maintenance activities.
12	Could Not Locate	Field inspectors are unable to locate the pond.

Maintenance Standards
Porous Pavement

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Porous pavement clogging due to organic matter and sediment.
2	Trash & Debris	Porous pavement clogging due to trash or debris. Trash and debris accumulated on overflow devices.
3	Vegetation	Planted vegetation becomes excessively tall. Nuisance weeds and other vegetation start to take over.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants
5	Water Flow	N/A
6	Erosion	Soil from adjacent areas washed onto pavement.
7	Cover/Frame/ Grate	N/A
8	Structure	Cracked or moving edge restraints. Cracked or settled pavement Aggregate loss in pavers from settling or power washing.
9	Damaged Pipes	N/A
10	Mosquito Vector Breeding	N/A
11	Other	
12	Could Not Locate	

Maintenance Standards
Sedimentation Manholes

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Accumulated sediment exceeding 12 inches or impeding flow from inlet or outlet pipes.
2	Trash & Debris	Accumulated trash or debris exceeding 12 inches or impeding flow from inlet or outlet pipes.
3	Vegetation	N/A
4	Water Quality	Discharge shows obvious signs of poor water quality. Water flowing into the system during dry weather – report as potential illicit discharge concern.
5	Water Flow	N/A
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	Any openings or voids allowing material to be transported into facility. Cracks wider than 1/2-inch and any evidence of soil particles entering the structure through the cracks. Field inspector determined the vault is not structurally sound.
9	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks.
12	Could Not Locate	Field inspectors are unable to locate the facility.

Maintenance Standards
Swales: Biofiltration, Grassy, Infiltration

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth exceeds 2 inches. Inlet/outlet areas clogged with sediment.
2	Trash & Debris	Trash and debris accumulated in the swale. Inlet/outlet areas clogged with trash and debris.
3	Vegetation	Grass is sparse or bare or eroded patches occur in more than 10% of the bottom of the swale. Grass is taller than 10 inches. Nuisance weeds or other vegetation starting to take over. Excessive shading causing poor grass growth.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing through facility during dry weather – report as potential illicit discharge concern.
5	Water Flow	Standing water in swale between storms does not drain freely. Flow spreader uneven or clogged where flows are not uniformly distributed through the swale.
6	Erosion	Small quantities of water continually flow causing an eroded, muddy channel at the bottom. Eroded or scoured grassy swale bottom due to flow channelization, or higher flows.
7	Cover/Frame/ Grate	N/A
8	Structure	N/A
9	Damaged Pipes	See Conveyance System standards for pipes and debris barriers/trash racks.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the swale.

Maintenance Standards
Vaults, Tanks, and Storage Pipes

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth exceeds 10%of diameter of storage area for half length of storage vault or any point depth exceeds 15% of diameter. (Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than 1/2 length of tank.)
2	Trash & Debris	Trash or debris exceeds the limits for sediment described above.
3	Vegetation	N/A
4	Water Quality	Prevalent and visible oil sheen. Evidence of oil, gasoline, contaminants or other pollutants.
5	Water Flow	First cell (if applicable) is empty, doesn't hold water.
6	Erosion	N/A
7	Cover/Frame/ Grate	Cover is missing or only partially in place. One maintenance person cannot remove lid after applying normal lifting pressure. Locking mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.
8	Structure	See Control Structures for additional maintenance standards. Openings or voids between tank or pipe sections allowing material to be transported into facility. Tank/pipe is bent more than 10% of its design shape. Cracks wider than 1/2-inch. Evidence of soil particles entering structure through cracks. The vault is not structurally sound. One-half of the cross section of an air vent is blocked or vent is damaged.
9	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks.
12	Could Not Locate	Field inspectors are unable to locate the facility.

Maintenance Standards
Vegetated Filter Strips

Maintenance Code	Type	Conditions When Maintenance Is Needed
1	Sediment	Sediment depth exceeds 2 inches.
2	Trash & Debris	Trash and debris accumulated on the filter strip.
3	Vegetation	Grass taller than 10-inches. Nuisance weeds or other vegetation starts to take over. Planted vegetation is sparse or bare or eroded patches occur in more than 10% of the filter strip area.
4	Water Quality	Any evidence of oil, gasoline, contaminants or other pollutants. Water flowing through facility during dry weather – report as potential illicit discharge concern.
5	Water Flow	Visual evidence of water discharging at concentrated points (rather than sheet flow) onto the filter strip.
6	Erosion	Eroded or scoured areas due to flow channelization or higher flows.
7	Cover/Frame/ Grate	N/A
8	Structure	Flow spreader uneven or clogged so that flows are not uniformly distributed through filter width.
9	Damaged Pipes	See Conveyance System standards for pipes and debris barriers/trash racks.
10	Mosquito Vector Breeding	Suitable habitat exists for mosquito production (e.g. standing water for more than 72 hours in areas accessible to mosquitoes.)
11	Other	
12	Could Not Locate	Field inspectors are unable to locate the filter strip.

Appendix B
Waste Disposal Protocol

Waste Disposal Protocol
Streets and Stormwater Management Facilities
City of Wenatchee

This Waste Disposal Protocol addresses waste generated from stormwater maintenance activities such as street sweeping, the cleaning of catch basins, and the cleaning of other stormwater conveyance and treatment facilities such as retention/detention ponds and swales. Proper disposal of cleaning wastes from roadways, highways, parking lots and other impervious surfaces is crucial to prevent pollutants from entering the stormwater conveyance system or surface waters and to keep solid wastes from impeding stormwater runoff flow or causing damage to the stormwater system.

This protocol outlines the City of Wenatchee's procedure for characterization, reuse, and disposal of sediment and debris from street sweeping and stormwater facility cleaning and maintenance. These procedures are consistent with applicable federal and state requirements and the requirements of Waste Management, Inc.

Definition

For the purposes of this protocol, "Street Waste" is defined as liquid and solid waste collected during the maintenance and cleaning of stormwater catch basins, detention/retention ponds, ditches and similar stormwater treatment and conveyance structures, and solid waste collected during street and parking lot sweeping. Street waste does not include solids and liquids from street washing using detergents, cleaning of electrical vaults, vehicle wash sediment traps, restaurant grease traps, industrial process waste, sanitary sewage, combined sewage/stormwater wastes, or waste from oil/water separators at sites that load fuel.

Collection and Storage

Street sweeping waste is collected and stored in dumpsters at the decant facility. Other street waste, including sediment collected from stormwater facilities, is also stored at the decant facility until it has been tested to determine the characterization of the waste. Dewatering also occurs at the decant facility and is discharge to the sanitary sewer system. Solid waste and debris is stored in appropriate containers or storage areas in a manner that prevents discharge to a storm drain. Storm water is discharged to an onsite pond which then infiltrates into ground water.

Dangerous Waste

Dangerous waste is defined as those solid wastes that are dangerous or extremely hazardous to the public health and environment. Per Chapter 173-303-9904 WAC, characteristics of dangerous waste are: ignitable, corrosive, reactive, or toxic. Dangerous wastes may be identified by: unusual color, staining, corrosion, unusual odor, fumes, and oily sheen. Street waste that is suspected of being dangerous waste should not be collected or stored with other street waste. Material in catch basins with obvious contamination should be left in place or segregated until tested. Potentially dangerous waste should be handled and stored separately until a determination as to proper disposal is made.

Potentially dangerous waste should be handled following the Dangerous Waste Regulations (Chapter 173-303 WAC) unless testing determines it is not dangerous waste.

Disposal and Reuse of Liquid Materials

Wastes collected during street sweeping and stormwater treatment facility maintenance must be dewatered. Decant water may be disposed of into the municipal sanitary sewer. Decant liquid collected from cleaning catch basins is discharged to the settling basin located at the decant facility.

Testing

Street waste should be tested to characterize the waste prior to reuse or disposal. Testing should be conducted on a representative sample before co-mingling with other material. Multiple composite samples may be needed depending on the volume of material (Refer to Table 2 below). Sampling requirements may be modified over time based on accumulated data. The City of Wenatchee currently tests street wastes as required by Waste Management, Inc. for the following parameters:

- Arsenic
- Barium
- Cadmium
- Chromium
- Lead
- Mercury
- Selenium
- Silver
- Diesel
- Lube Oil
- Percent Moisture

Sampling is done by Public Works staff and testing is completed at a Washington State accredited environmental laboratory.

Re-Use and Disposal of Solid Waste

Street waste that exceeds the maximum values in Table 1 should be handled as dangerous waste and must be disposed of through Waste Management, Inc. or a hazardous waste contractor. Street and stormwater system wastes that are not contaminated and that do not exceed the maximum values in Table 1 should be disposed of or recycled through Waste Management, Inc. Coarse sand from street sweeping after recent road sanding may also be re-used for pipe bedding.

The following tables are taken from the Department of Ecology 2004 Eastern Washington Stormwater Manual.

Table 1 Recommended Parameters and Suggested Values for Determining Reuse and Disposal Options	
Parameter	**Suggested Maximum Value**
Arsenic, total	20.0 mg/kg
Cadmium, total	2.0 mg/kg
Chromium, total	42 mg/kg
Lead, total	250 mg/kg
Nickel	100 mg/kg
Zinc	270 mg/kg
Mercury (inorganic)	2.0 mg/kg
PAHs (Carcinogenic)	0.1-2.0 mg/kg
TPH (heavy fuel oil)	200-460 mg/kg
TPH (diesel)	200-460 mg/kg
TPH (gasoline)	100 mg/kg
Benzene	0.03 mg/kg
Ethylbenzene	6 mg/kg
Toluene	7 mg/kg
Xylenes (total)	9 mg/kg

Table Notes:

(a) Arsenic: from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.
(b) Cadmium: from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
(c) Chromium; from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.
(d) Lead; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
(e) Nickel and Zinc; from MTCA Table 749-2: Protection of Terrestrial Plants and Animals.
(f) Mercury; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
(g) PAH-Carcinogenic; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses and Table 745-1, industrial properties, based on cancer risk via direct contact with contaminated soil (ingestion of soil) in residential land use situations and commercial/industrial land uses. Note: The local health department may permit higher levels as part of a Plan of Operation, where they determine that the proposed end use poses little risk of direct human contact or ingestion of soil.
(h) TPH: from MTCA Tables 749-2 & 749-3: Protection of Terrestrial Plants and Animals. Values up to 460 mg/kg may be acceptable where the soils are capped or covered to reduce or prevent exposure to terrestrial plants and animals. Where the laboratory results report no 'fingerprint' or chromatographic match to known petroleum hydrocarbons, the soils will not be considered to be petroleum contaminated soils.
(i) BETX; from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.

Please note that some of the suggested maximum values in Table 1 are based on soil cleanup criteria for unrestricted land uses.

Table 2 provides recommended sampling frequency for street waste solids based on cubic yards of solids.

Table 2 Recommended Sampling Frequency for Street Waste Solids	
Cubic Yards of Solids	Minimum Number of Samples
0 – 100	3
101 – 500	5
501 – 1000	7
1001 – 2000	10
<2000	10 + 1 for each additional 500 cubic yard

Private Facility Inspection and Enforcement Protocol

City of Wenatchee

The Eastern Washington Phase II Municipal Stormwater Permit (Permit) requires that the City of Wenatchee protect water quality and reduce the discharge of pollutants into receiving waters. As part of the Permit, the City of Wenatchee must reduce pollutant discharges from stormwater management facilities through implementation of the Construction and Post-Construction Ordinance codified as Wenatchee City Code (WCC) 12.10 and the Post-Construction Stormwater Management for New Development and Redevelopment Program.

This protocol outlines the City's procedures for ensuring private stormwater facilities are maintained according to City of Wenatchee standards. The facilities that may be impacted include privately-owned and maintained ponds, tanks, vaults, swales and other stormwater management facilities that drain to the public municipal separate storm sewer system (MS4). The MS4 includes the public storm sewer pipe system, as well as ditches, creeks, and rivers.

Transfer of Ownership

The City of Wenatchee may assume ownership of privately-owned facilities where there is a regional benefit to the utility and if certain conditions stated in WCC 12.10.050 (7) (d) have been met.

Inspection and Enforcement

Wenatchee City Code 12.10 states that all privately-owned stormwater facilities that discharge to the public stormwater collection and conveyance system (including pipes, ditches, creeks, and rivers) shall be subject to inspection by the city. These facilities must be maintained in accordance with the latest revised version of the Eastern Washington Stormwater Management Manual and city standards. The following protocol describes the city's procedures for inspecting and enforcing maintenance standards for private facilities.

Overview: Owners of private stormwater facilities assume the responsibility of maintaining their facilities in a manner that prevents stormwater pollution and maintains the original function of the facility. Maintenance activities include annual inspections, record keeping, and reporting.

The City of Wenatchee inspection program includes the following procedures:

- The private facility inspection program is the responsibility of Environmental Division.
- The City of Wenatchee maintains a map and database of private facilities that discharge to the city's stormwater conveyance system.
- The City of Wenatchee will send a reminder letter to all affected facility owners in late winter or early spring. The letter includes a required completion date for facility inspections.
- Private facilities are to be inspected annually by the City of Wenatchee and the facility owner. Identified maintenance activities must be completed and submitted to the city prior to November 1st.
- The Environmental Division will review all inspection and maintenance reports and enter the information in the private facility database. Inspection and maintenance records will be maintained for at least five (5) years.
- The City of Wenatchee will send a reminder letter to all private facility owners that have not returned an inspection report by October 1st. Owners that fail to meet the November 1st deadline will be subject to enforcement action under WCC 12.10.
- Spot-checks may be performed to verify inspections.

Appendix D
Stormwater Pollution Prevention Plan
Public Services Center

Material and Equipment Storage Areas
Stormwater Pollution Prevention Plan

Prepared for:
Wenatchee Valley Stormwater Technical Advisory Committee

Template Development Funded by:
Washington State Department of Ecology

Prepared by:
Otak, Inc.
6 South 2nd Street, Suite 605
Yakima, WA 98901
Otak Project No. 31703

September 10, 2010

KEEP THIS SWPPP ON-SITE AT ALL TIMES

THIS SWPPP IS TO BE MADE AVAILABLE TO THE PUBLIC UPON REQUEST

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City of Wenatchee Public Works SWPPP

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Acronyms, Abbreviations, and List of Definitions

Acronyms and Abbreviations

BMPs	Best Management Practices
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
ISGP	Industrial Stormwater General Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
Phase II Permit	NPDES Phase II Municipal Stormwater Permit
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

List of Definitions

The majority of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Stormwater Management Manual for Eastern Washington, Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) website glossary, and the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.

Best Management Practices (BMPs) are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinances.

Discoloration is a means by which to characterize stormwater. Typically, stormwater is yellowish in color. Discoloration however, other than turbidity, can indicate whether there is rust from iron pipes or iron bacteria, as seen by a yellowish/red color or if paint or cleaning agent emulsions have entered the stormwater system, as indicated by a white cloudy color.

Erosion and Sediment Control BMPs mean BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and

matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Floatables is a means by which to characterize stormwater. A floatable is used as an indicator if very obvious trash or other controllable debris, such as landscaping material, leaf litter, etc. has entered into the storm system.

Foam is a means by which to characterize stormwater. Foam is used as an indicator that potentially soap or other cleaning products have entered into the storm system. However, stormwater can often be slightly foamy from pollen and other natural organic material. The way to tell the difference is by touch and smell. If the foam is persistent and accompanied by a fragrant odor, it is most probably coming from a cleaning product. If the suds break up quickly, then it is most likely from turbulence and/or natural conditions.

Hazardous Substance is: 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive or chemically reactive. 2) Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hyper chlorinated means water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.

Illegal Dumping means any intentional and non-permitted disposal of any substance other than stormwater into the municipal separate storm sewer system, unless otherwise called out as an allowed non-stormwater discharge.

Illicit Connection means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets or outlets that are connected directly to the municipal separate storm sewer system.

Illicit Discharge means any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Industrial Stormwater General Permit (ISGP) means the NPDES Industrial Stormwater General Permit, issued by Ecology for stormwater discharges associated with industrial activities (Issued 2002, modified 2004, effective January 2005).

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Municipal Separate Storm Sewer System (MS4) means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2) Designed or used for collecting or conveying stormwater;
3) Which is not a combined sewer; and
4) Which is not part of a Publicly Owned Treatment Works, as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Non-Stormwater Discharges are discharges of process wastewaters, vehicle wash waters, cooling waters, or any other wastewaters associated with the facility into the stormwater collection system. Other discharges must be addressed in a separate NPDES permit. See also **Illicit Discharges**. Certain non-stormwater discharges are conditionally approved under the ISGP but are subject to specific provisions, including identifying the location, flow volumes, quality, potential for water quality issues and ability to apply appropriate BMPs. Examples of conditionally approved non-stormwater discharges under an ISGP include:

- Discharges from firefighting activities.
- Fire protection system flushing, testing, and maintenance.

- Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge.
- Uncontaminated air conditioning or compressor condensate.
- Irrigation drainage.
- Uncontaminated ground water or spring water.
- Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 of S6 of the Eastern Washington Phase II Municipal Stormwater Permit and any additional actions necessary to meet the requirements of applicable TMDLs.

Structural source control BMPs are physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. Structural source control BMPs typically include:

- Enclosing and/or covering the pollutant source (building or other enclosure, a roof over storage and working areas, temporary tarp, etc.).
- Segregating the pollutant source to prevent run-on of stormwater, and to direct only contaminated stormwater to appropriate treatment BMPs.

Treatment BMPs are intended to remove pollutants from stormwater. A few examples of treatment BMPs are Wetponds, oil/water separators, biofiltration swales, and constructed wetlands.

Turbidity is a means by which to characterize stormwater. The dispersion or scattering of light in a liquid, caused by suspended solids and other factors; commonly used as a measure of suspended solids in a liquid.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington state and "waters of the state" as defined in Chapter 90.48 RCW, which include lakes, rivers,

ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Contacts

Pollution Prevention Team

The Pollution Prevention Team is responsible for ensuring that the recommended BMPs are implemented to control stormwater pollution at the site. Team members are responsible for inspections, operation and maintenance, operational source controls, employee training, emergency and spill response, and other activities necessary to implement the Stormwater Pollution Prevention Plan (SWPPP).

The Pollution Prevention Team for the City of Wenatchee Public Services Center consists of the following staff members:

Name	Job Title	Contact Number
Matt Leonard	**Public Works Director**	**888-321**
Vacan	**Public Works Operations Manager**	**888-3205**
Don Bitterman	**Fleets & Facilities Supervisor**	**888-3215**
Jessica Shaw	**Environmental Manager**	**888-3225**

Section 1—Introduction

The City of Wenatchee is currently subject to the requirements of the National Pollution Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. The NPDES Phase II Permit was issued by the Washington State Department of Ecology (Ecology) on January 17, 2007, and became effective on February 16, 2007. A revised permit was issued on June 17, 2009. An extension was issued on August 1, 2012, and became effective on August 1, 2014, and expires on July 31, 2019

The City of Wenatchee is required to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) to protect water quality at municipally owned and operated facilities, including material storage areas, heavy equipment storage areas, and maintenance areas, that are not currently covered under another NPDES stormwater permit (e.g., the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities).

This document presents the SWPPP developed for the following facilities:

- Public Services Center
- South Yard
- Decant Facility

1.1 SWPPP Objective

The objective of this SWPPP is to implement measures to prevent and control the contamination of discharges of stormwater to surface or ground waters.

1.2 Record Keeping

All records related to this SWPPP shall be maintained for at least five years. All records related to this SWPPP shall be kept with the SWPPP, preferably in the same binder.

1.3 SWPPP Availability

All records related to this SWPPP shall be made available to the public at reasonable times during business hours. Members of the public who request SWPPP records in person shall be allowed to view documents on-site. SWPPP records shall not be removed from the site. Copies of SWPPP records may be obtained by sending a written request to the City Clerk.

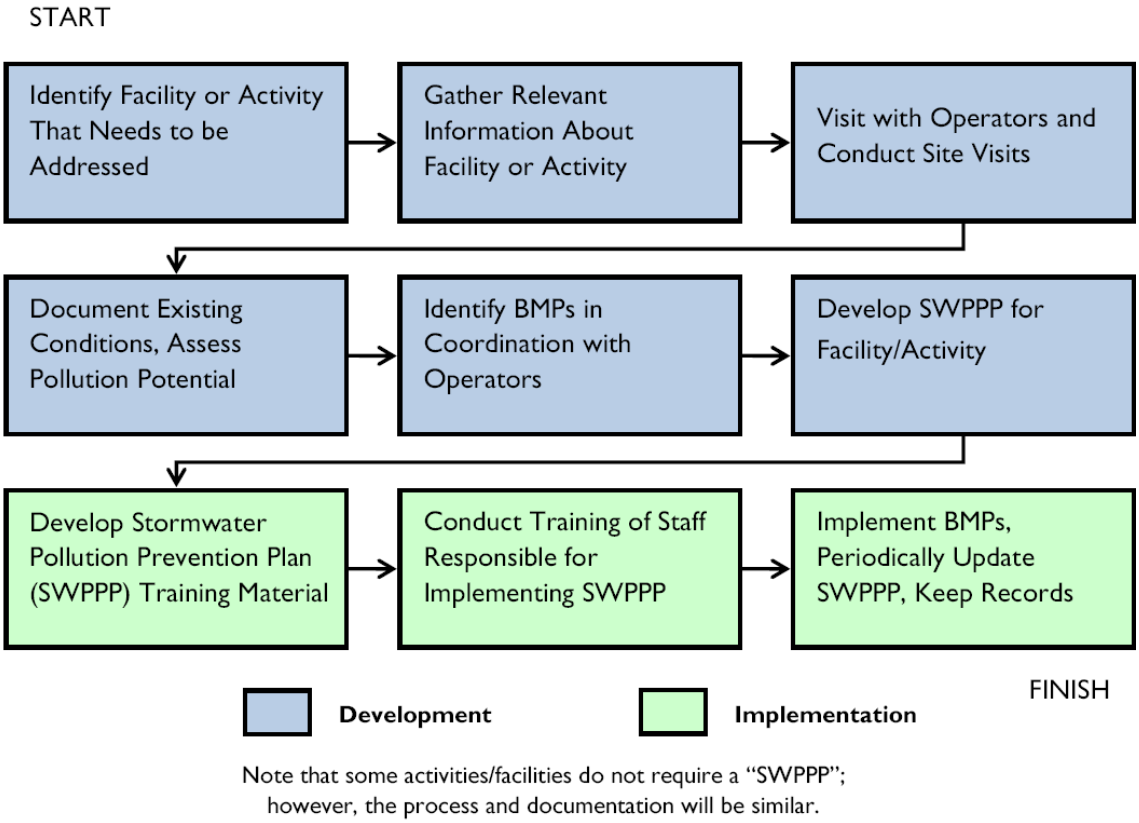
All records related to the SWPPP shall be made available to Ecology upon request.

1.4 SWPPP Development and Implementation Process

This SWPPP was prepared based on a SWPPP Template developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a grant from Ecology.

The methods used to develop this SWPPP included the use of facility assessment questionnaires, site visits, identification of facility specific Best Management Practices (BMPs), and coordination with facility operators. Implementation of the SWPPP will include employee training and BMP application. The complete process can be best described by the flow chart presented in Figure 1.

Figure 1
Flow Chart of SWPPP Development and Implementation Process



Note that some activities/facilities do not require a "SWPPP"; however, the process and documentation will be similar.

1.5 SWPPP Revisions

The SWPPP will need to be modified under the following conditions:

- Significant changes occur at the Facility which affect current BMPs and could affect stormwater quality;
- The City of Wenatchee purchases or develops a new property to be used for municipal storage activities;
- The City of Wenatchee changes site use (adds or ceases a major activity) at an existing municipal storage site; and/or
- On an annual basis to reflect any administrative changes, including Pollution Prevention team members.

Section 2—Site Assessment & Best Management Practices

2.1 Facility Description

The City of Wenatchee Public Services Center is located at 1350 McKittrick Street. The site is located at the intersection of Stella Street and McKittrick Street. The site is approximately 4.6 acres in area, including 3.7 acres of impervious surfaces and 0.9 acres of vegetation. Site facilities consist of 5 permanent buildings; including a maintenance shop, three buildings for equipment, parts and vehicle storage, and an administration building. Activities include equipment storage, repair and washing, heavy equipment and vehicle parking areas, and the storage of raw materials, such as de-icing chemicals and cold mix. A site map for the facility is shown in Appendix A

A facility assessment was conducted to identify pollutant sources, evaluate current practices, and describe the stormwater collection and conveyance system. Using the information gathered from the Facility Assessment Questionnaire (Appendix B) and Facility Assessment Photolog and Site Visit Form (Appendix C), a BMP implementation plan was developed for each category assessed.

2.1.1 History of Spills and Leaks

There is no recorded history of any major spills or leaks at this facility.

2.1.2 Production and Application Activities

Production or application activities have the potential to contaminate stormwater from debris left behind during production; spills, leaks, or drips from products or equipment used during production; or leaching or erosion from materials involved.

- Painting
- Sign Fabrication

2.2 Best Management Practices

BMPs are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to receiving waters.

There are three general classes of BMPs: Operational Source Control BMPs, Structural Source Control BMPs, and Treatment BMPs. Operational BMPs are those than involve specific activities or one-time actions on the part of the facility staff. If Operational BMPs do not adequately prevent the potential contamination of stormwater, Structural BMPs, such as constructing new covered shelters to prevent stormwater from coming into contact with potential pollutants, may be a reasonable solution. Treatment BMPs are only used as a last resort to remove containments from stormwater before discharging to a stormwater conveyance system or to surface or ground waters.

2.2.1 General Operational BMPs

General Operational BMPs are good housekeeping activities that should be applied to day-to-day activities at the facility to prevent contaminants from entering stormwater at their source. The purpose of good housekeeping is to keep the Facility area clean and free of debris, storage materials under cover, and handling materials and waste products in a way that minimizes the risk to stormwater. The good housekeeping BMPs are:

- Keep open areas clean and orderly;
- Pick-up litter;
- Promptly contain and clean up solid and liquid pollutant leaks and spills;
- Sweep paved material handling and storage areas regularly;
- Inspect all BMPs regularly, particularly after a significant storm;
- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids;
- Promptly remove debris and old equipment;
- Store hazardous materials as specified by the manufacturer; and
- Conduct regular employee training to reinforce proper housekeeping actions.

See Appendix D for additional preventative maintenance BMPs. The BMP descriptions in Appendix D were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.2.2 Site Assessment and Specific BMPs

A wide variety of activities and areas of concern throughout the facility may potentially contaminate stormwater. Tables 1 through 8 provide a brief description of those activities and areas of concern along with specific Operational and/or Structural BMPs to reduce pollution potential.

Additional example pollutant source-specific BMPs are included in Appendix E. BMP descriptions were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.4 Employee Training and Education

A formal training seminar will be provided for all municipal field staff upon completion of the SWPPP. The City of Wenatchee will develop and provide education materials oriented toward prevention of stormwater pollution and implementation of the SWPPP. The goal of the training is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. All maintenance facility personnel are recommended to participate in this initial implementation training seminar to improve their understanding of

Table 1 Building and Ground Maintenance BMPs	
Issue:	Stormwater can be contaminated from dusts deposited on surfaces or from building maintenance activities.
Facility Assessment:	There are five permanent buildings and over 100 city vehicles and pieces of equipment are stored at this site.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Sweep paved areas and storage areas regularly. • Inspect and clean stormwater conveyance systems as needed. • Properly dispose of wash water generated by building maintenance activities. • Use stormwater grates marked with "Dump No Waste – Drains to Stream" or other similar wording.
Improvements:	None.

Table 2 Loading and Unloading of Materials BMPs	
Issue:	Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.
Facility Assessment:	Liquids are transferred indoors at the following locations: • Building 1 - Administration • Building 2 – Field Crew Shops • Building 3 – Fleets Maintenance Deicer is transferred to covered tanks with secondary containment in the storage building (#5). The building is open on one side.
	Types of liquids transferred: • Oils & greases • Paint • Pesticides, herbicides & fertilizers • Cleaning products • Deicer
	Solids are transferred indoors and outdoors. Types of solids transferred: • Equipment • Parts • Bulk cold mix
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Sweep loading/unloading areas regularly. • Maintain a spill kits on site. • Spills and leaks are promptly addressed and reported to the Fleets & Facilities Supervisor. • Train employees in spill response.
Improvements:	None

Table 3 Outdoor Storage of Raw Materials BMPs	
Issue:	Materials stored outdoors, and in some cases indoors, have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from storage containers or equipment containing liquids, and dissolution of soluble materials.
Facility Assessment:	All raw materials are stored in covered areas.
	Types of liquids stored include: None.
	Types of solid materials stored include: • Bulk cold mix
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Whenever possible store material stockpiles under a permanent cover or use plastic sheeting. • Sweep paved storage areas regularly.
Improvements:	None.

Table 4 Storage of Liquids, Solids, Waste, and Hazardous Materials BMPs	
Issue:	The storage of supplies and waste management activities have the potential to contaminate stormwater through improper storage of solid and liquid wastes, and spills, leaks, or drips from containers.
Facility Assessment:	Most of the liquid and solid materials are stored indoors in Building 1, 2, or 3. Deicer is stored in a bermed and covered area in Building 5. One trash dumpster and several recycling totes are located at the south end of Building 2. The cardboard recycling bin is located on the north end of Building 2. One additional recycling tote is located on the north side of Building 1. Used oil is stored inside a contained area of Building 3 except for one barrel which is stored outside near on the north side of the building.
Problem(s) Observed:	1. The used oil barrel stored outside Building 3 does not have secondary containment.
Current BMPs:	• Store materials indoors or in covered areas with secondary containment whenever possible. • Place tight fitting lids on all containers. • Maintain original labels on materials and liquids. • Regularly inspect the storage areas for leaks or spills • Maintain a spill kits onsite. • Spills and leaks are promptly addressed and reported to the Fleets & Facilities Supervisor. • Train employees in spill response.
Improvements:	• Provide secondary containment for the used oil barrel and/or look for a more suitable storage location if feasible.

Table 5 Vehicle and Equipment Cleaning BMPs	
Issue:	If not conducted properly, cleaning and washing of vehicles, heavy and light equipment, buildings, tools, or paved surfaces can contaminate stormwater by washing contaminants such as oil and grease, soap, or dirt into the storm sewer or onto areas exposed to rain.
Facility Assessment:	Cleaning and washing is currently performed in the vehicle wash bay on the north side of Building 3. The wash bay drains into the sanitary sewer system. City staff also contract with local commercial car washes.
	A secondary cleaning/rinsing area is designated at the northeast end of Building 5, where water passes through a filter system, sediment trap and ultimately infiltrates in the bioswale. This location is not used during the winter.
	Types of materials cleaned or washed include: • Passenger vehicles • Service Trucks • Heavy Equipment • Lawn mowers
	The chemicals used during washing include: • Phosphorus-free soap in the wash bay only.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Conduct all vehicle washing in the car wash bay or at a commercial facility where wash water will drain to sewer. • Covered parking and storage is utilized whenever possible. • Inspect the wash area regularly.
Improvements:	None.

Table 6 Vehicle and Equipment Maintenance and Repair BMPs	
Issue:	Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other wearable products (tires, brake pads, etc.) that can contaminate stormwater.
Facility Assessment:	Vehicle and equipment maintenance, service, and repair are conducted inside the maintenance shop (Building 3)
	Potential stormwater contaminants used in the operation or maintenance of vehicles and equipment on-site include: • Oil and fuel • Batteries • Antifreeze • Hydraulic Fluid
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Maintain a spill kits onsite. • Spills and leaks are promptly addressed and reported to the Fleets & Facilities Supervisor. • Train employees in spill response. • Conduct vehicle maintenance inside whenever possible. • Store materials indoors or in covered areas with secondary containment whenever possible. • Empty oil and fuel filters before disposal. • Recycle automotive fluids and parts whenever possible. • Use drip pans or containers under parts or vehicles that drip or are likely to drip.
Improvements:	None.

Table 7 Vehicle and Equipment Parking and Storage BMPs	
Issue:	Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other wearable products (tires, brake pads, etc.) that can contaminate stormwater.
Facility Assessment:	Storage and parking of large vehicles and equipment occurs in dedicated areas on the north side of Building 1 that have a surface composed of either asphalt or concrete. Partially covered parking is located on the north side of Building 1. Covered and indoor parking is located in Building 2, 4 and 5. An additional open parking area is located just south of Building 3.
	Types of vehicles and equipment that are stored or parked on-site include but is not limited to passenger vehicles, service trucks, graders, dump trucks, lawn mowers, earthmoving equipment and an educator truck. Emergency response vehicles are sometimes stored on-site while being maintained or repaired.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Sweep paved areas and storage areas regularly. • Use drip pans or containers under vehicles and equipment that drip or are likely to drip. • Remove liquids from vehicles that are retired for scrap. • Maintain a spill kits onsite. • Spills and leaks are promptly addressed and reported to the Fleets & Facilities Supervisor. • Train employees in spill response.
Improvements:	None.

Table 8 Vegetation Management BMPs	
Issue:	Fertilizer and pesticides contain nutrients and chemicals that can contaminate stormwater.
Facility Assessment:	The facility has a landscaped area located on the south and west sides. The bioswale is also grass.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Minimize use of chemical fertilizers. • Inspect irrigation systems regularly. • Maintain vegetative cover. • Dispose of waste vegetation in designated areas. • Use pesticides only if there is a pest problem. • Address chemical spills immediately and report to the Parks Maintenance Supervisor. • Train employees in pesticide application and spill response.
Improvements:	None.

Section 3—Illicit Non-Stormwater Discharges

The City of Wenatchee is required to develop, implement, and enforce a program to detect and eliminate non-stormwater illicit discharges into the municipal separate storm sewer system (MS4), including spills, illicit connections, and illegal dumping.

3.1 Illicit Connections

An illicit connection is any man-made conveyance of non-stormwater discharges that is connected to an MS4 without a permit. Examples include sanitary sewer connections, floor drains, and process waters that are connected directly or indirectly to the MS4. Exemptions include connections from foundation, downspout and footing drains, air conditioning condensation, uncontaminated groundwater, and other similar type connections. A complete list of the prohibited and exempt non-stormwater discharges can be found in the City of Wenatchee's Illicit Discharge Detection and Elimination code (Wenatchee City Code 4.10).

If an illicit connection is detected on-site, the Pollution Prevention Team shall take appropriate steps to terminate or redirect the connection to an appropriate discharge location.

3.2 Illicit Discharges

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the Phase II Permit) and discharges resulting from emergency firefighting activities.

If a prohibited discharge is observed, the Pollution Prevention Team shall take immediate action to terminate the discharge. Depending on the nature of the illicit discharge, it may be necessary to report it as a spill; a three-page summary of basic spill response procedures is included in Appendix F.

3.3 Illegal Dumping

Illegal dumping consists of spilling, dumping, releasing, throwing, depositing or placing solid waste, litter, pet waste, yard waste, or hazardous materials where there is the potential for those materials or pollutants to end up in the MS4.

If illegal dumping is observed, the Pollution Prevention Team shall take immediate action to identify the responsible party and ensure cleanup of the dumped material.

Appendix A—Site Maps

Appendix B—Facility Assessment Questionnaire

Municipal Facility Assessment Questionnaire

1 Facility Description

This section identifies and describes the location of the municipal facility, contact information for key facility staff, and general site information. Please attach any maps or sketches of the facility, if available.

Facility Name: **Public Services Center**

Facility Location: **1350 McKittrick**

Facility Description: **Administrative offices, shops and vehicle maintenance and storage for Public Works.**

Mailing Address: **P.O. Box 519, Wenatchee, WA 98807-0519**

Contact Name: **Matt Leonard Public Works Director**

Contact Phone: **(509) 888-3214**

SIC Code (If Applicable):

Main Site Activities: **Administration, vehicle storage and maintenance, field crew shops**

Area of Facility (in acres): **4.6 acres**

Surface Types:

(Check all that apply and fill in approximate area)

☒ Permanent Buildings: 5 buildings
46,148 square feet

☐ Temporary Buildings: _____ number of buildings
_____ square feet

☒ Pavement: 2.6 acres

☐ Gravel: _____ acres

☐ Bare Ground: _____ acres

☒ Vegetation: 0.9 acres

2 Potential Pollutant Sources

This section identifies and describes the activities conducted on site that have the potential to contaminate stormwater. Please complete the following sections.

2.1 Waste Management

Waste management activities have the potential to contaminate stormwater through improper storage of wastes, spills, leaks, or drips from containers.

☐ No waste management activities are performed on site.

☒ Wastes are managed as follows:

☒ Dumpster, located: 1 dumpster for trash located south of Bldg. 2

☐ Trash compactor, located: _____

☒ Recycling Containers, located: 3 recycling containers for plastic and paper are located on the south side of Bldg. 2 and 1 container on the north side of Bldg. 1. A cardboard recycling bin is located at the northeast corner of Bldg. 3.

☒ Used Oil Container, located: Most of the used oil is stored inside Bldg. 3 with a 1-2 additional drums stored at the northeast corner of Bldg. 3.

☐ Other, describe: _____

2.2 Cleaning and Washing

If not conducted properly, cleaning and washing of vehicles, heavy and light equipment, buildings, tools, or paved surfaces, can contaminate stormwater by washing contaminants such as oil and grease, soap, or dirt into the storm sewer or onto areas exposed to rain.

☐ No cleaning or washing activities are performed on site.

☒ Cleaning and washing is performed as follows:

Location of cleaning or washing activity: The car wash bay is located on the north side of Bldg. 3 and the mower was area is on the east side of Bldg. 5. A boot washing area is located on the north side of Bldg. 1. The buildings may also be washed.

Cleaning or washing area / structure:

☐ Self-Contained Building

☒ Covered Pad (Main car wash bay and boot wash area)

☒ Designated Open Area (Contained pad at the east end of Bldg. 5 for mower washing)

☐ Other: _____

Municipal Facility Assessment Questionnaire

Continued

Surface of cleaning or washing area:

- ☐ Asphalt
- ☒ Concrete
- ☐ Compacted Gravel
- ☐ Soil

Type(s) of materials cleaned or washed:

- ☒ Vehicles, describe: Passenger, service trucks, heavy equipment,
- ☒ Equipment, describe: mowers
- ☒ Buildings
- ☐ Paved areas
- ☒ Other: Boot wash with sediment basin NE corner of Bldg. 1.

Chemical(s) used in washing:

- ☒ Soaps or detergents: Phosphorus-free soap used in the car wash bay only.
- ☐ Abrasives: _____
- ☐ Acids: _____
- ☐ Solvents: _____
- ☐ Other: _____

Drainage characteristics of wash area(s): The car wash bay drains to an oil/water separator which is connected to the sanitary sewer system. All other washing activities drain to the stormwater system for the site. These non-stormwater discharges are infiltrated on-site.

Discharge location for wash water:

- ☒ Storm Sewer; Treated?
- ☐ No
- ☒ Yes, please describe: All of the wash water from all areas except the car wash bay pass through a sediment trap or catch basin and a filtration system before infiltrating in the bioswale located on the east side of the facility.
- ☒ Sanitary Sewer (Car wash bay)
- ☐ Other: _____

2.3 Transfer of Liquids or Solids

Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.

☐ No transfer of liquids or solids is performed on site.

☒ Transfer of liquids is performed as follows:

Location(s) where transfer occurs:

- ☒ Direct connection to aboveground storage tank with secondary containment
- ☐ Direct connection to underground storage tank
- ☐ Railroad yard
- ☐ Loading dock
- ☐ Permanent fueling station
- ☐ Open area
- ☒ Indoors
- ☐ Other: _____

Transfer Area Structure(s):

- ☒ Self-Contained Building (Bldgs. 1, 2, & 3)
- ☒ Covered Pad (Bldg. 5)
- ☐ Designated Open Area
- ☐ Other: _____

Surface of Transfer Area:

- ☒ Asphalt
- ☒ Concrete
- ☐ Compacted Gravel
- ☐ Soil

Type(s) of liquids transferred:

- ☒ Fuels, oils, or greases: Oils and greases
- ☒ Paints: _____
- ☐ Acids: _____
- ☒ Pesticides, Herbicides, Fertilizers: _____

☒ Cleaning products: _____

☒ Other: Deicer and cold mix

Type of transfer:

☒ Bulk liquid (deicer)

☐ Mobile fueling

☒ Liquid filled container:

☒ Small Containers

☒ Drums

☐ Totes

☐ Bunker

☐ Other: _____

☒ Transfer of solids is performed as follows:

Location(s) where transfer occurs:

☐ Railroad yard

☐ Loading dock

☒ Open area

☐ Indoors

☐ Other: _____

Transfer Area Structure:

☐ Self-Contained Building

☐ Covered Pad

☒ Designated Open Area

☐ Other: _____

Surface of Transfer Area:

☒ Asphalt

☐ Concrete

☐ Compacted Gravel

☐ Soil

Type(s) of solids transferred:

☐ Shipping Containers: _____

☒ Equipment: _____

☐ Packaged goods: _____

☒ Bulk materials (aggregate, debris, etc.): cold mix

☐ Other: _____

Equipment involved in transfer:

☐ Top pick

☒ Forklift

☐ Crane

☒ Dump truck (end, side, bottom, etc.): With loader

☐ Other: _____

2.4 History of Spills and Leaks

If there is a history of any spills or leaks on site that discharged to storm sewer system, surface waters, or groundwater please describe: There is no history of spills or leaks at this time.

2.5 Production and Application Activities

Production or application activities have the potential to contaminate stormwater from debris left behind during production, spills, leaks, or drips from products or equipment used during production, or leaching or erosion from materials involved. Application activities involve the application of product to an object such as painting, coating, spraying, or other treatment.

☐ No production or application activities are performed on site.

☒ Production and/or application activities are performed as follows:

Location(s) of production and/or application activities: Sign fabrication and other similar work is conducted inside either Bldg. 2 or 3.

Description of production and/or application activities: The city fabricates signs, paints tools and may also fabricate parts for equipment and vehicles.

Drainage characteristics of work area; are there any pretreatment BMPs?

These work areas are inside Bldg. 2 and 3.

2.6 Storage and Stockpiling

Vehicle and Equipment Storage and Parking

Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other parts (tires, brake pads, etc.) that can contaminate stormwater. If vehicles or heavy equipment are stored or parked outdoors on site, please complete the following:

☐ No vehicle or equipment storage or parking is performed on site.

☒ Vehicle and/or equipment storage and/or parking application is performed as follows:

Type and Number of vehicles and equipment that are stored or parked on site:

☒ Passenger vehicles, service trucks, dump trucks, ladder trucks, boom truck, educator trucks: The Public Works and Recreation Departments have a total of 60 vehicles as per December 31, 2015. The majority of these vehicles are stored at the Public Services Center.

☒ Equipment, trailers, mowers, forklifts, backhoe, and excavator: There is approximately 88 pieces of equipment as per December 31, 2015. As with the vehicles, most these are stored at least seasonally at this location.

Location of storage or parking area: The parking for employee vehicles and customers is located on the south side of the Bldg. 1; all city vehicles and equipment are parked on the north side of Bldg. 1. Passenger vehicles and pick-up trucks are typically parked against Bldg. 1 and 2 where the parking is partially or completely covered. Equipment and larger vehicles are either stored inside Bldg. 2, 4 or 5 or in the designated parking area to the south of Bldg. 3.

Storage or parking area structure:

☒ Covered

☒ Designated Open Area

☐ Other: _____

Surface of storage or parking area:

☒ Asphalt

☒ Concrete

☐ Compacted Gravel

☐ Soil

List potential stormwater contaminants used in the operation or maintenance of heavy equipment on site:

☒ Petroleum products (fuel, oils, greases) – source of oil & grease and metals

☐ Acids – source of low pH

☒ Batteries – source of low pH, and heavy metals (lead, nickel, cadmium, etc.)

☒ Antifreeze

☒ Solvents

☐ Soaps or detergents – source of phosphorus

☐ Other: _____

Drainage characteristics of Vehicle and Equipment Storage and Parking: Stormwater from the open areas drain to catch basins which flow through one of two filters into the bioswale.

The bioswale is intended to infiltrate the discharges into the ground.

Material Storage

Materials stored outside have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from liquids or equipment containing liquids, and dissolution of soluble materials. If materials are stored outside on site, please complete the following section:

☐ No material storage is performed on site.

☒ Material storage is performed as follows:

Location(s) of where materials are stored: _____

Storage area structure:

☒ Covered (Bldgs. 2, 3 & 5)

☒ Designated Open Area (Northeast corner of Bldg. 3)

☐ Other: _____

Surface of Storage Area:

☒ Asphalt

☒ Concrete

☐ Compacted Gravel

☐ Soil

Type(s) of Liquids Stored:

☒ Fuels, oils, or greases

☒ Paints

☐ Acids

☒ Pesticides, Herbicides, Fertilizers

☒ Cleaning products

☒ Other: Deicer

Liquids are stored in:

- ☒ Small Containers
- ☒ Drums
- ☒ Totes 150 Gals. Totes of oil in Bldg. 4
- ☒ Aboveground Tanks (Deicer)
- ☐ Other, describe: _____

Type(s) of Solid Materials Stored:

- ☐ Aggregates (sand, gravel, rock, broken concrete, broken asphalt, etc.)
- ☐ Soil and compost
- ☐ Wood Products (untreated lumber, logs, wood chips, wood waste, etc.)
- ☐ Scrap metals
- ☐ Building Materials (masonry products, metal framing, rebar, etc.)
- ☐ Treated lumber
- ☒ Other: Cold mix

Type(s) of Equipment Stored:

- ☐ Equipment with galvanized metal components
- ☒ Equipment with fluid filled reservoirs
- ☒ Equipment with greased joints or other moving parts
- ☐ Other: _____

Drainage characteristics of material storage area: The material storage areas are all covered with a permanent roof or indoors.

2.7 Vehicle and Equipment Maintenance and Repair

☐ No vehicle or equipment maintenance is performed on site.

☒ Vehicle and/or equipment maintenance is performed on site as follows:

Describe the location(s) and activities performed: Vehicle maintenance is primarily carried out inside the maintenance shop (Bldg. 3).

2.8 Dust Control and Soil and Sediment Control

Stormwater can be contaminated from dusts deposited on surfaces exposed to rain, or from erosion of exposed soils.

☒ No dust generating activities are performed on site and no exposed soils are present.

☐ Exposed soils are present on site as follows:

Location of exposed soils: _____

Slope: _____

Reason soils remain exposed: _____

☐ Dust generating activities are performed on site as follows:

Location of dust-generating activity: _____

Type(s) of dust-generating activity:

☐ Storage of materials (aggregate, sawdust, ash, etc.), describe: _____

_____

☐ Manufacturing process, describe: _____

_____

☐ Vehicle traffic

☐ Soil disturbance/grading

☐ Other: _____

Describe any erosion and sediment control or dust control methods used: _____

_____

_____

_____

2.9 Landscape Management

Landscape maintenance (including control of weeds) has the potential to introduce chemical pollutants, sediment, and nutrients into stormwater. If landscape management practices occur on site please complete the following section.

Pesticide, Herbicide, and Fertilizer Application

Check one:

☐ There are no vegetated areas on site. No pesticides, herbicides or fertilizers are used.

☐ Vegetated areas are present on site. However, no pesticides, herbicides or synthetic fertilizers are used on site.

☒ Vegetated areas are present on site. Pesticides, herbicides or fertilizers are used.

Please note any existing training or BMPs related to pesticide, herbicide, and fertilizer application:

Refer to the BMPs in Section 7 of the City of Wenatchee Stormwater Operations & Maintenance Plan.

Mowing / Trimming / Planting

If vegetated areas exist on site please describe their maintenance and waste disposal procedures: The landscaping includes grass, trees and other plants. The maintenance is conducted by the Parks Maintenance Department as set forth in Section 7 of the Stormwater Operations & Maintenance Plan.

2.10 Non-Stormwater Discharges

Please describe any discharge(s) leaving the site and entering any storm drain, surface water, or dry well which is not made up entirely of stormwater: There are no non-stormwater discharges that leave the site. All stormwater and previously noted non-stormwater discharges are infiltrated in the bioswale.

2.11 Other Pollution-Generating Activities

This questionnaire does not capture all potential sources of stormwater pollution. Evaluate your site for any additional pollution generating activities not listed above and describe here.

☒ No other pollution-generating activities are performed on site.

☐ Other pollution-generating activities are performed on site as follows: _____

_____

_____

_____

_____

3 Stormwater Drainage System

Please attach any maps or sketches of the facility's stormwater drainage system, if available.

The stormwater drainage system consists of the following components: *Check all that apply*

☒ Catch basins

☒ Floor drains 6 in Shop that drain to the Oil Water Separator

☐ Deck drains

☒ Roof drains

☐ Trench drains

☐ Culverts

- ☐ Subsurface Pipes
- ☐ Ditches
- ☐ Dry Wells
- ☐ Pump station
- ☒ General Site Stormwater Treatment:
  - ☐ Oil/water separator
  - ☐ Catch basin inserts
  - ☒ Bioswale
  - ☐ Pond
  - ☒ Filtration System
  - ☐ Other: _____

Stormwater from the site discharges to: (*Check all that apply*)

- ☐ <WATERBODY>
- ☐ <WATERBODY>
- ☐ <WATERBODY>
- ☒ <CITY> Sewer
- ☒ City Storm Sewer (overflow from on-site system only)
- ☐ Sanitary Sewer
- ☒ Ground
- ☐ Drywells / Infiltration Trenches

Appendix C—Facility Assessment Photolog

Facility Assessment Site Visit Form

Date: 01/10/2016 Facility: Public Services Center
Assessment Team: Don Bitterman and Bob Ritter
For additional information on the site please refer to Appendix B Facility Assessment Questionnaire.

Waste Management

Trash & Recycling (S end of Bldg. 2)

Cardboard Recycling (N end of Bldg. 2)

Cleaning and Washing

Vehicle Wash Bay (N of Bldg. 3)

Stormwater Filters & Sediment Trap

Boot Wash (N side of Bldg. 1)

Production and Application Activities

Not applicable.

Materials Storage

Pesticide Handling/Storage (Inside Bldg. 2)

Cold Mix & Deicer Storage (Bldg. 5)

Used Oil & Empty Barrels (N side of Bldg. 3)

Vehicle and Equipment Parking and Storage

Building 2 – Covered Parking & Storage

Building 4 – Indoor Parking & Storage

Building 5 – Covered Parking & Storage

N side of Building 1 – Partially Covered Parking

Building 2 – Partially Covered Parking & Shops

Vehicle and Equipment Maintenance and Repair

Building 3 – Fleet Maintenance & Repair Shop

Appendix D—General Operational Source Control BMPs

General Pollution Prevention BMPs

Operational Source Control BMPs

Pollutant Control Approach

Operational Best Management Practices (BMPs) can be commonly applied to day-to-day activities at municipal storage facilities. These General Operational Source Control BMPs focus on retaining stormwater onsite, segregating pollutants from runoff, and preventing the discharge of pollutants to the stormwater collection and conveyance system.

Scheduling and Planning BMPs

1. Plan and schedule all maintenance activities in a manner that considers the use of BMPs. Recognize how the activity will affect stormwater so that the proper BMPs can be placed or utilized at the proper time. Some maintenance activities shall not be performed during rain events or when storms are predicted unless required by emergency conditions.
2. Be aware of where the flow of a leak, spill, or other runoff would go.
3. Set-up the work area to minimize the tracking of material by vehicles and equipment in or out of the work area.

Good Housekeeping BMPs

1. Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust from operations and maintenance conducted on any exposed soil, vegetation, or paved area.
2. Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
3. Properly reuse, recycle, or dispose of cleaned empty containers, excess materials, and equipment or parts.
4. Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations, and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.
5. Clean oils, debris, sludge, etc. from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater.
6. Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subjected to pollutant material leaks or spills.
7. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc. that can contaminate stormwater.

General Operational Source Control BMPs

Continued

Preventative Maintenance BMPs

1. Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.
2. Prevent the discharge of unpermitted liquid or solid wastes, vehicle and equipment wash-water, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.
3. Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.
4. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local jurisdiction, or to other approved treatment.
5. Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
6. Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
7. Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
8. Drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.
9. For the storage of liquids; use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.
10. For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums and comparable containers, that are durable, corrosion resistant, nonabsorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container should be stored under a lean-to or equivalent structure.
11. Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.
12. Where feasible, store potential stormwater pollutant materials inside a building or under a cover, and/or containment.
13. Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
14. Use environmentally safer raw materials, products, additives, etc.
15. Empty drip pans immediately after a spills or leaks are collected in an uncovered area.
16. Stencil warning signs at stormwater catch basins and drains, e.g., “Dump no waste.”

Appendix E—Example Pollutant Source-Specific BMPs

Pollutant Source Specific BMPs

1. Building and Ground Maintenance

Typical Activities	**Environmental Concerns**
Care of landscaped areas around each facility, cleaning of parking areas and pavements, dust control, and maintenance of the stormwater drainage system.	Discharge of the following materials into the stormwater drainage system or watercourse: • Sediment • Sewage • Litter • Trash • Non-Stormwater liquids • Herbicides • Vehicle Fuel and Fluids
Pollutant Control Approach	
Pollutants such as herbicides, eroded soil, and site debris can contaminate stormwater. Employ Operational Source Control Best Management Practices (Operational BMPs) to minimize the contact of stormwater and these pollutants.	

Operational BMPs

1. Dispose of sweepings and cleaning wastes as solid waste.
2. Inspect and clean stormwater conveyance systems as needed.
3. Properly dispose of wash-water generated by building maintenance activities. Dispose of wash-water to the sanitary sewer system.
4. Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary. Sprinkle or wet down soil or dust with water as long as it does not result in a wastewater discharge.
5. Limit the exposure of erodible soil, stabilize or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with suspended solids caused by eroded soil.

Structural BMPs

1. Stencil drywell and catch basin grates with, “Dump No Waste - Drains to Stream/Groundwater".

Pollutant Source Specific BMPs

2. Floor Drains

Typical Activities

Floor drains are found in maintenance shops. Any spills, leaks, or drips of oil, antifreeze, paint, etc. that end up on the shop floor have the potential to end up in the floor drain.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Vehicle/Equipment Fluids
- Paint Products
- Metals

Pollutant Control Approach

Identify and locate the final outfall for the floor drain system. If the floor drains are found to be connected to a drywell or other stormwater conveyance system, or if you are unsure where the floor drains outfall to, do not hose down shop floor with water.

Operational BMPs

1. Sweeping should be used in place of water to clean the shop floor.
2. Clean up any hazardous material spills immediately.
3. Consider plugging each floor drain to eliminate potential pollutants from entering.

Structural BMPs

1. If a floor drain is found to be connected to a drywell or other stormwater conveyance system, it must be disconnected and routed to the sanitary sewer (if allowed by the local jurisdiction) or to other appropriate treatment BMPs.

Pollutant Source Specific BMPs

3. Loading and Unloading of Materials

Typical Activities

A variety of products is transferred at maintenance facilities and may cause harm to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from loading/unloading areas to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.

Pollutant Control Approach

Cover and contain the loading/unloading area, where necessary, to prevent run-on of stormwater and runoff of contaminated stormwater; or, transfer materials in an area that slopes away from storm drains and waterways.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Asphalt Products
- Paint
- Epoxy Resins
- Cement
- Herbicides
- Solvents
- Vehicle Fluids
- Fertilizer
- Fuel

Operational BMPs

1. Sweep loading/unloading areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans or other appropriate temporary containment devices at locations where leaks or spills may occur during loading/unloading activities.
3. In the event of a spill or leak, follow the procedures outlined in the facility's Spill Response Plan.
4. Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately if a significant spill occurs and upon completion of the transfer activity for minor spills.
5. Maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of oil spills.
6. Ensure that an employee trained in spill containment and cleanup is present during loading/unloading activities.

Structural BMPs

1. Consistent with Uniform Fire Code requirements and to the extent practicable, conduct unloading or loading of solids and liquids in a building, under a roof or lean-to, or other appropriate cover.
2. Bern, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.

3. Pave and slope loading/unloading areas to prevent the pooling of water.
4. Install an automatic shutoff valve in storm drain system in case of unanticipated off-loading interruption (e.g. coupling break, hose rupture, overfill, etc.)

Pollutant Source Specific BMPs

4. Outdoor Storage of Raw Materials

Typical Activities	**Environmental Concerns**
Maintenance facilities store a variety of raw materials that may adversely impact water quality if they come in contact with ground or surface waters. Raw materials may include asphalt, soil, road deicing salts, compost, unwashed sand and gravel, sawdust, logs, bark, lumber, metal products, etc.	Discharge of the following materials into the stormwater drainage system or watercourse: • Asphalt Products • Sand and aggregates • De-icing Agents
Pollutant Control Approach	
Provide impervious containment with blocks, berks, dikes, etc. and/or cover to prevent run-on and discharge of leach ate pollutant(s) and suspended solids. The preferred method for storage of materials is under a covered structure.	

Operational BMPs

1. Store materials away from stormwater drainage systems or watercourses.
2. Protect storm drain inlets and watercourses from potential spills of raw materials.
3. Sweep paved storage areas regularly for collection and disposal of loose solid materials.
4. Do not hose down the contained stockpile area to a storm drain, a conveyance to a storm drain, or to receiving water.

Structural BMPs

1. Areas should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage "alleyways" where material is not stockpiled.
2. Convey contaminated stormwater from stockpile areas to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system depending on the contamination.
3. Choose one or more of the structural source control BMP options listed below for stockpiles greater than five cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. Also included are outside storage areas for solid materials, such as logs, bark, lumber, metal products, etc.
4. Store in a building or paved and bermed covered area; or
5. Place temporary plastic sheeting (polyethylene, polypropylene, hyaline, or equivalent) over the material; or
6. Pave the area and install a stormwater drainage system. Place curbs or berks along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact

between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.; or

7. For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any stormwater conveyance system as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged directly to stormwater conveyance systems without conveying first through a treatment BMP.

Pollutant Source Specific BMPs

5. Storage of Liquids, Solid Materials, And Hazardous Materials

Typical Activities

A variety of products is stored at maintenance facilities and may be harmful to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from hazardous material storage sites to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.

Pollutant Control Approach

Store hazardous materials in a designated area containing chemically compatible materials. Do not store incompatible products in the same storage area without some type of physical barrier separating the containers. For example, do not store strong oxidizers with organics, or flammable/combustible materials. Where feasible, store hazardous materials in a covered area that does not drain to the stormwater drainage system or watercourse. Ensure container covers or caps are secure.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Asphalt Products
- Paint
- Epoxy Resins
- Cement
- Herbicides
- Solvents
- Fertilizer
- Vehicle Fluids
- Fuel

Operational BMPs

1. Sweep storage areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur.
3. In the event of a spill or leak, follow the procedures outlined the facility's Spill Response Plan.
4. Place tight fitting lids on all containers.
5. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
6. Label all cabinets, storage sheds, etc. containing hazardous chemicals with proper Hazardous Material signage.

7. Do not remove original product label from paint or hazardous materials containers as it contains important spill cleanup and disposal information. Use the entire product before properly disposing of the container. Appropriately label all secondary containers.
8. Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers as needed.
9. Cover dumpsters, or keep them under a cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
10. Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

Structural BMPs

1. Keep containers with dangerous waste or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
2. Store containers in a designated impervious area that is covered, bermed, diced, or paved, in order to contain leaks and spills. Any secondary containment structures shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
3. For liquid wastes such as used oil, surround the containers with a secondary containment structure. The secondary containment structure must be of sufficient height to provide a volume of either: 10 percent of the total volume of all containers or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.
4. Place containers mounted for direct removal of a liquid chemical for use by employees inside a secondary containment structure as described above. Use a drip pan during liquid transfer.
5. For contaminated stormwater in the secondary containment structure, connect the sump outlet to a sanitary sewer, if approved by the local jurisdiction, or to appropriate treatment, such as an American Petroleum Institute (API) or Coalescing Plate (CP) oil/water separator, catch basin filter or other appropriate system. Equip the sump outlet with a valve to prevent the release of spilled or leaked liquids, especially flammables (compliance with Fire Codes), and dangerous liquids. This valve may be opened only for the conveyance of contaminated stormwater to treatment.
6. Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tanker truck or other appropriate vehicle for off-site treatment and/or disposal.

Pollutant Source Specific BMPs

6. Vehicle and Equipment Washing

Typical Activities

Vehicles and equipment are typically washed on-site at maintenance facilities. When vehicle and equipment washing is conducted, it is essential that the wash water not be allowed to drain to the stormwater drainage system or watercourses.

Pollutant Control Approach

The preferred approach is to cover and/or contain the vehicle/equipment washing or conduct the washing inside a building or within a designated washing station to contain the wash water and keep it separate from stormwater.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Cleaning Agents
- Non-Stormwater fluids
- Sediment
- Fuel
- Vehicle Fluids
- Metals

Operational BMPs

1. Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
2. Approved safer alternative products should be used where practical and effective, such as phosphate-free biodegradable soaps and detergents.
3. Do not remove the original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
4. Water usage should be minimized.
5. If possible, conduct vehicle/equipment washing off-site at a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer.

Structural BMPs

1. Preferably, conduct vehicle/equipment washing in a building or enclosure constructed specifically for washing of vehicles and equipment, which drains to the sanitary sewer.
2. Alternatively, conduct outside washing operations in a designated wash area and:
3. Operate a closed system with wastewater recycling (like a floor drain discharge to a holding tank); or
    a. Discharge to a municipal sanitary sewer; or
    b. Obtain a groundwater discharge permit.
4. For additional information see the Washington State Department of Ecology document entitled "Vehicle and Equipment Wash water Discharges/Best Management Practices Manual", publication number 95-056.

Pollutant Source Specific BMPs

7. Vehicle and Equipment Fueling

Typical Activities

When vehicle and equipment fueling takes place, there is the potential for fuel to be leaked or spilled at the site. The procedures for vehicle and equipment fueling are designed to minimize contact between stormwater runoff and spilled fuel, oil or other leaked vehicle fluids at equipment fueling areas.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Vehicle Fluids

Pollutant Control Approach

Fueling stations must be constructed on an impervious concrete pad under a roof to keep out rainfall and stormwater run-on. A treatment BMP must be used for contaminated stormwater and wastewaters in the fueling containment area. These procedures should be used at all equipment fueling areas.

Operational BMPs

1. Prepare an emergency spill response plan and have a designated trained person(s) available either on site or on call at all times to promptly and properly implement the plan and immediately cleanup any spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
2. Train employees on the proper use of fuel dispensers. Proper fueling and spill cleanup instructions shall be posted at fueling areas. Post signs in accordance with the Uniform Fire Code (UFC).
3. Make sure that the automatic shutoff valve on the fuel nozzle is functioning properly.
4. A person must be present at the fuel pump during fueling at all times.
5. Hosing down of leaks, drips and spills is prohibited.
6. Maintain clean fuel dispensing areas using dry cleanup methods.

Structural BMPs

1. The fueling pad must be paved with Portland cement concrete, or equivalent. If paved with asphalt, add a protective coating to create an impervious surface, inspect regularly, and street sweep quarterly at a minimum.
2. Stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an approved treatment system such as an oil/water separator and a water quality treatment BMP. Discharges from the treatment

BMP to storm drains, surface water, or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.

3. The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the fueling area. The roof or canopy should, at a minimum, cover the fueling area (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain.
4. The transfer of fuel from the delivery tank truck to the fuel storage tank must be performed in an impervious contained area and appropriate overflow protection must be used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Pollutant Source Specific BMPs

8. Vehicle and Equipment maintenance and Repair

Typical Activities	**Environmental Concerns**
Vehicle and equipment maintenance and repair may include vehicle fluid removal, engine and parts cleaning, body repair and painting.	Discharge of the following materials into the stormwater drainage system or watercourse: • Fuel • Vehicle Fluids • Used Oil Filters • Lead-Acid Batteries • Paint Products • Metal
Pollutant Control Approach	
Reduce the discharge of potential pollutants from areas in which vehicle maintenance and repair activities are conducted by employing controls which minimize contact between stormwater and the activity areas and products used in each activity.	

Operational BMPs

1. Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
2. Maintenance activity areas should be kept clean, well organized and equipped with spill cleanup supplies.
3. Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
4. Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents as hazardous waste.

Structural BMPs

1. Use drip pans or containers under parts or vehicles that drip or are likely to drip.
2. Remove batteries and liquids from vehicles and equipment in designated areas which are designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.
3. Empty oil and fuel filters before disposal.
4. Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids.
5. Transfer removed vehicle and equipment fluids from drip pans or other temporary containers into recycling storage tanks or drums by the end of each shift (daily).
6. Do not mix dissimilar or incompatible waste liquids stored for recycling.
7. Ensure safeguards such as oil shut-off valves are installed and maintained on recovery equipment.

Pollutant Source Specific BMPs

9. Vehicle and Equipment Parking and Storage

Typical Activities

Vehicles and equipment have the potential to leak or drip hazardous fluids. When they are parked or stored outside and are exposed to the elements (not parked under a cover), the fluids can be picked up by stormwater and carried to the storm sewer system.

Pollutant Control Approach

Provide impervious containment with berms, dikes, etc. and/or store under cover to prevent run-on and discharge of hazardous pollutants.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Metal
- Vehicle Fluids
- Lead-Acid Batteries

Operational BMPs

1. Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
2. Use drip pans or containers under vehicles and equipment that drip or are likely to drip.
3. Remove liquids from vehicles that are retired for scrap.

Structural BMPs

1. Consider storing damaged vehicles inside a building or paved and bermed covered containment area until all liquids are removed.
2. Park/store all vehicles and equipment in a designated covered area.

Pollutant Source Specific BMPs

10. Vegetation Management

Typical Activities

This method of landscaping and lawn vegetation management can include grading, soil transfer, vegetation removal, pesticide/herbicide and fertilizer applications, and watering. Lawn and vegetation management can also include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and herbicides.

Pollutant Control Approach

Control fertilizer and pesticide/herbicide applications, soil erosion, and site debris to prevent contamination of stormwater. Stormwater contaminants include toxic organic compounds, heavy metals, oils, sediment, coliform bacteria, fertilizers and pesticides.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fertilizer
- Pesticides
- Herbicides
- Sediment

Operational BMPs

Pesticides, Herbicides, and Fertilizer (below called "Chemicals")

1. Choose the least toxic pesticide/herbicide available that is capable of reducing the infestation to acceptable levels. The pesticide/herbicide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control method used should be conducted at the life stage when the pest is most vulnerable. Any method used should be site-specific and not used wholesale over a wide area.
2. Apply chemicals according to label directions. Under no conditions shall chemicals be applied in quantities that exceed manufacturer's instructions.
3. Mix chemicals and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
4. Store chemicals in enclosed areas or in covered impervious containment. Ensure that contaminated stormwater or spills/leaks of the chemicals are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch.
5. Clean up any spilled chemicals and ensure that the contaminated waste materials are kept in designated covered and contained areas.
6. The chemical application equipment must be capable of immediate shutoff in the event of an emergency.
7. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

8. Do not spray chemicals within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by Ecology or the City of Wenatchee. All sensitive areas including wells, creeks and wetlands must be flagged prior to spraying.
9. Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.
10. Rinse water from equipment cleaning and/or triple-rinsing of chemical containers should be used as product or recycled into product.

Pesticides

1. Develop and implement an Integrated Pest Management (IPM) plan and use pesticides only as a last resort.
2. Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures.
3. Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.

Turf Management

1. Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants.
2. Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
3. Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
4. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
5. Irrigate less often, but for longer frequency to develop a strong root system within the grass.
6. Turf grass is most responsive to nitrogen fertilization, followed by potassium and phosphorus.
7. Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
8. Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.

9. Time the fertilizer application to periods of maximum plant uptake. Generally fall and spring applications are recommended, although WSU turf specialists recommend four fertilizer applications per year.
10. Properly trained persons should apply all fertilizers. Fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the City of Wenatchee.

City of Wenatchee
Spill Response Plan

EMERGENCY

In the event of a hazardous material or waste release, fire, or emergency that is a danger to personnel health and safety immediately call:

911

NON-EMERGENCY

In the event of a non-emergency spill or release to water, soil, or air call:

National Response Center: **1-800-424-8802**
AND
Washington State Emergency Management Division: **1-800-258-5990 OR 1-800-OILS-911**
AND
Washington State Department of Ecology Eastern Region: **1-509-329-3400**

Be prepared to provide the following information (see Spill Reporting Form):

- Where is the spill?
- What spilled?
- How much spilled?
- How concentrated is the spilled material?
- Who spilled the material?
- Is anyone cleaning up the spill?
- Are there resource damages (e.g. dead fish or oiled birds)?
- Who is reporting the spill?
- How can you be reached?

Required Spill Control and Reporting BMPs:

- Stop, contain, and clean up all spills immediately upon discovery. Do not flush absorbent materials or other spill cleanup materials to a storm drain or to surface water. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
- If any spill has reached, or may reach, a sanitary or a storm sewer, groundwater, or surface water, notify Ecology and the local sewer authority immediately (not to exceed one hour). Take reasonable steps to minimize any adverse impacts to waters of the state and to correct the problem. Follow up with written documentation covering the event within thirty (30) days unless otherwise directed by Ecology.
- Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill, and readily accessible to personnel responsible for spill response.
- Oil includes the following: oil, gasoline, or diesel fuel that causes a violation of the state of Washington's Water Quality Standards, or, that causes a film or sheen upon or discoloration of the waters of the state or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- In the event of a spill or release to water, soil, or air utilize the Spill Reporting Form to document information.

Spill Reporting Form

In the event of a spill or release to water, soil, or air collect the following information:

Section 1: Reporting Party	**Section 2: Responsible Party**
Name:	Name:
Phone Number:	Phone Number:
Organization:	Organization:

Section 3: Incident Information			
Incident Description:			
Incident Date:	Time of Discovery:	Cause:	
Address:	City:	State:	County:
Material Involved:	Amount Released:		
Water Body Affected:	Sheen Length:		
Sheen Width:	Sheen Color: (rainbow, silver, grey, etc.)		
Odor Description:	Weather Conditions:		

Section 4: Other
Actions Taken:

Appendix E
Stormwater Pollution Prevention Plan
South Storage Yard

Material and Equipment Storage Areas
Stormwater Pollution Prevention Plan

Prepared for:
Wenatchee Valley Stormwater Technical Advisory Committee

Template Development Funded by:
Washington State Department of Ecology

Prepared by:
Otak, Inc.
6 South 2nd Street, Suite 605
Yakima, WA 98901
Otak Project No. 31703

September 10, 2010

Acronyms, Abbreviations, and List of Definitions

Acronyms and Abbreviations

BMPs	Best Management Practices
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
ISGP	Industrial Stormwater General Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
Phase II Permit	NPDES Phase II Municipal Stormwater Permit
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

List of Definitions

The majority of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Stormwater Management Manual for Eastern Washington, Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) website glossary, and the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.

Best Management Practices (BMPs) are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinances.

Discoloration is a means by which to characterize stormwater. Typically, stormwater is yellowish in color. Discoloration however, other than turbidity, can indicate whether there is rust from iron pipes or iron bacteria, as seen by a yellowish/red color or if paint or cleaning agent emulsions have entered the stormwater system, as indicated by a white cloudy color.

Erosion and Sediment Control BMPs mean BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and

matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Floatables is a means by which to characterize stormwater. A floatable is used as an indicator if very obvious trash or other controllable debris, such as landscaping material, leaf litter, etc. has entered into the storm system.

Foam is a means by which to characterize stormwater. Foam is used as an indicator that potentially soap or other cleaning products have entered into the storm system. However, stormwater can often be slightly foamy from pollen and other natural organic material. The way to tell the difference is by touch and smell. If the foam is persistent and accompanied by a fragrant odor, it is most probably coming from a cleaning product. If the suds break up quickly, then it is most likely from turbulence and/or natural conditions.

Hazardous Substance is: 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive or chemically reactive. 2) Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hyper chlorinated means water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.

Illegal Dumping means any intentional and non-permitted disposal of any substance other than stormwater into the municipal separate storm sewer system, unless otherwise called out as an allowed non-stormwater discharge.

Illicit Connection means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets or outlets that are connected directly to the municipal separate storm sewer system.

Illicit Discharge means any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Industrial Stormwater General Permit (ISGP) means the NPDES Industrial Stormwater General Permit, issued by Ecology for stormwater discharges associated with industrial activities (Issued 2002, modified 2004, effective January 2005).

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Municipal Separate Storm Sewer System (MS4) means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2) Designed or used for collecting or conveying stormwater;
3) Which is not a combined sewer; and
4) Which is not part of a Publicly Owned Treatment Works, as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Non-Stormwater Discharges are discharges of process wastewaters, vehicle wash waters, cooling waters, or any other wastewaters associated with the facility into the stormwater collection system. Other discharges must be addressed in a separate NPDES permit. See also **Illicit Discharges**. Certain non-stormwater discharges are conditionally approved under the ISGP but are subject to specific provisions, including identifying the location, flow volumes, quality, potential for water quality issues and ability to apply appropriate BMPs. Examples of conditionally approved non-stormwater discharges under an ISGP include:

- Discharges from firefighting activities.
- Fire protection system flushing, testing, and maintenance.

- Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge.
- Uncontaminated air conditioning or compressor condensate.
- Irrigation drainage.
- Uncontaminated ground water or spring water.
- Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 of S6 of the Eastern Washington Phase II Municipal Stormwater Permit and any additional actions necessary to meet the requirements of applicable TMDLs.

Structural source control BMPs are physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. Structural source control BMPs typically include:

- Enclosing and/or covering the pollutant source (building or other enclosure, a roof over storage and working areas, temporary tarp, etc.).
- Segregating the pollutant source to prevent run-on of stormwater, and to direct only contaminated stormwater to appropriate treatment BMPs.

Treatment BMPs are intended to remove pollutants from stormwater. A few examples of treatment BMPs are Wetponds, oil/water separators, biofiltration swales, and constructed wetlands.

Turbidity is a means by which to characterize stormwater. The dispersion or scattering of light in a liquid, caused by suspended solids and other factors; commonly used as a measure of suspended solids in a liquid.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington state and "waters of the state" as defined in Chapter 90.48 RCW, which include lakes, rivers,

ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Contacts

Pollution Prevention Team

The Pollution Prevention Team is responsible for ensuring that the recommended BMPs are implemented to control stormwater pollution at the site. Team members are responsible for inspections, operation and maintenance, operational source controls, employee training, emergency and spill response, and other activities necessary to implement the Stormwater Pollution Prevention Plan (SWPPP).

The Pollution Prevention Team for the City of Wenatchee South Storage Yard consists of the following staff members:

Name	Job Title	Contact Number
Matt Leonard	**Public Works Director**	**888-3214**
Vacant	**Public Works Operations Manager**	**888-3205**
Don Bitterman	**Fleets & Facilities Supervisor**	**888-3215**
Jessica Shaw	**Environmental Manager**	**888-3225**

Section 1—Introduction

The City of Wenatchee is currently subject to the requirements of the National Pollution Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. The NPDES Phase II Permit was issued by the Washington State Department of Ecology (Ecology) on January 17, 2007, and became effective on February 16, 2007. A revised permit was issued on June 17, 2009. An extension was issued on August 1, 2012, and became effective on August 1, 2014, and expires on July 31, 2019.

The City of Wenatchee is required to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) to protect water quality at municipally owned and operated facilities, including material storage areas, heavy equipment storage areas, and maintenance areas, that are not currently covered under another NPDES stormwater permit (e.g., the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities).

This document presents the SWPPP developed for the following facilities:

- South Storage Yard

1.1 SWPPP Objective

The objective of this SWPPP is to implement measures to prevent and control the contamination of discharges of stormwater to surface or ground waters.

1.2 Record Keeping

All records related to this SWPPP shall be maintained for at least five years. All records related to this SWPPP shall be kept with the SWPPP, preferably in the same binder.

1.3 SWPPP Availability

All records related to this SWPPP shall be made available to the public at reasonable times during business hours. Members of the public who request SWPPP records in person shall be allowed to view documents on-site. SWPPP records shall not be removed from the site. Copies of SWPPP records may be obtained by sending a written request to the City Clerk.

All records related to the SWPPP shall be made available to Ecology upon request.

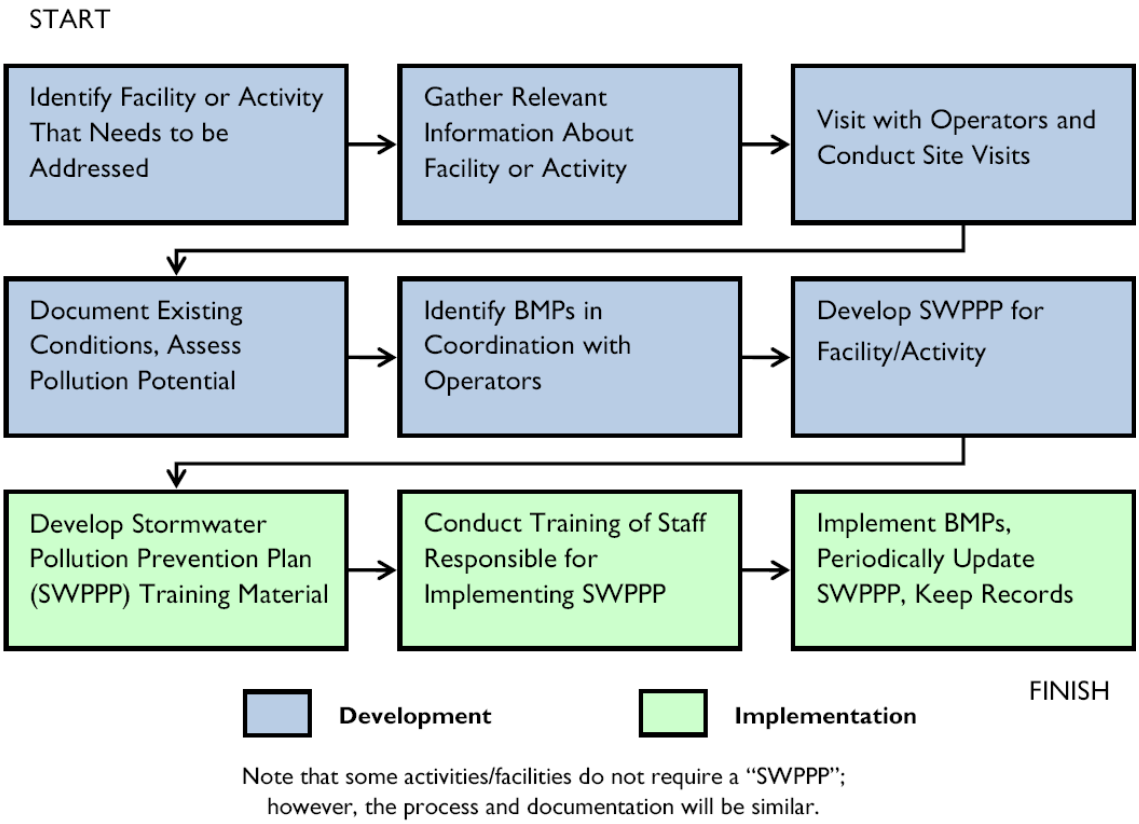
1.4 SWPPP Development and Implementation Process

This SWPPP was prepared based on a SWPPP Template developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a grant from Ecology.

The methods used to develop this SWPPP included the use of facility assessment questionnaires, site visits, identification of facility specific Best Management Practices (BMPs), and coordination with facility operators. Implementation of the SWPPP will include

employee training and BMP application. The complete process can be best described by the flow chart presented in Figure 1.

Figure 1
Flow Chart of SWPPP Development and Implementation Process



Note that some activities/facilities do not require a "SWPPP"; however, the process and documentation will be similar.

1.5 SWPPP Revisions

The SWPPP will need to be modified under the following conditions:

- Significant changes occur at the Facility which affect current BMPs and could affect stormwater quality;
- The City of Wenatchee purchases or develops a new property to be used for municipal storage activities;
- The City of Wenatchee changes site use (adds or ceases a major activity) at an existing municipal storage site; and/or
- On an annual basis to reflect any administrative changes, including Pollution Prevention team members.

Section 2—Site Assessment & Best Management Practices

2.1 Facility Description

The City of Wenatchee South Storage Yard is located at 1885 South Wenatchee Avenue. The site is approximately 3 acres of mostly gravel surface with minimal vegetation around the administration building. Site facilities consist of 2 permanent buildings; a garage for parts and vehicle storage and an office building. The site is mainly used for the storage of equipment, parts, raw materials, and seasonal vehicles. A site map for the facility is shown in Appendix A.

A facility assessment was conducted to identify pollutant sources, evaluate current practices, and describe the stormwater collection and conveyance system. Using the information gathered from the Facility Assessment Questionnaire (Appendix B) and Facility Assessment Photolog (Appendix C), a BMP implementation plan was developed for each category assessed.

2.1.1 History of Spills and Leaks

There is no recorded history of any major spills or leaks at this facility.

2.1.2 Production and Application Activities

No production or application activities occur at this site.

2.2 Best Management Practices

BMPs are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to receiving waters.

There are three general classes of BMPs: Operational Source Control BMPs, Structural Source Control BMPs, and Treatment BMPs. Operational BMPs are those than involve specific activities or one-time actions on the part of the facility staff. If Operational BMPs do not adequately prevent the potential contamination of stormwater, Structural BMPs, such as constructing new covered shelters to prevent stormwater from coming into contact with potential pollutants, may be a reasonable solution. Treatment BMPs are only used as a last resort to remove containments from stormwater before discharging to a stormwater conveyance system or to surface or ground waters.

2.2.1 General Operational BMPs

General Operational BMPs are good housekeeping activities that should be applied to day-to-day activities at the facility to prevent contaminants from entering stormwater at their source. The purpose of good housekeeping is to keep the Facility area clean and free of debris, storage materials under cover, and handling materials and waste products in a way that minimizes the risk to stormwater. The good housekeeping BMPs are:

- Keep open areas clean and orderly;

- Pick-up litter;
- Promptly contain and clean up solid and liquid pollutant leaks and spills;
- Sweep paved material handling and storage areas regularly;
- Inspect all BMPs regularly, particularly after a significant storm;
- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids;
- Promptly remove debris and old equipment;
- Store hazardous materials as specified by the manufacturer; and
- Conduct regular employee training to reinforce proper housekeeping actions.

See Appendix D for additional preventative maintenance BMPs. The BMP descriptions in Appendix D were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.2.2 Site Assessment and Specific BMPs

A wide variety of activities and areas of concern throughout the facility may potentially contaminate stormwater. Tables 1 through 8 provide a brief description of those activities and areas of concern along with specific Operational and/or Structural BMPs to reduce pollution potential.

Additional example pollutant source-specific BMPs are included in Appendix E. BMP descriptions were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.4 Employee Training and Education

A formal training seminar will be provided for all municipal field staff upon completion of the SWPPP. The City of Wenatchee will develop and provide education materials oriented toward prevention of stormwater pollution and implementation of the SWPPP. The goal of the training is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. All maintenance facility personnel are recommended to participate in this initial implementation training seminar to improve their understanding of stormwater impacts and ways to prevent stormwater pollution. Additional training should be provided as an annual refresher course, or as new employees are hired.

Table 1 Building and Ground Maintenance BMPs	
Issue:	Stormwater can be contaminated from dusts deposited on surfaces or from building maintenance activities.
Facility Assessment:	There are two permanent buildings and 2 to 3 vehicles stored here.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Conduct regular on-site visits to check for leaking or damaged vehicles. • Sweep paved areas as needed.
Improvements:	None.

Table 2 Loading and Unloading of Materials BMPs	
Issue:	Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.
Facility Assessment:	Liquids are not transferred at this site.
	Solids are transferred indoors and outdoors. Types of solids transferred: • Equipment • Parts • Pipe • Bulk material • Asphalt and concrete debris
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Spills and leaks are promptly reported to the Public Works Superintendent. • Train employees in spill containment and clean-up.
Improvements:	• Maintain a spill kit on site.

Table 3 Outdoor Storage of Raw Materials BMPs	
Issue:	Materials stored outdoors, and in some cases indoors, have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from storage containers or equipment containing liquids, and dissolution of soluble materials.
Facility Assessment:	No liquids are stored on site.
	Types of solid materials stored include: • Aggregates • Asphalt & concrete debris • Bark • Scrap metal • Irrigation supplies • Parts and pipe
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Whenever possible store material stockpiles under a permanent cover or use plastic sheeting. • Use indoor storage areas when available. • Store materials in designated areas with containment (concrete blocks and berms).
Improvements:	None.

Table 4 Storage of Liquids, Solid Waste, and Hazardous Materials BMPs	
Issue:	Waste management activities have the potential to contaminate stormwater through improper storage of solid and liquid wastes, and spills, leaks, or drips from containers.
Facility Assessment:	One metal recycling bin is stored in roughly the middle of the yard. No hazardous materials or liquid waste is stored at this site.
Problem(s) Observed:	None.
Current BMPs:	• Store materials in designated areas with containment (concrete blocks and berms). • Keeping driving areas clear and free of debris.
Improvements:	None.

Table 5 Vehicle and Equipment Maintenance & Repair BMPs	
Issue:	If not conducted properly, vehicle maintenance including washing, oil changes, and repair can contaminate stormwater.
Facility Assessment:	No vehicle washing or maintenance is conducted at this site.
Problem(s) Observed:	None.
Current BMPs:	• No vehicle washing is allowed at the South Yard. • All vehicle and equipment maintenance activities should be conducted at the Public Services Center.
Improvements:	None.

Table 7 Vehicle and Equipment Parking and Storage BMPs	
Issue:	Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other wearable products (tires, brake pads, etc.) that can contaminate stormwater.
Facility Assessment:	Storage and parking of large vehicles and equipment occurs in the garage or the asphalt area north of the office building.
	Type and number of vehicles and equipment that are stored or parked on-site include: • Seasonal equipment & vehicles: water truck, snow blowers, etc… • Frontend Loader
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Sweep paved areas regularly. • Use drip pans or containers under vehicles and equipment that drip or are likely to drip. • Spills and leaks are promptly addressed and reported to the Public Works Superintendent. • Remove liquids from vehicles that are retired for scrap.
Improvements:	• Maintain a spill kit on site

Table 8 Vegetation Management BMPs	
Issue:	Fertilizer and pesticides contain nutrients and chemicals that can contaminate stormwater.
Facility Assessment:	The facility has a small landscaped area outside the office building.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Minimize use of chemical fertilizers. • Inspect irrigation systems regularly. • Maintain a vegetative cover. • Dispose of waste vegetation in designated areas. • Use pesticides only if there is a pest problem. • Chemical spills should be promptly addressed and reported to the Public Works Superintendent.
Improvements:	None.

Section 3—Illicit Non-Stormwater Discharges

The City of Wenatchee is required to develop, implement, and enforce a program to detect and eliminate non-stormwater illicit discharges into the municipal separate storm sewer system (MS4), including spills, illicit connections, and illegal dumping.

3.1 Illicit Connections

An illicit connection is any man-made conveyance of non-stormwater discharges that is connected to an MS4 without a permit. Examples include sanitary sewer connections, floor drains, and process waters that are connected directly or indirectly to the MS4. Exemptions include connections from foundation and footing drains, air conditioning condensation, uncontaminated groundwater, and other similar type connections. A complete list of the prohibited and exempt non-stormwater discharges can be found in the City of Wenatchee's Illicit Discharge Detection and Elimination code (Wenatchee City Code 4.10).

If an illicit connection is detected on-site, the Pollution Prevention Team shall take appropriate steps to terminate or redirect the connection to an appropriate discharge location.

3.2 Illicit Discharges

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the Phase II Permit) and discharges resulting from emergency firefighting activities.

If a prohibited discharge is observed, the Pollution Prevention Team shall take immediate action to terminate the discharge. Depending on the nature of the illicit discharge, it may be necessary to report it as a spill; a three-page summary of basic spill response procedures is included in Appendix F.

3.3 Illegal Dumping

Illegal dumping consists of spilling, dumping, releasing, throwing, depositing or placing solid waste, litter, pet waste, yard waste, or hazardous materials where there is the potential for those materials or pollutants to end up in the MS4.

If illegal dumping is observed, the Pollution Prevention Team shall take immediate action to identify the responsible party and ensure cleanup of the dumped material.

Appendix A—Site Map

Appendix B—Facility Assessment Questionnaire

Municipal Facility Assessment Questionnaire

1 Facility Description

This section identifies and describes the location of the municipal facility, contact information for key facility staff, and general site information. Please attach any maps or sketches of the facility, if available.

Facility Name: **Public Services Center**

Facility Location: **1885 South Wenatchee Ave**

Facility Description: **Storage yard for Public Works.**

Mailing Address: **P.O. Box 519, Wenatchee, WA 98807-0519**

Contact Name: **Matt Leonard, Public Works Director**

Contact Phone: **(509) 888-3214**

SIC Code (If Applicable):

Main Site Activities: **Seasonal vehicle, equipment and material storage**

Area of Facility (in acres): **3.0 acres**

Surface Types:

(Check all that apply and fill in approximate area)

☒ Permanent Buildings: 2 buildings
25,600 square feet

☐ Temporary Buildings: _____ number of buildings
_____ square feet

☒ Pavement: 0.25 acres

☒ Gravel and dirt: 2.17 acres

☐ Bare Ground: _____ acres

☒ Vegetation: Minimal around the office building.

2 Potential Pollutant Sources

This section identifies and describes the activities conducted on site that have the potential to contaminate stormwater. Please complete the following sections.

2.1 Waste Management

Waste management activities have the potential to contaminate stormwater through improper storage of wastes, spills, leaks, or drips from containers.

☐ No waste management activities are performed on site.

☒ Wastes are managed as follows: as needed

- ☐ Dumpster, located: _____
- ☐ Trash compactor, located: _____
- ☒ Recycling Containers, located: 1 metal recycling bin located in the middle of the storage yard northeast of the office building. As needed
- ☐ Used Oil Container, located: _____
- ☐ Other, describe: _____

2.2 Cleaning and Washing

If not conducted properly, cleaning and washing of vehicles, heavy and light equipment, buildings, tools, or paved surfaces, can contaminate stormwater by washing contaminants such as oil and grease, soap, or dirt into the storm sewer or onto areas exposed to rain.

☒ No cleaning or washing activities are performed on site.

☐ Cleaning and washing is performed as follows:

Location of cleaning or washing activity: _____

Cleaning or washing area / structure:

- ☐ Self-Contained Building
- ☐ Covered Pad (Main car wash bay and boot wash area)
- ☐ Designated Open Area (Contained pad at the east end of Bldg. 5 for mower washing)
- ☐ Other: _____

Surface of cleaning or washing area:

- ☐ Asphalt
- ☐ Concrete

☐ Compacted Gravel

☐ Soil

Type(s) of materials cleaned or washed:

☐ Vehicles, describe:

☐ Equipment, describe:

☐ Buildings

☐ Paved areas

☐ Other:

Chemical(s) used in washing:

☐ Soaps or detergents:

☐ Abrasives: _____

☐ Acids: _____

☐ Solvents: _____

☐ Other: _____

Drainage characteristics of wash area(s):

_____

_____

Discharge location for wash water:

☐ Storm Sewer; Treated?

☐ No

☐ Yes, please describe: _____

☐ Sanitary Sewer (Car wash bay)

☐ Other: _____

2.3 Transfer of Liquids or Solids

Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.

☐ No transfer of liquids or solids is performed on site.

☐ Transfer of liquids is performed as follows:

Location(s) where transfer occurs:

☐ Direct connection to aboveground storage tank with secondary containment

☐ Direct connection to underground storage tank

- ☐ Railroad yard
- ☐ Loading dock
- ☐ Permanent fueling station
- ☐ Open area
- ☐ Indoors
- ☐ Other: _____

Transfer Area Structure(s):

- ☐ Self-Contained Building
- ☐ Covered Pad
- ☐ Designated Open Area
- ☐ Other: _____

Surface of Transfer Area:

- ☐ Asphalt
- ☐ Concrete
- ☐ Compacted Gravel
- ☐ Soil

Type(s) of liquids transferred:

- ☐ Fuels, oils, or greases:_____
- ☐ Paints: _____
- ☐ Acids: _____
- ☐ Pesticides, Herbicides, Fertilizers: _____
- ☐ Cleaning products: _____
- ☐ Other: _____

Type of transfer:

- ☐ Bulk liquid
- ☐ Mobile fueling
- ☐ Liquid filled container:
  - ☐ Small Containers
  - ☐ Drums
  - ☐ Totes

☐ Bunker

☐ Other: _____

☒ Transfer of solids is performed as follows:

Location(s) where transfer occurs:

☐ Railroad yard

☐ Loading dock

☒ Open area

☒ Indoors

☐ Other: _____

Transfer Area Structure:

☒ Self-Contained Building (some equipment such as snow blowers and landscape supplies)

☐ Covered Pad

☒ Designated Open Area (bulk material and parts)

☐ Other: _____

Surface of Transfer Area:

☐ Asphalt

☒ Concrete

☒ Compacted Gravel

☐ Soil

Type(s) of solids transferred:

☐ Shipping Containers: _____

☒ Equipment: Police Cars and Frontend Loader_____

☐ Packaged goods: _____

☒ Bulk materials (aggregate, debris, etc.): waste asphalt and concrete, sand, ice melt, rock, salt and bark Drain Rock

☒ Other: Water utility parts including hydrants, pipe and chamber lids

Equipment involved in transfer:

☐ Top pick

☐ Forklift

☒ Crane (mobile on truck)

☒ Dump truck (end, side, bottom, etc.): With loader

☐ Other: _____

2.4 History of Spills and Leaks

If there is a history of any spills or leaks on site that discharged to storm sewer system, surface waters, or groundwater please describe: There is no history of spills or leaks at this time.

2.5 Production and Application Activities

Production or application activities have the potential to contaminate stormwater from debris left behind during production, spills, leaks, or drips from products or equipment used during production, or leaching or erosion from materials involved. Application activities involve the application of product to an object such as painting, coating, spraying, or other treatment.

☒ No production or application activities are performed on site.

☐ Production and/or application activities are performed as follows:

Location(s) of production and/or application activities: _____

_____

Description of production and/or application activities: _____

_____

Drainage characteristics of work area; are there any pretreatment BMPs? _____

_____

_____

_____

_____

2.6 Storage and Stockpiling

Vehicle and Equipment Storage and Parking

Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other parts (tires, brake pads, etc.) that can contaminate stormwater. If vehicles or heavy equipment are stored or parked outdoors on site, please complete the following:

☐ No vehicle or equipment storage or parking is performed on site.

☒ Vehicle and/or equipment storage and/or parking application is performed as follows:

Type and Number of vehicles and equipment that are stored or parked on site:

☐ Passenger vehicles: _____

☐ Utility trucks: _____

☐ Dump truck: _____

☐ Tractor trailer: _____

☐ Top pick: _____

☐ Crane: _____

☐ Forklift: _____

☒ Earthmoving equipment: _____

☒ Other: Frontend Loader, Seasonal Vehicles: water truck _____

Location of storage or parking area: Vehicles are parked in the open area north of the office building and in the garage.

Storage or parking area structure:

☒ Covered

☒ Designated Open Area

☐ Other: _____

Surface of storage or parking area:

☐ Asphalt

☒ Concrete

☒ Compacted Gravel

☐ Soil

List potential stormwater contaminants used in the operation or maintenance of heavy equipment on site:

☒ Petroleum products (fuel, oils, greases) – source of oil & grease and metals

☐ Acids – source of low pH

☐ Batteries – source of low pH, and heavy metals (lead, nickel, cadmium, etc.)

☒ Antifreeze

☐ Solvents

☐ Soaps or detergents – source of phosphorus

☐ Other: _____

Drainage characteristics of Vehicle and Equipment Storage and Parking: Stormwater from the open areas infiltrates on site.

Material Storage

Municipal Facility Assessment Questionnaire

Continued

Materials stored outside have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from liquids or equipment containing liquids, and dissolution of soluble materials. If materials are stored outside on site, please complete the following section:

☐ No material storage is performed on site.

☒ Material storage is performed as follows:

Location(s) of where materials are stored: _____

Storage area structure:

☒ Covered

☒ Designated Open Area

☐ Other: _____

Surface of Storage Area:

☐ Asphalt

☒ Concrete

☒ Compacted Gravel

☐ Soil

Type(s) of Liquids Stored: None.

☐ Fuels, oils, or greases

☐ Paints

☐ Acids

☐ Pesticides, Herbicides, Fertilizers

☐ Cleaning products

☐ Other:

_____

Liquids are stored in:

☐ Small Containers

☐ Drums

☐ Totes

☐ Aboveground Tanks (De-icer)

☐ Other, describe: _____

Type(s) of Solid Materials Stored:

☒ Aggregates (sand, gravel, rock, broken concrete, broken asphalt, etc.)

☐ Soil and compost

☒ Wood Products (untreated lumber, logs, wood chips, wood waste, etc.)

☒ Scrap metals

☐ Building Materials (masonry products, metal framing, rebar, etc.)

☐ Treated lumber

☒ Other: water utility parts, ice melt and salt

Type(s) of Equipment Stored:

☐ Equipment with galvanized metal components

☒ Equipment with fluid filled reservoirs

☒ Equipment with greased joints or other moving parts

☐ Other: _____

Drainage characteristics of material storage area: Stormwater infiltrates on-site.

2.7 Vehicle and Equipment Maintenance and Repair

☒ No vehicle or equipment maintenance is performed on site.

☐ Vehicle and/or equipment maintenance is performed on site as follows:

Describe the location(s) and activities performed: _____

_____

2.8 Dust Control and Soil and Sediment Control

Stormwater can be contaminated from dusts deposited on surfaces exposed to rain, or from erosion of exposed soils.

☐ No dust generating activities are performed on site and no exposed soils are present.

☐ Exposed soils are present on site as follows:

Location of exposed soils: _____

Slope: _____

Reason soils remain exposed: _____

☒ Dust generating activities are performed on site as follows:

Location of dust-generating activity: Area around the storage garage is bare.

Type(s) of dust-generating activity:

☐ Storage of materials (aggregate, sawdust, ash, etc.), describe: _____

☐ Manufacturing process, describe: _____

☒ Vehicle traffic

☐ Soil disturbance/grading

☐ Other: _____

Describe any erosion and sediment control or dust control methods used: _____

2.9 Landscape Management

Landscape maintenance (including control of weeds) has the potential to introduce chemical pollutants, sediment, and nutrients into stormwater. If landscape management practices occur on site please complete the following section.

Pesticide, Herbicide, and Fertilizer Application

Check one:

☐ There are no vegetated areas on site. No pesticides, herbicides or fertilizers are used.

☐ Vegetated areas are present on site. However, no pesticides, herbicides or synthetic fertilizers are used on site.

☒ Vegetated areas are present on site. Pesticides, herbicides or fertilizers are used.

Please note any existing training or BMPs related to pesticide, herbicide, and fertilizer application:

Refer to the BMPs in Section 7 of the City of Wenatchee Stormwater Operations & Maintenance Plan.

Mowing / Trimming / Planting

If vegetated areas exist on site please describe their maintenance and waste disposal procedures: The landscaping is around the office building. The maintenance is conducted by the Parks Maintenance Department as set forth in Section 7 of the Stormwater Operations & Maintenance Plan.

2.10 Non-Stormwater Discharges

Please describe any discharge(s) leaving the site and entering any storm drain, surface water, or dry well which is not made up entirely of stormwater: There are no non-stormwater discharges that leave the site. All stormwater and previously noted non-stormwater discharges are infiltrated on-site

2.11 Other Pollution-Generating Activities

This questionnaire does not capture all potential sources of stormwater pollution. Evaluate your site for any additional pollution generating activities not listed above and describe here.

☒ No other pollution-generating activities are performed on site.

☐ Other pollution-generating activities are performed on site as follows: _____

_____

_____

_____

_____

3 Stormwater Drainage System

Please attach any maps or sketches of the facility's stormwater drainage system, if available.

The stormwater drainage system consists of the following components: *Check all that apply*

- ☐ Catch basins
- ☐ Floor drains
- ☐ Deck drains
- ☒ Roof drains
- ☐ Trench drains
- ☐ Culverts
- ☐ Subsurface Pipes
- ☐ Ditches
- ☐ Dry Wells
- ☐ Pump station
- ☐ General Site Stormwater Treatment:
  - ☐ Oil/water separator
  - ☐ Catch basin inserts
  - ☐ Bioswale
  - ☐ Pond
  - ☐ Filtration System
  - ☐ Other: _____

Stormwater from the site discharges to: (*Check all that apply*)

☐ <WATERBODY>

☐ <WATERBODY>

☐ <WATERBODY>

☐ <CITY> Sewer

☐ City Storm Sewer (overflow from on-site system only)

☐ Sanitary Sewer

☒ Ground

☐ Drywells / Infiltration Trenches

Appendix C—Facility Assessment Photolog

Facility Assessment Site Visit Form

Date: 01/10/2016 Facility: South Storage Yard
Assessment Team: Don Bitterman and Bob Ritter
For additional information on the site please refer to Appendix B Facility Assessment Questionnaire.

Materials Storage

Asphalt and concrete debris storage – NE corner

Material storage – West side of the storage yard

Material storage – Middle of the storage yard

Vehicle and Equipment Parking and Storage

Garage located in the North East corner of the South Yard

Appendix D—General Operational Source Control BMPs

General Pollution Prevention BMPs

Operational Source Control BMPs

Pollutant Control Approach

Operational Best Management Practices (BMPs) can be commonly applied to day-to-day activities at municipal storage facilities. These General Operational Source Control BMPs focus on retaining stormwater onsite, segregating pollutants from runoff, and preventing the discharge of pollutants to the stormwater collection and conveyance system.

Scheduling and Planning BMPs

1. Plan and schedule all maintenance activities in a manner that considers the use of BMPs. Recognize how the activity will affect stormwater so that the proper BMPs can be placed or utilized at the proper time. Some maintenance activities shall not be performed during rain events or when storms are predicted unless required by emergency conditions.
2. Be aware of where the flow of a leak, spill, or other runoff would go.
3. Set-up the work area to minimize the tracking of material by vehicles and equipment in or out of the work area.

Good Housekeeping BMPs

1. Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust from operations and maintenance conducted on any exposed soil, vegetation, or paved area.
2. Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
3. Properly reuse, recycle, or dispose of cleaned empty containers, excess materials, and equipment or parts.
4. Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations, and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.
5. Clean oils, debris, sludge, etc. from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater.
6. Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subjected to pollutant material leaks or spills.
7. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc. that can contaminate stormwater.

General Operational Source Control BMPs

Continued

Preventative Maintenance BMPs

1. Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.
2. Prevent the discharge of unpermitted liquid or solid wastes, vehicle and equipment wash-water, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.
3. Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.
4. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local jurisdiction, or to other approved treatment.
5. Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
6. Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
7. Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
8. Drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.
9. For the storage of liquids; use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.
10. For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums and comparable containers, that are durable, corrosion resistant, nonabsorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container should be stored under a lean-to or equivalent structure.
11. Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.
12. Where feasible, store potential stormwater pollutant materials inside a building or under a cover, and/or containment.
13. Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
14. Use environmentally safer raw materials, products, additives, etc.
15. Empty drip pans immediately after a spills or leaks are collected in an uncovered area.
16. Stencil warning signs at stormwater catch basins and drains, e.g., “Dump no waste.”

Appendix E—Example Pollutant Source-Specific BMPs

Pollutant Source Specific BMPs

1. Building and Ground Maintenance

Typical Activities	**Environmental Concerns**
Care of landscaped areas around each facility, cleaning of parking areas and pavements, dust control, and maintenance of the stormwater drainage system.	Discharge of the following materials into the stormwater drainage system or watercourse: • Sediment • Sewage • Litter • Trash • Non-Stormwater liquids • Herbicides • Vehicle Fuel and Fluids
Pollutant Control Approach	
Pollutants such as herbicides, eroded soil, and site debris can contaminate stormwater. Employ Operational Source Control Best Management Practices (Operational BMPs) to minimize the contact of stormwater and these pollutants.	

Operational BMPs

1. Dispose of sweepings and cleaning wastes as solid waste.
2. Inspect and clean stormwater conveyance systems as needed.
3. Properly dispose of wash-water generated by building maintenance activities. Dispose of wash-water to the sanitary sewer system.
4. Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary. Sprinkle or wet down soil or dust with water as long as it does not result in a wastewater discharge.
5. Limit the exposure of erodible soil, stabilize or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with suspended solids caused by eroded soil.

Structural BMPs

1. Stencil drywell and catch basin grates with, “Dump No Waste - Drains to Stream/Groundwater".

Pollutant Source Specific BMPs

2. Floor Drains

Typical Activities

Floor drains are found in maintenance shops. Any spills, leaks, or drips of oil, antifreeze, paint, etc. that end up on the shop floor have the potential to end up in the floor drain.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Vehicle/Equipment Fluids
- Paint Products
- Metals

Pollutant Control Approach

Identify and locate the final outfall for the floor drain system. If the floor drains are found to be connected to a drywell or other stormwater conveyance system, or if you are unsure where the floor drains outfall to, do not hose down shop floor with water.

Operational BMPs

1. Sweeping should be used in place of water to clean the shop floor.
2. Clean up any hazardous material spills immediately.
3. Consider plugging each floor drain to eliminate potential pollutants from entering.

Structural BMPs

1. If a floor drain is found to be connected to a drywell or other stormwater conveyance system, it must be disconnected and routed to the sanitary sewer (if allowed by the local jurisdiction) or to other appropriate treatment BMPs.

Pollutant Source Specific BMPs

3. Loading and Unloading of Materials

Typical Activities

A variety of products are transferred at maintenance facilities and may cause harm to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from loading/unloading areas to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.

Pollutant Control Approach

Cover and contain the loading/unloading area, where necessary, to prevent run-on of stormwater and runoff of contaminated stormwater; or, transfer materials in an area that slopes away from storm drains and waterways.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Asphalt Products
- Paint
- Epoxy Resins
- Cement
- Herbicides
- Solvents
- Vehicle Fluids
- Fertilizer
- Fuel

Operational BMPs

1. Sweep loading/unloading areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans or other appropriate temporary containment devices at locations where leaks or spills may occur during loading/unloading activities.
3. In the event of a spill or leak, follow the procedures outlined in the facility's Spill Response Plan.
4. Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately if a significant spill occurs and upon completion of the transfer activity for minor spills.
5. Maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of oil spills.
6. Ensure that an employee trained in spill containment and cleanup is present during loading/unloading activities.

Structural BMPs

1. Consistent with Uniform Fire Code requirements and to the extent practicable, conduct unloading or loading of solids and liquids in a building, under a roof or lean-to, or other appropriate cover.
2. Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.

3. Pave and slope loading/unloading areas to prevent the pooling of water.
4. Install an automatic shutoff valve in storm drain system in case of unanticipated off-loading interruption (e.g. coupling break, hose rupture, overfill, etc.)

Pollutant Source Specific BMPs

4. Outdoor Storage of Raw Materials

Typical Activities	**Environmental Concerns**
Maintenance facilities store a variety of raw materials that may adversely impact water quality if they come in contact with ground or surface waters. Raw materials may include asphalt, soil, road deicing salts, compost, unwashed sand and gravel, sawdust, logs, bark, lumber, metal products, etc.	Discharge of the following materials into the stormwater drainage system or watercourse: • Asphalt Products • Sand and aggregates • De-icing Agents
Pollutant Control Approach	
Provide impervious containment with blocks, berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and suspended solids. The preferred method for storage of materials is under a covered structure.	

Operational BMPs

1. Store materials away from stormwater drainage systems or watercourses.
2. Protect storm drain inlets and watercourses from potential spills of raw materials.
3. Sweep paved storage areas regularly for collection and disposal of loose solid materials.
4. Do not hose down the contained stockpile area to a storm drain, a conveyance to a storm drain, or to receiving water.

Structural BMPs

1. Areas should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage "alleyways" where material is not stockpiled.
2. Convey contaminated stormwater from stockpile areas to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system depending on the contamination.
3. Choose one or more of the structural source control BMP options listed below for stockpiles greater than five cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. Also included are outside storage areas for solid materials, such as logs, bark, lumber, metal products, etc.
4. Store in a building or paved and bermed covered area; or
5. Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material; or
6. Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact

between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.; or

7. For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any stormwater conveyance system as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged directly to stormwater conveyance systems without conveying first through a treatment BMP.

Pollutant Source Specific BMPs

5. Storage of Liquids, Solid Materials, and Hazardous Materials

Typical Activities

A variety of products are stored at maintenance facilities and may be harmful to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from hazardous material storage sites to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.

Pollutant Control Approach

Store hazardous materials in a designated area containing chemically compatible materials. Do not store incompatible products in the same storage area without some type of physical barrier separating the containers. For example, do not store strong oxidizers with organics, or flammable/combustible materials. Where feasible, store hazardous materials in a covered area that does not drain to the stormwater drainage system or watercourse. Ensure container covers or caps are secure.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Asphalt Products
- Paint
- Epoxy Resins
- Cement
- Herbicides
- Solvents
- Fertilizer
- Vehicle Fluids
- Fuel

Operational BMPs

1. Sweep storage areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur.
3. In the event of a spill or leak, follow the procedures outlined the facility's Spill Response Plan.
4. Place tight fitting lids on all containers.
5. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
6. Label all cabinets, storage sheds, etc. containing hazardous chemicals with proper Hazardous Material signage.

7. Do not remove original product label from paint or hazardous materials containers as it contains important spill cleanup and disposal information. Use the entire product before properly disposing of the container. Appropriately label all secondary containers.
8. Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers as needed.
9. Cover dumpsters, or keep them under a cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
10. Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

Structural BMPs

1. Keep containers with dangerous waste or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
2. Store containers in a designated impervious area that is covered, bermed, diked, or paved, in order to contain leaks and spills. Any secondary containment structures shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
3. For liquid wastes such as used oil, surround the containers with a secondary containment structure. The secondary containment structure must be of sufficient height to provide a volume of either: 10 percent of the total volume of all containers or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.
4. Place containers mounted for direct removal of a liquid chemical for use by employees inside a secondary containment structure as described above. Use a drip pan during liquid transfer.
5. For contaminated stormwater in the secondary containment structure, connect the sump outlet to a sanitary sewer, if approved by the local jurisdiction, or to appropriate treatment, such as an American Petroleum Institute (API) or Coalescing Plate (CP) oil/water separator, catch basin filter or other appropriate system. Equip the sump outlet with a valve to prevent the release of spilled or leaked liquids, especially flammables (compliance with Fire Codes), and dangerous liquids. This valve may be opened only for the conveyance of contaminated stormwater to treatment.
6. Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tanker truck or other appropriate vehicle for off-site treatment and/or disposal.

Pollutant Source Specific BMPs

6. Vehicle and Equipment Washing

Typical Activities

Vehicles and equipment are typically washed on-site at maintenance facilities. When vehicle and equipment washing is conducted, it is essential that the wash water not be allowed to drain to the stormwater drainage system or watercourses.

Pollutant Control Approach

The preferred approach is to cover and/or contain the vehicle/equipment washing or conduct the washing inside a building or within a designated washing station to contain the wash water and keep it separate from stormwater.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Cleaning Agents
- Non-Stormwater fluids
- Sediment
- Fuel
- Vehicle Fluids
- Metals

Operational BMPs

1. Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
2. Approved safer alternative products should be used where practical and effective, such as phosphate-free biodegradable soaps and detergents.
3. Do not remove the original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
4. Water usage should be minimized.
5. If possible, conduct vehicle/equipment washing off-site at a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer.

Structural BMPs

1. Preferably, conduct vehicle/equipment washing in a building or enclosure constructed specifically for washing of vehicles and equipment, which drains to the sanitary sewer.
2. Alternatively, conduct outside washing operations in a designated wash area and:
3. Operate a closed system with wastewater recycling (like a floor drain discharge to a holding tank); or
    a. Discharge to a municipal sanitary sewer; or
    b. Obtain a groundwater discharge permit.
4. For additional information see the Washington State Department of Ecology document entitled "Vehicle and Equipment Wash water Discharges/Best Management Practices Manual", publication number 95-056.

Pollutant Source Specific BMPs

7. Vehicle and Equipment Fueling

Typical Activities

When vehicle and equipment fueling takes place, there is the potential for fuel to be leaked or spilled at the site. The procedures for vehicle and equipment fueling are designed to minimize contact between stormwater runoff and spilled fuel, oil or other leaked vehicle fluids at equipment fueling areas.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Vehicle Fluids

Pollutant Control Approach

Fueling stations must be constructed on an impervious concrete pad under a roof to keep out rainfall and stormwater run-on. A treatment BMP must be used for contaminated stormwater and wastewaters in the fueling containment area. These procedures should be used at all equipment fueling areas.

Operational BMPs

1. Prepare an emergency spill response plan and have a designated trained person(s) available either on site or on call at all times to promptly and properly implement the plan and immediately cleanup any spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
2. Train employees on the proper use of fuel dispensers. Proper fueling and spill cleanup instructions shall be posted at fueling areas. Post signs in accordance with the Uniform Fire Code (UFC).
3. Make sure that the automatic shutoff valve on the fuel nozzle is functioning properly.
4. A person must be present at the fuel pump during fueling at all times.
5. Hosing down of leaks, drips and spills is prohibited.
6. Maintain clean fuel dispensing areas using dry cleanup methods.

Structural BMPs

1. The fueling pad must be paved with Portland cement concrete, or equivalent. If paved with asphalt, add a protective coating to create an impervious surface, inspect regularly, and street sweep quarterly at a minimum.
2. Stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an approved treatment system such as an oil/water separator and a water quality treatment BMP. Discharges from the treatment

BMP to storm drains, surface water, or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.

3. The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the fueling area. The roof or canopy should, at a minimum, cover the fueling area (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain.
4. The transfer of fuel from the delivery tank truck to the fuel storage tank must be performed in an impervious contained area and appropriate overflow protection must be used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Pollutant Source Specific BMPs

8. Vehicle and Equipment maintenance and Repair

Typical Activities	**Environmental Concerns**
Vehicle and equipment maintenance and repair may include vehicle fluid removal, engine and parts cleaning, body repair and painting.	Discharge of the following materials into the stormwater drainage system or watercourse: • Fuel • Vehicle Fluids • Used Oil Filters • Lead-Acid Batteries • Paint Products • Metal
Pollutant Control Approach	
Reduce the discharge of potential pollutants from areas in which vehicle maintenance and repair activities are conducted by employing controls which minimize contact between stormwater and the activity areas and products used in each activity.	

Operational BMPs

1. Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
2. Maintenance activity areas should be kept clean, well organized and equipped with spill cleanup supplies.
3. Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
4. Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents as hazardous waste.

Structural BMPs

1. Use drip pans or containers under parts or vehicles that drip or are likely to drip.
2. Remove batteries and liquids from vehicles and equipment in designated areas which are designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.
3. Empty oil and fuel filters before disposal.
4. Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids.
5. Transfer removed vehicle and equipment fluids from drip pans or other temporary containers into recycling storage tanks or drums by the end of each shift (daily).
6. Do not mix dissimilar or incompatible waste liquids stored for recycling.
7. Ensure safeguards such as oil shut-off valves are installed and maintained on recovery equipment.

Pollutant Source Specific BMPs

9. Vehicle and Equipment Parking and Storage

Typical Activities

Vehicles and equipment have the potential to leak or drip hazardous fluids. When they are parked or stored outside and are exposed to the elements (not parked under a cover), the fluids can be picked up by stormwater and carried to the storm sewer system.

Pollutant Control Approach

Provide impervious containment with berms, dikes, etc. and/or store under cover to prevent run-on and discharge of hazardous pollutants.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Metal
- Vehicle Fluids
- Lead-Acid Batteries

Operational BMPs

1. Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
2. Use drip pans or containers under vehicles and equipment that drip or are likely to drip.
3. Remove liquids from vehicles that are retired for scrap.

Structural BMPs

1. Consider storing damaged vehicles inside a building or paved and bermed covered containment area until all liquids are removed.
2. Park/store all vehicles and equipment in a designated covered area.

Pollutant Source Specific BMPs

10. Vegetation Management

Typical Activities

This method of landscaping and lawn vegetation management can include grading, soil transfer, vegetation removal, pesticide/herbicide and fertilizer applications, and watering. Lawn and vegetation management can also include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and herbicides.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fertilizer
- Pesticides
- Herbicides
- Sediment

Pollutant Control Approach

Control fertilizer and pesticide/herbicide applications, soil erosion, and site debris to prevent contamination of stormwater. Stormwater contaminants include toxic organic compounds, heavy metals, oils, sediment, coliform bacteria, fertilizers and pesticides.

Operational BMPs

Pesticides, Herbicides, and Fertilizer (below called "Chemicals")

1. Choose the least toxic pesticide/herbicide available that is capable of reducing the infestation to acceptable levels. The pesticide/herbicide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control method used should be conducted at the life stage when the pest is most vulnerable. Any method used should be site-specific and not used wholesale over a wide area.
2. Apply chemicals according to label directions. Under no conditions shall chemicals be applied in quantities that exceed manufacturer's instructions.
3. Mix chemicals and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
4. Store chemicals in enclosed areas or in covered impervious containment. Ensure that contaminated stormwater or spills/leaks of the chemicals are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch.
5. Clean up any spilled chemicals and ensure that the contaminated waste materials are kept in designated covered and contained areas.
6. The chemical application equipment must be capable of immediate shutoff in the event of an emergency.
7. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

8. Do not spray chemicals within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by Ecology or the City of Wenatchee. All sensitive areas including wells, creeks and wetlands must be flagged prior to spraying.
9. Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.
10. Rinse water from equipment cleaning and/or triple-rinsing of chemical containers should be used as product or recycled into product.

Pesticides

1. Develop and implement an Integrated Pest Management (IPM) plan and use pesticides only as a last resort.
2. Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures.
3. Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.

Turf Management

1. Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants.
2. Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
3. Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
4. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
5. Irrigate less often, but for longer frequency to develop a strong root system within the grass.
6. Turf grass is most responsive to nitrogen fertilization, followed by potassium and phosphorus.
7. Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
8. Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.

9. Time the fertilizer application to periods of maximum plant uptake. Generally fall and spring applications are recommended, although WSU turf specialists recommend four fertilizer applications per year.
10. Properly trained persons should apply all fertilizers. Fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the City of Wenatchee.

Appendix F—Spill Response Plan

City of Wenatchee
Spill Response Plan

EMERGENCY

In the event of a hazardous material or waste release, fire, or emergency that is a danger to personnel health and safety immediately call:

911

NON-EMERGENCY

In the event of a non-emergency spill or release to water, soil, or air call:

National Response Center: **1-800-424-8802**
AND
Washington State Emergency Management Division: **1-800-258-5990 OR 1-800-OILS-911**
AND
Washington State Department of Ecology Eastern Region: **1-509-329-3400**

Be prepared to provide the following information (see Spill Reporting Form):

- Where is the spill?
- What spilled?
- How much spilled?
- How concentrated is the spilled material?
- Who spilled the material?
- Is anyone cleaning up the spill?
- Are there resource damages (e.g. dead fish or oiled birds)?
- Who is reporting the spill?
- How can you be reached?

Required Spill Control and Reporting BMPs:

- Stop, contain, and clean up all spills immediately upon discovery. Do not flush absorbent materials or other spill cleanup materials to a storm drain or to surface water. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
- If any spill has reached, or may reach, a sanitary or a storm sewer, groundwater, or surface water, notify Ecology and the local sewer authority immediately (not to exceed one hour). Take reasonable steps to minimize any adverse impacts to waters of the state and to correct the problem. Follow up with written documentation covering the event within thirty (30) days unless otherwise directed by Ecology.
- Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill, and readily accessible to personnel responsible for spill response.
- Oil includes the following: oil, gasoline, or diesel fuel that causes a violation of the state of Washington's Water Quality Standards, or, that causes a film or sheen upon or discoloration of the waters of the state or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- In the event of a spill or release to water, soil, or air utilize the Spill Reporting Form to document information.

Spill Reporting Form

In the event of a spill or release to water, soil, or air collect the following information:

Section 1: Reporting Party	**Section 2: Responsible Party**
Name:	Name:
Phone Number:	Phone Number:
Organization:	Organization:

Section 3: Incident Information			
Incident Description:			
Incident Date:	Time of Discovery:	Cause:	
Address:	City:	State:	County:
Material Involved:	Amount Released:		
Water Body Affected:	Sheen Length:		
Sheen Width:	Sheen Color: (rainbow, silver, grey, etc.)		
Odor Description:	Weather Conditions:		

Section 4: Other
Actions Taken:

Appendix F
Stormwater Pollution Prevention Plan
Decant Facility

Material and Equipment Storage Areas
Stormwater Pollution Prevention Plan

Prepared for:
Wenatchee Valley Stormwater Technical Advisory Committee

Template Development Funded by:
Washington State Department of Ecology

Prepared by
Bob Ritter CESCL
Environmental Technician
City of Wenatchee

KEEP THIS SWPPP ON-SITE AT ALL TIMES

THIS SWPPP IS TO BE MADE AVAILABLE TO THE PUBLIC UPON REQUEST

Table of Contents

City of Wenatchee South Storage Yard SWPPP

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Acronyms, Abbreviations, and List of Definitions

Acronyms and Abbreviations

BMPs	Best Management Practices
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
ISGP	Industrial Stormwater General Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
Phase II Permit	NPDES Phase II Municipal Stormwater Permit
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

List of Definitions

The majority of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Stormwater Management Manual for Eastern Washington, Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) website glossary, and the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.

Best Management Practices (BMPs) are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinances.

Discoloration is a means by which to characterize stormwater. Typically, stormwater is yellowish in color. Discoloration however, other than turbidity, can indicate whether there is rust from iron pipes or iron bacteria, as seen by a yellowish/red color or if paint or cleaning agent emulsions have entered the stormwater system, as indicated by a white cloudy color.

Erosion and Sediment Control BMPs mean BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and

matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Floatables is a means by which to characterize stormwater. A floatable is used as an indicator if very obvious trash or other controllable debris, such as landscaping material, leaf litter, etc. has entered into the storm system.

Foam is a means by which to characterize stormwater. Foam is used as an indicator that potentially soap or other cleaning products have entered into the storm system. However, stormwater can often be slightly foamy from pollen and other natural organic material. The way to tell the difference is by touch and smell. If the foam is persistent and accompanied by a fragrant odor, it is most probably coming from a cleaning product. If the suds break up quickly, then it is most likely from turbulence and/or natural conditions.

Hazardous Substance is: 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive or chemically reactive. 2) Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hyperchlorinated means water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.

Illegal Dumping means any intentional and non-permitted disposal of any substance other than stormwater into the municipal separate storm sewer system, unless otherwise called out as an allowed non-stormwater discharge.

Illicit Connection means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets or outlets that are connected directly to the municipal separate storm sewer system.

Illicit Discharge means any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Industrial Stormwater General Permit (ISGP) means the NPDES Industrial Stormwater General Permit, issued by Ecology for stormwater discharges associated with industrial activities (Issued 2002, modified 2004, effective January 2005).

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Municipal Separate Storm Sewer System (MS4) means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2) Designed or used for collecting or conveying stormwater;
3) Which is not a combined sewer; and
4) Which is not part of a Publicly Owned Treatment Works, as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Non-Stormwater Discharges are discharges of process wastewaters, vehicle wash waters, cooling waters, or any other wastewaters associated with the facility into the stormwater collection system. Other discharges must be addressed in a separate NPDES permit. See also **Illicit Discharges**. Certain non-stormwater discharges are conditionally approved under the ISGP but are subject to specific provisions, including identifying the location, flow volumes, quality, potential for water quality issues and ability to apply appropriate BMPs. Examples of conditionally approved non-stormwater discharges under an ISGP include:

- Discharges from firefighting activities.
- Fire protection system flushing, testing, and maintenance.

- Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge.
- Uncontaminated air conditioning or compressor condensate.
- Irrigation drainage.
- Uncontaminated ground water or spring water.
- Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 of S6 of the Eastern Washington Phase II Municipal Stormwater Permit and any additional actions necessary to meet the requirements of applicable TMDLs.

Structural source control BMPs are physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. Structural source control BMPs typically include:

- Enclosing and/or covering the pollutant source (building or other enclosure, a roof over storage and working areas, temporary tarp, etc.).
- Segregating the pollutant source to prevent run-on of stormwater, and to direct only contaminated stormwater to appropriate treatment BMPs.

Treatment BMPs are intended to remove pollutants from stormwater. A few examples of treatment BMPs are Wetponds, oil/water separators, biofiltration swales, and constructed wetlands.

Turbidity is a means by which to characterize stormwater. The dispersion or scattering of light in a liquid, caused by suspended solids and other factors; commonly used as a measure of suspended solids in a liquid.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington state and "waters of the state" as defined in Chapter 90.48 RCW, which include lakes, rivers,

ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Contacts

Pollution Prevention Team

The Pollution Prevention Team is responsible for ensuring that the recommended BMPs are implemented to control stormwater pollution at the site. Team members are responsible for inspections, operation and maintenance, operational source controls, employee training, emergency and spill response, and other activities necessary to implement the Stormwater Pollution Prevention Plan (SWPPP).

The Pollution Prevention Team for the City of Wenatchee Decant Facility consists of the following staff members:

Name	Job Title	Contact Number
Matt Leonard	**Public Works Director-Operations**	**888-3214**
Vacant	**Public Works Operations Manager**	**888-3205**
Don Bitterman	**Fleets & Facilities Supervisor**	**888-3215**
Jessica Shaw	**Environmental Manager**	**888-3225**

Section 1—Introduction

The City of Wenatchee is currently subject to the requirements of the National Pollution Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. The NPDES Phase II Permit was issued by the Washington State Department of Ecology (Ecology) on January 17, 2007, and became effective on February 16, 2007. A revised permit was issued on June 17, 2009. An extension was issued on August 1, 2012, and became effective on August 1, 2014, and expires on July 31, 2019.

The City of Wenatchee is required to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) to protect water quality at municipally owned and operated facilities, including material storage areas, heavy equipment storage areas, and maintenance areas, that are not currently covered under another NPDES stormwater permit (e.g., the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities).

This document presents the SWPPP developed for the following facilities:

- Decant Facility

1.1 SWPPP Objective

The objective of this SWPPP is to implement measures to prevent and control the contamination of discharges of stormwater to surface or ground waters.

1.2 Record Keeping

All records related to this SWPPP shall be maintained for at least five years. All records related to this SWPPP shall be kept with the SWPPP, preferably in the same binder.

1.3 SWPPP Availability

All records related to this SWPPP shall be made available to the public at reasonable times during business hours. Members of the public who request SWPPP records in person shall be allowed to view documents on-site. SWPPP records shall not be removed from the site. Copies of SWPPP records may be obtained by sending a written request to the City Clerk.

All records related to the SWPPP shall be made available to Ecology upon request.

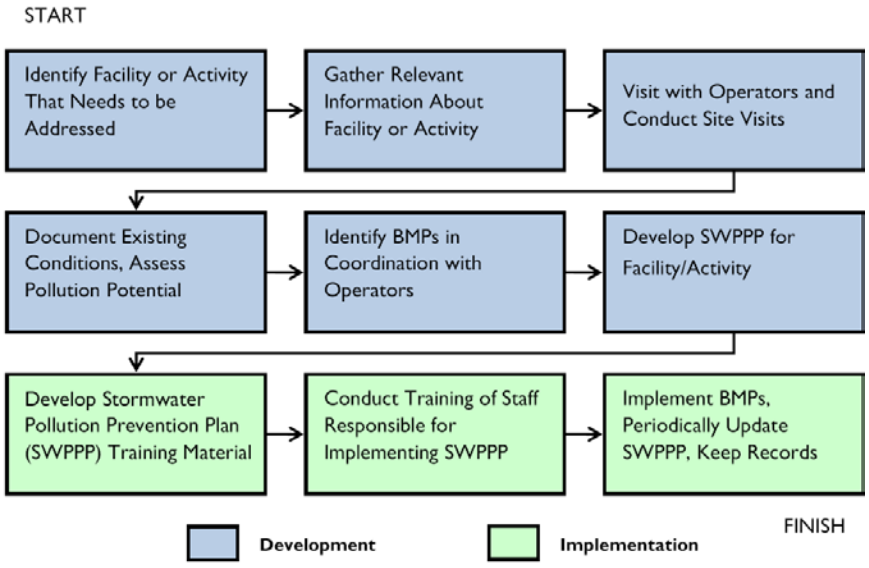
1.4 SWPPP Development and Implementation Process

This SWPPP was prepared based on a SWPPP Template developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a grant from Ecology.

The methods used to develop this SWPPP included the use of facility assessment questionnaires, site visits, identification of facility specific Best Management Practices (BMPs), and coordination with facility operators. Implementation of the SWPPP will include

employee training and BMP application. The complete process can be best described by the flow chart presented in Figure 1.

Figure 1
Flow Chart of SWPPP Development and Implementation Process



Note that some activities/facilities do not require a "SWPPP"; however, the process and documentation will be similar.

1.5 SWPPP Revisions

The SWPPP will need to be modified under the following conditions:

- Significant changes occur at the Facility which affect current BMPs and could affect stormwater quality;
- The City of Wenatchee purchases or develops a new property to be used for municipal storage activities;
- The City of Wenatchee changes site use (adds or ceases a major activity) at an existing municipal storage site; and/or
- On an annual basis to reflect any administrative changes, including Pollution Prevention team members.

Section 2—Site Assessment & Best Management Practices

2.1 Facility Description

The City of Wenatchee's Decant Facility is located at 1745 South Wenatchee Avenue. This site is approximately 8.15 acres of mostly gravel surface with minimal vegetation around the entrance to the site. Site facilities consist of a lavatory with its own lift station that is hooked to the City's sanitary sewer. One large covered decant facility; it is divided into several different chambers that are either paved or are concrete that help dewater the street sweepings and the material that is vacuumed up from catch basins. And a retention pond to the west of the asphalt. A site map for the facility is shown in Appendix A.

A facility assessment was conducted to identify pollutant sources, evaluate current practices, and describe the stormwater collection and conveyance system. Using the information gathered from the Facility Assessment Questionnaire (Appendix B) and Facility Assessment Photolog (Appendix C), a BMP implementation plan was developed for each category assessed.

2.1.1 History of Spills and Leaks

There is no recorded history of any major spills or leaks at this facility.

2.2 Best Management Practices

BMPs are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to receiving waters.

There are three general classes of BMPs: Operational Source Control BMPs, Structural Source Control BMPs, and Treatment BMPs. Operational BMPs are those than involve specific activities or one-time actions on the part of the facility staff. If Operational BMPs do not adequately prevent the potential contamination of stormwater, Structural BMPs, such as constructing new covered shelters to prevent stormwater from coming into contact with potential pollutants, may be a reasonable solution. Treatment BMPs are only used as a last resort to remove containments from stormwater before discharging to a stormwater conveyance system or to surface or ground waters.

2.2.1 General Operational BMPs

General Operational BMPs are good housekeeping activities that should be applied to day-to-day activities at the facility to prevent contaminants from entering stormwater at their source. The purpose of good housekeeping is to keep the Facility area clean and free of debris, storage materials under cover, and handling materials and waste products in a way that minimizes the risk to stormwater. The good housekeeping BMPs are:

- Keep open areas clean and orderly;
- Pick-up litter;

- Promptly contain and clean up solid and liquid pollutant leaks and spills;
- Sweep paved material handling and storage areas regularly;
- Inspect all BMPs regularly, particularly after a significant storm;
- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids;
- Promptly remove debris and old equipment;
- Store hazardous materials as specified by the manufacturer; and
- Conduct regular employee training to reinforce proper housekeeping actions.

See Appendix D for additional preventative maintenance BMPs. The BMP descriptions in Appendix D were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.2.2 Site Assessment and Specific BMPs

A wide variety of activities and areas of concern throughout the facility may potentially contaminate stormwater. Tables 1 through 8 provide a brief description of those activities and areas of concern along with specific Operational and/or Structural BMPs to reduce pollution potential.

Additional example pollutant source-specific BMPs are included in Appendix E. BMP descriptions were drawn primarily from Ecology's Stormwater Management Manual for Eastern Washington (2004) and the California Department of Transportation's Storm Water Quality Handbook Maintenance Staff Guide (2003, Revised 2007).

2.4 Employee Training and Education

A formal training seminar will be provided for all municipal field staff upon completion of the SWPPP. The City of Wenatchee will develop and provide education materials oriented toward prevention of stormwater pollution and implementation of the SWPPP. The goal of the training is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. All maintenance facility personnel are recommended to participate in this initial implementation training seminar to improve their understanding of stormwater impacts and ways to prevent stormwater pollution. Additional training should be provided as an annual refresher course, or as new employees are hired.

Table 1 Building and Ground Maintenance BMPs	
Issue:	Stormwater can be contaminated from dusts deposited on surfaces or from building maintenance activities.
Facility Assessment:	There are two permanent buildings and 1 loader.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Conduct regular on-site visits to check for leaking or damaged vehicles. • Sweep paved areas as needed.
Improvements:	None.

Table 2 Loading and Unloading of Materials BMPs	
Issue:	Loading and unloading or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.
Facility Assessment:	Solids are transferred outdoors. Types of solids transferred: • Bulk material
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Spills and leaks are promptly reported to the Public Works Superintendent. • Train employees in spill containment and clean-up.
Improvements:	• Maintain a spill kit on site.

Table 3 Outdoor Storage of Raw Materials BMPs	
Issue:	Materials and liquids are stored on site.
Facility Assessment:	Materials and liquids are stored on site.
	Types of solid materials stored include: • Street Sweepings. • Solids from catch basin cleanings.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Solid material stockpiles under a permanent cover. • Use indoor storage areas when available. • Store materials in designated areas with containment (concrete blocks and berms).
Improvements:	None.

Table 4 Storage of Liquids, Solid Waste, and Hazardous Materials BMPs	
Issue:	Waste management activities have the potential to contaminate stormwater through improper storage of solid and liquid wastes, and spills, leaks, or drips from containers.
Facility Assessment:	Eductor solids and sweeping material is temporarily stored underneath the canopy of the decant facility before it is hauled to the landfill by Waste Management.
Problem(s) Observed:	None.
Current BMPs:	• Store materials in designated areas with containment (concrete blocks and berms). • Keeping driving areas clear and free of debris.
Improvements:	None.

Table 5 Vehicle and Equipment Maintenance & Repair BMPs	
Issue:	If not conducted properly, vehicle maintenance including washing, oil changes, and repair can contaminate stormwater.
Facility Assessment:	No vehicle washing or maintenance is conducted at this site.
Problem(s) Observed:	None.
Current BMPs:	• No vehicle washing is allowed at the Decant Facility. • All vehicle and equipment maintenance activities should be conducted at the Public Services Center.
Improvements:	None.

Table 7 Vehicle and Equipment Parking and Storage BMPs	
Issue:	Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other wearable products (tires, brake pads, etc.) that can contaminate stormwater.
Facility Assessment:	Storage and parking of large vehicles and equipment occurs in on the asphalt area.
	Type and number of vehicles and equipment that are stored or parked on-site include: • Frontend Loader
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Covered parking and storage is utilized whenever possible. • Sweep paved areas regularly. • Use drip pans or containers under vehicles and equipment that drip or are likely to drip. • Spills and leaks are promptly addressed and reported to the Public Works Superintendent.
Improvements:	• Maintain a spill kit on site

Table 8 Vegetation Management BMPs	
Issue:	Fertilizer and pesticides contain nutrients and chemicals that can contaminate stormwater.
Facility Assessment:	The facility has a small landscaped area outside the main entrance at the top of the hill.
Problem(s) Observed:	No problems were observed.
Current BMPs:	• Minimize use of chemical fertilizers. • Inspect irrigation systems regularly. • Maintain a vegetative cover. • Dispose of waste vegetation in designated areas. • Use pesticides only if there is a pest problem. • Chemical spills should be promptly addressed and reported to the Public Works Superintendent.
Improvements:	None.

Section 3—Illicit Non-Stormwater Discharges

The City of Wenatchee is required to develop, implement, and enforce a program to detect and eliminate non-stormwater illicit discharges into the municipal separate storm sewer system (MS4), including spills, illicit connections, and illegal dumping.

3.1 Illicit Connections

An illicit connection is any man-made conveyance of non-stormwater discharges that is connected to an MS4 without a permit. Examples include sanitary sewer connections, floor drains, and process waters that are connected directly or indirectly to the MS4. Exemptions include connections from foundation and footing drains, air conditioning condensation, uncontaminated groundwater, and other similar type connections. A complete list of the prohibited and exempt non-stormwater discharges can be found in the City of Wenatchee's Illicit Discharge Detection and Elimination code (Wenatchee City Code 4.10).

If an illicit connection is detected on-site, the Pollution Prevention Team shall take appropriate steps to terminate or redirect the connection to an appropriate discharge location.

3.2 Illicit Discharges

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the Phase II Permit) and discharges resulting from emergency firefighting activities.

If a prohibited discharge is observed, the Pollution Prevention Team shall take immediate action to terminate the discharge. Depending on the nature of the illicit discharge, it may be necessary to report it as a spill; a three-page summary of basic spill response procedures is included in Appendix F.

3.3 Illegal Dumping

Illegal dumping consists of spilling, dumping, releasing, throwing, depositing or placing solid waste, litter, pet waste, yard waste, or hazardous materials where there is the potential for those materials or pollutants to end up in the MS4.

If illegal dumping is observed, the Pollution Prevention Team shall take immediate action to identify the responsible party and ensure cleanup of the dumped material.

Appendix A—Site Map

Appendix B—Facility Assessment Questionnaire

Municipal Facility Assessment Questionnaire

1 Facility Description

This section identifies and describes the location of the municipal facility, contact information for key facility staff, and general site information. Please attach any maps or sketches of the facility, if available.

Facility Name: **Public Services Center**

Facility Location: **1745 South Wenatchee Ave**

Facility Description: **Decant Facility for Public Works.**

Mailing Address: **P.O. Box 519, Wenatchee, WA 98807-0519**

Contact Name: **Matt Leonard Public Works Director**

Contact Phone: **(509) 888-3214**

SIC Code (If Applicable):

Main Site Activities: **Vactor Decant Facility and storage for Street Sweepings.**

Area of Facility (in acres): **8.15 acres**

Surface Types:

(Check all that apply and fill in approximate area)

☒ Permanent Buildings: 2 buildings
11,500 square feet

☐ Temporary Buildings: _____ number of buildings
_____ square feet

☒ Pavement: 1.37 acres

☒ Gravel and dirt: 6.78 acres

☐ Bare Ground: _____ acres

☒ Vegetation: Minimal around the entrance at the top of the hill.

Commented [BR1]: Need to get this information.

2 Potential Pollutant Sources

This section identifies and describes the activities conducted on site that have the potential to contaminate stormwater. Please complete the following sections.

2.1 Waste Management

Waste management activities have the potential to contaminate stormwater through improper storage of wastes, spills, leaks, or drips from containers.

☐ No waste management activities are performed on site.

☐ Wastes are managed as follows:

- ☐ Trash compactor, located: _____
- ☐ Used Oil Container, located: _____
- ☐ Other, describe: _____

2.2 Cleaning and Washing

If not conducted properly, cleaning and washing of vehicles, heavy and light equipment, buildings, tools, or paved surfaces, can contaminate stormwater by washing contaminants such as oil and grease, soap, or dirt into the storm sewer or onto areas exposed to rain.

☐ No cleaning or washing activities are performed on site.

☒ Cleaning and washing is performed as follows:

Location of cleaning or washing activity: Cleaning of the Vactor truck and the Street Sweeper are done in their designated area on a concrete pad.

Cleaning or washing area / structure:

- ☐ Self-Contained Building
- ☒ Covered Pad (In designated area)
- ☐ Designated Open Area
- ☐ Other: _____

Surface of cleaning or washing area:

- ☒ Asphalt
- ☒ Concrete
- ☐ Compacted Gravel
- ☐ Soil

Type(s) of materials cleaned or washed:

☐ Vehicles, describe:

☒ Equipment, describe: Vactor truck and Loader

☐ Buildings

☒ Paved areas

☐ Other:

Chemical(s) used in washing:

☐ Soaps or detergents:

☐ Abrasives: _____

☐ Acids: _____

☐ Solvents: _____

☒ Other: Water _____

Drainage characteristics of wash area(s): Drains to cover area where the water and solids separate _____

_____

Discharge location for wash water:

☐ Storm Sewer; Treated?

☐ No

☒ Yes, please describe: Discharges to Sanitary Sewer after settling. _____

☐ Sanitary Sewer (Car wash bay)

☐ Other: _____

2.3 Transfer of Liquids or Solids

Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.

☐ No transfer of liquids or solids is performed on site.

☒ Transfer of liquids is performed as follows:

Location(s) where transfer occurs:

☒ Direct connection to aboveground storage tank with secondary containment

☐ Direct connection to underground storage tank

☐ Railroad yard

☐ Loading dock

☐ Permanent fueling station

Municipal Facility Assessment Questionnaire

Continued

☒ Open area

☐ Indoors

☐ Other: _____

Transfer Area Structure(s):

☐ Self-Contained Building

☒ Covered Pad

☒ Designated Open Area

☐ Other: _____

Surface of Transfer Area:

☒ Asphalt

☒ Concrete

☐ Compacted Gravel

☐ Soil

Type(s) of liquids transferred:

☐ Fuels, oils, or greases: _____

☐ Paints: _____

☐ Acids: _____

☐ Pesticides, Herbicides, Fertilizers: _____

☐ Cleaning products: _____

☒ Other: Street sweepings and Vactor waste. _____

Type of transfer:

☒ Bulk liquid

☐ Mobile fueling

☐ Liquid filled container:

☐ Small Containers

☐ Drums

☐ Totes

☐ Bunker

☒ Other: Street Sweepings and Vactor waste. _____

☒ Transfer of solids is performed as follows:

Location(s) where transfer occurs:

- ☐ Railroad yard
- ☐ Loading dock
- ☒ Open area
- ☐ Indoors
- ☐ Other: _____

Transfer Area Structure:

- ☐ Self-Contained Building
- ☒ Covered Pad
- ☒ Designated Open Area (bulk material)
- ☐ Other: _____

Surface of Transfer Area:

- ☒ Asphalt
- ☒ Concrete
- ☐ Compacted Gravel
- ☐ Soil

Type(s) of solids transferred:

- ☐ Shipping Containers: _____
- ☐ Equipment: _____
- ☐ Packaged goods: _____
- ☒ Bulk materials (debris, etc.): waste asphalt.
- ☒ Other: Liquid waste from sweeper and Vactor truck.

Equipment involved in transfer:

- ☐ Top pick
- ☐ Forklift
- ☐ Crane
- ☐ Dump truck
- ☒ Other: Sweeper, Vactor truck, Backhoe and Loader _____

2.4 History of Spills and Leaks

If there is a history of any spills or leaks on site that discharged to storm sewer system, surface waters, or groundwater please describe: There is no history of spills or leaks at this time.

2.5 Production and Application Activities

Production or application activities have the potential to contaminate stormwater from debris left behind during production, spills, leaks, or drips from products or equipment used during production, or leaching or erosion from materials involved. Application activities involve the application of product to an object such as painting, coating, spraying, or other treatment.

☒ No production or application activities are performed on site.

☐ Production and/or application activities are performed as follows:

Location(s) of production and/or application activities: _____

_____

Description of production and/or application activities: _____

_____

Drainage characteristics of work area; are there any pretreatment BMPs? _____

_____

_____

_____

_____

2.6 Storage and Stockpiling

Vehicle and Equipment Storage and Parking

Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other parts (tires, brake pads, etc.) that can contaminate stormwater. If vehicles or heavy equipment are stored or parked outdoors on site, please complete the following:

☐ No vehicle or equipment storage or parking is performed on site.

☒ Vehicle and/or equipment storage and/or parking application is performed as follows:

Type and Number of vehicles and equipment that are stored or parked on site:

- ☐ Passenger vehicles: _____
- ☐ Utility trucks: _____
- ☐ Dump truck: _____
- ☐ Tractor trailer: _____
- ☐ Top pick: _____
- ☐ Crane: _____

☐ Forklift: _____

☐ Earthmoving equipment: _____

☒ Other: Backhoe _____

Location of storage or parking area:

Storage or parking area structure:

☐ Covered

☐ Designated Open Area

☐ Other: _____

Surface of storage or parking area:

☐ Asphalt

☐ Concrete

☐ Compacted Gravel

☐ Soil

List potential stormwater contaminants used in the operation or maintenance of heavy equipment on site:

☒ Petroleum products (fuel, oils, greases) – source of oil & grease and metals

☐ Acids – source of low pH

☐ Batteries – source of low pH, and heavy metals (lead, nickel, cadmium, etc.)

☒ Antifreeze

☐ Solvents

☐ Soaps or detergents – source of phosphorus

☐ Other: _____

Drainage characteristics of Vehicle and Equipment Storage and Parking:

Material Storage

Materials stored outside have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from liquids or equipment containing liquids, and dissolution of soluble materials. If materials are stored outside on site, please complete the following section:

☐ No material storage is performed on site.

☒ Material storage is performed as follows:

Location(s) of where materials are stored: _____

Storage area structure:

☒ Covered

☒ Designated Open Area

☐ Other: _____

Surface of Storage Area:

☒ Asphalt

☒ Concrete

☒ Compacted Gravel

☐ Soil

Type(s) of Liquids Stored: None.

☐ Fuels, oils, or greases

☐ Paints

☐ Acids

☐ Pesticides, Herbicides, Fertilizers

☐ Cleaning products

☒ Other: Wash water from Sweeper and Vactor truck.

Liquids are stored in:

☐ Small Containers

☐ Drums

☐ Totes

☐ Aboveground Tanks

☒ Other, describe: Chambers in the settling area _____

Type(s) of Solid Materials Stored:

☒ Street Sweepings.

☐ Soil and compost

☐ Wood Products (untreated lumber, logs, wood chips, wood waste, etc.)

☐ Scrap metals

☒ Asphalt Grindings

☐ Treated lumber

☐ Other:

Type(s) of Equipment Stored:

☐ Equipment with galvanized metal components

☐ Equipment with fluid filled reservoirs

☐ Equipment with greased joints or other moving parts

☐ Other: _____

Drainage characteristics of material storage area: Stormwater infiltrates on-site.

2.7 Vehicle and Equipment Maintenance and Repair

☒ No vehicle or equipment maintenance is performed on site.

☐ Vehicle and/or equipment maintenance is performed on site as follows:

Describe the location(s) and activities performed: _____

_____

2.8 Dust Control and Soil and Sediment Control

Stormwater can be contaminated from dusts deposited on surfaces exposed to rain, or from erosion of exposed soils.

☐ No dust generating activities are performed on site and no exposed soils are present.

☐ Exposed soils are present on site as follows:

Location of exposed soils: _____

Slope: _____

Reason soils remain exposed: _____

☒ Dust generating activities are performed on site as follows:

Location of dust-generating activity: Area around the storage garage is bare.

Type(s) of dust-generating activity:

☐ Storage of materials (aggregate, sawdust, ash, etc.), describe: _____

_____

☐ Manufacturing process, describe: _____

_____

☒ Vehicle traffic

☐ Soil disturbance/grading

☐ Other: _____

Describe any erosion and sediment control or dust control methods used: _____

_____

2.9 Landscape Management

Landscape maintenance (including control of weeds) has the potential to introduce chemical pollutants, sediment, and nutrients into stormwater. If landscape management practices occur on site please complete the following section.

Pesticide, Herbicide, and Fertilizer Application

Check one:

☐ There are no vegetated areas on site. No pesticides, herbicides or fertilizers are used.

☐ Vegetated areas are present on site. However, no pesticides, herbicides or synthetic fertilizers are used on site.

☒ Vegetated areas are present on site. Pesticides, herbicides or fertilizers are used.

Please note any existing training or BMPs related to pesticide, herbicide, and fertilizer application:

Refer to the BMPs in Section 7 of the City of Wenatchee Stormwater Operations & Maintenance Plan.

Mowing / Trimming / Planting

If vegetated areas exist on site please describe their maintenance and waste disposal procedures: The landscaping is around the entrance at the top of the hill. The maintenance is conducted by the Parks Maintenance Department as set forth in Section 7 of the Stormwater Operations & Maintenance Plan.

2.10 Non-Stormwater Discharges

Please describe any discharge(s) leaving the site and entering any storm drain, surface water, or dry well which is not made up entirely of stormwater: The Stormwater that leaves the site enters an infiltration pond that recharges the ground water.

2.11 Other Pollution-Generating Activities

This questionnaire does not capture all potential sources of stormwater pollution. Evaluate your site for any additional pollution generating activities not listed above and describe here.

☒ No other pollution-generating activities are performed on site.

☐ Other pollution-generating activities are performed on site as follows: _____

3 Stormwater Drainage System

Please attach any maps or sketches of the facility's stormwater drainage system, if available.

The stormwater drainage system consists of the following components: *Check all that apply*

- ☒ Catch basins
- ☐ Floor drains
- ☐ Deck drains
- ☒ Roof drains
- ☐ Trench drains
- ☐ Culverts
- ☐ Subsurface Pipes
- ☐ Ditches
- ☐ Dry Wells
- ☒ Pump station
- ☐ General Site Stormwater Treatment:
  - ☒ Oil/water separator
  - ☐ Catch basin inserts
  - ☐ Bioswale
  - ☐ Pond
  - ☐ Filtration System
  - ☐ Other: _____

Stormwater from the site discharges to: (*Check all that apply*)

- ☐ <WATERBODY>
- ☐ <WATERBODY>
- ☐ <WATERBODY>
- ☒ <CITY> Sewer
- ☐ City Storm Sewer (overflow from on-site system only)
- ☐ Sanitary Sewer
- ☒ Ground

Municipal Facility Assessment Questionnaire

Continued

☐ Drywells / Infiltration Trenches

Appendix C—Facility Assessment Photolog

Facility Assessment Site Visit Form

Date: 01/10/2016 Facility: Decant Facility
Assessment Team: Don Bitterman and Bob Ritter
For additional information on the site please refer to Appendix B Facility Assessment Questionnaire.

Materials Storage

Asphalt debris storage – North corner

Bathroom

North of Decant Facility

Inside The Bathroom

Decant Facility

Inside Facility looking south

Looking north

Oil Water Separator

Behind Decant Facility

Retention Pond

West of Asphalt

Appendix D—General Operational Source Control BMPs

General Pollution Prevention BMPs

Operational Source Control BMPs

Pollutant Control Approach

Operational Best Management Practices (BMPs) can be commonly applied to day-to-day activities at municipal storage facilities. These General Operational Source Control BMPs focus on retaining stormwater onsite.

Scheduling and Planning BMPs

1. Plan and schedule all maintenance activities in a manner that considers the use of BMPs. Recognize how the activity will affect stormwater so that the proper BMPs can be placed or utilized at the proper time. Some maintenance activities shall not be performed during rain events or when storms are predicted unless required by emergency conditions.
2. Be aware of where the flow of a leak, spill, or other runoff would go.
3. Set-up the work area to minimize the tracking of material by vehicles and equipment in or out of the work area.

Good Housekeeping BMPs

1. Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust from operations and maintenance conducted on any exposed soil, vegetation, or paved area.
2. Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
3. Properly reuse, recycle, or dispose of cleaned empty containers, excess materials, and equipment or parts.
4. Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations, and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.
5. Clean oils, debris, sludge, etc. from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater.
6. Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subjected to pollutant material leaks or spills.
7. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc. that can contaminate stormwater.

Preventative Maintenance BMPs

1. Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.

General Operational Source Control BMPs

Continued

2. Prevent the discharge of unpermitted liquid or solid wastes, vehicle and equipment wash-water, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.
3. Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.
4. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local jurisdiction, or to other approved treatment.
5. Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
6. Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
7. Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
8. Drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.
9. For the storage of liquids; use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.
10. For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums and comparable containers, that are durable, corrosion resistant, nonabsorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container should be stored under a lean-to or equivalent structure.
11. Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.
12. Where feasible, store potential stormwater pollutant materials inside a building or under a cover, and/or containment.
13. Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
14. Use environmentally safer raw materials, products, additives, etc.
15. Empty drip pans immediately after a spills or leaks are collected in an uncovered area.
16. Stencil warning signs at stormwater catch basins and drains, e.g., "Dump no waste."

Appendix E—Example Pollutant Source-Specific BMPs

Pollutant Source Specific BMPs

1. Building and Ground Maintenance

Typical Activities	**Environmental Concerns**
Care of landscaped areas around each facility, cleaning of parking areas and pavements, dust control, and maintenance of the stormwater drainage system.	Discharge of the following materials into the stormwater drainage system or watercourse: • Sediment • Sewage • Litter • Trash • Non-Stormwater liquids • Herbicides • Vehicle Fuel and Fluids
Pollutant Control Approach	
Pollutants such as herbicides, eroded soil, and site debris can contaminate stormwater. Employ Operational Source Control Best Management Practices (Operational BMPs) to minimize the contact of stormwater and these pollutants.	

Operational BMPs

1. Dispose of sweepings and cleaning wastes as solid waste.
2. Inspect and clean stormwater conveyance systems as needed.
3. Properly dispose of wash-water generated by building maintenance activities. Dispose of wash-water to the sanitary sewer system.
4. Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary. Sprinkle or wet down soil or dust with water as long as it does not result in a wastewater discharge.
5. Limit the exposure of erodible soil, stabilize or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with suspended solids caused by eroded soil.

Structural BMPs

1. Stencil drywell and catch basin grates with, “Dump No Waste - Drains to Groundwater".

Pollutant Source Specific BMPs

3. Loading and Unloading of Materials

Typical Activities	**Environmental Concerns**
A verity of activity's occur at the Decant Facility. The Street Sweepers unloads at their designated area, then they move to another designated area to be washed out. The Vactor Truck unloads its waste in a designated area then it is washed out in the same area.	Discharge of the following materials into the stormwater drainage system: • Asphalt Products • Cement • Herbicides • Solvents • Vehicle Fluids • Fertilizer • Fuel
Pollutant Control Approach	
Cover and contain the loading/unloading area, where necessary, to prevent run-on of stormwater and runoff of contaminated stormwater; or, transfer materials in an area that slopes away from storm drains and waterways.	

Operational BMPs

1. Sweep loading/unloading areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans or other appropriate temporary containment devices at locations where leaks or spills may occur during loading/unloading activities.
3. In the event of a spill or leak, follow the procedures outlined in the facility's Spill Response Plan.
4. Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately if a significant spill occurs and upon completion of the transfer activity for minor spills.
5. Maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of oil spills.
6. Ensure that an employee trained in spill containment and cleanup is present during loading/unloading activities.

Structural BMPs

1. Consistent with Uniform Fire Code requirements and to the extent practicable, conduct unloading or loading of solids and liquids in a building, under a roof or lean-to, or other appropriate cover.
2. Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.
3. Pave and slope loading/unloading areas to prevent the pooling of water.
4. Install an automatic shutoff valve in storm drain system in case of unanticipated off-loading interruption (e.g. coupling break, hose rupture, overfill, etc.)

Pollutant Source Specific BMPs

4. Outdoor Storage of Raw Materials

Typical Activities	**Environmental Concerns**
Maintenance facilities store a variety of raw materials that may adversely impact water quality if they come in contact with ground or surface waters. Raw materials may include asphalt, soil, compost, unwashed sand and gravel, sawdust, logs, bark, lumber, metal products, etc.	Discharge of the following materials into the stormwater drainage system or watercourse: • Asphalt Products • Sand and aggregates
Pollutant Control Approach	
Provide impervious containment with blocks, berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and suspended solids. The preferred method for storage of materials is under a covered structure.	

Operational BMPs

1. Store materials away from stormwater drainage systems.
2. Protect storm drain inlets and watercourses from potential spills of raw materials.
3. Sweep paved storage areas regularly for collection and disposal of loose solid materials.
4. Do not hose down the contained stockpile area to a storm drain, a conveyance to a storm drain, or to receiving water.

Structural BMPs

1. Areas should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage "alleyways" where material is not stockpiled.
2. Convey contaminated stormwater from stockpile areas to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system depending on the contamination.
3. Choose one or more of the structural source control BMP options listed below for stockpiles greater than five cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, etc. Also included are outside storage areas for solid materials, such as logs, bark, lumber, metal products, etc.
4. Store in a building or paved and bermed covered area; or
5. Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material; or
6. Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.; or

7. For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any stormwater conveyance system as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged directly to stormwater conveyance systems without conveying first through a treatment BMP.

Pollutant Source Specific BMPs

5. Storage of Liquids, Solid Materials, and Hazardous Materials

Typical Activities

A variety of products are stored at maintenance facilities and may be harmful to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from hazardous material storage sites to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Asphalt Products
- Cement
- Herbicides
- Solvents
- Fertilizer
- Vehicle Fluids
- Fuel

Pollutant Control Approach

Store hazardous materials in a designated area containing chemically compatible materials. Do not store incompatible products in the same storage area without some type of physical barrier separating the containers. For example, do not store strong oxidizers with organics, or flammable/combustible materials. Where feasible, store hazardous materials in a covered area that does not drain to the stormwater drainage system or watercourse. Ensure container covers or caps are secure.

Operational BMPs

1. Sweep storage areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur.
3. In the event of a spill or leak, follow the procedures outlined the facility's Spill Response Plan.
4. Place tight fitting lids on all containers.
5. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
6. Label all cabinets, storage sheds, etc. containing hazardous chemicals with proper Hazardous Material signage.

7. Do not remove original product label from paint or hazardous materials containers as it contains important spill cleanup and disposal information. Use the entire product before properly disposing of the container. Appropriately label all secondary containers.
8. Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers as needed.
9. Cover dumpsters, or keep them under a cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
10. Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

Structural BMPs

1. Keep containers with dangerous waste or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
2. Store containers in a designated impervious area that is covered, bermed, diked, or paved, in order to contain leaks and spills. Any secondary containment structures shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
3. For liquid wastes such as used oil, surround the containers with a secondary containment structure. The secondary containment structure must be of sufficient height to provide a volume of either: 10 percent of the total volume of all containers or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.
4. Place containers mounted for direct removal of a liquid chemical for use by employees inside a secondary containment structure as described above. Use a drip pan during liquid transfer.
5. For contaminated stormwater in the secondary containment structure, connect the sump outlet to a sanitary sewer, if approved by the local jurisdiction, or to appropriate treatment, such as an American Petroleum Institute (API) or Coalescing Plate (CP) oil/water separator, catch basin filter or other appropriate system. Equip the sump outlet with a valve to prevent the release of spilled or leaked liquids, especially flammables (compliance with Fire Codes), and dangerous liquids. This valve may be opened only for the conveyance of contaminated stormwater to treatment.
6. Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tanker truck or other appropriate vehicle for off-site treatment and/or disposal.

Pollutant Source Specific BMPs

6. Vehicle and Equipment Washing

Typical Activities

Vehicles and equipment are typically washed on-site at maintenance facilities. When vehicle and equipment washing is conducted, it is essential that the wash water not be allowed to drain to the stormwater drainage system or watercourses.

Pollutant Control Approach

The preferred approach is to cover and/or contain the vehicle/equipment washing or conduct the washing inside a building or within a designated washing station to contain the wash water and keep it separate from stormwater.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Cleaning Agents
- Non-Stormwater fluids
- Sediment
- Fuel
- Vehicle Fluids
- Metals

Operational BMPs

1. Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
2. Approved safer alternative products should be used where practical and effective, such as phosphate-free biodegradable soaps and detergents.
3. Do not remove the original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
4. Water usage should be minimized.
5. If possible, conduct vehicle/equipment washing off-site at a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer.

Structural BMPs

1. Preferably, conduct vehicle/equipment washing in a building or enclosure constructed specifically for washing of vehicles and equipment, which drains to the sanitary sewer.
2. Alternatively, conduct outside washing operations in a designated wash area and:
3. Operate a closed system with wastewater recycling (like a floor drain discharge to a holding tank); or
    a. Discharge to a municipal sanitary sewer; or
    b. Obtain a groundwater discharge permit.
4. For additional information see the Washington State Department of Ecology document entitled "Vehicle and Equipment Wash water Discharges/Best Management Practices Manual", publication number 95-056.

Pollutant Source Specific BMPs

7. Vehicle and Equipment Fueling

Typical Activities	**Environmental Concerns**
When vehicle and equipment fueling takes place, there is the potential for fuel to be leaked or spilled at the site. The procedures for vehicle and equipment fueling are designed to minimize contact between stormwater runoff and spilled fuel, oil or other leaked vehicle fluids at equipment fueling areas.	Discharge of the following materials into the stormwater drainage system or watercourse: • Fuel • Vehicle Fluids
Pollutant Control Approach	
Fueling stations must be constructed on an impervious concrete pad under a roof to keep out rainfall and stormwater run-on. A treatment BMP must be used for contaminated stormwater and wastewaters in the fueling containment area. These procedures should be used at all equipment fueling areas.	

Operational BMPs

1. Prepare an emergency spill response plan and have a designated trained person(s) available either on site or on call at all times to promptly and properly implement the plan and immediately cleanup any spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
2. Train employees on the proper use of fuel dispensers. Proper fueling and spill cleanup instructions shall be posted at fueling areas. Post signs in accordance with the Uniform Fire Code (UFC).
3. Make sure that the automatic shutoff valve on the fuel nozzle is functioning properly.
4. A person must be present at the fuel pump during fueling at all times.
5. Hosing down of leaks, drips and spills is prohibited.
6. Maintain clean fuel dispensing areas using dry cleanup methods.

Structural BMPs

1. The fueling pad must be paved with Portland cement concrete, or equivalent. If paved with asphalt, add a protective coating to create an impervious surface, inspect regularly, and street sweep quarterly at a minimum.
2. Stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an approved treatment system such as an oil/water separator and a water quality treatment BMP. Discharges from the treatment

BMP to storm drains, surface water, or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.

3. The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the fueling area. The roof or canopy should, at a minimum, cover the fueling area (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain.
4. The transfer of fuel from the delivery tank truck to the fuel storage tank must be performed in an impervious contained area and appropriate overflow protection must be used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Pollutant Source Specific BMPs

8. Vehicle and Equipment maintenance and Repair

Typical Activities

Vehicle and equipment maintenance and repair may include vehicle fluid removal, engine and parts cleaning, body repair and painting.

Pollutant Control Approach

Reduce the discharge of potential pollutants from areas in which vehicle maintenance and repair activities are conducted by employing controls which minimize contact between stormwater and the activity areas and products used in each activity.

Environmental Concerns

Discharge of the following materials into the stormwater drainage system or watercourse:

- Fuel
- Vehicle Fluids
- Used Oil Filters
- Lead-Acid Batteries
- Paint Products
- Metal

Operational BMPs

1. Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
2. Maintenance activity areas should be kept clean, well organized and equipped with spill cleanup supplies.
3. Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
4. Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents as hazardous waste.

Structural BMPs

1. Use drip pans or containers under parts or vehicles that drip or are likely to drip.
2. Remove batteries and liquids from vehicles and equipment in designated areas which are designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.
3. Empty oil and fuel filters before disposal.
4. Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids.
5. Transfer removed vehicle and equipment fluids from drip pans or other temporary containers into recycling storage tanks or drums by the end of each shift (daily).
6. Do not mix dissimilar or incompatible waste liquids stored for recycling.
7. Ensure safeguards such as oil shut-off valves are installed and maintained on recovery equipment.

Pollutant Source Specific BMPs

9. Vehicle and Equipment Parking and Storage

Typical Activities	**Environmental Concerns**
Vehicles and equipment have the potential to leak or drip hazardous fluids. When they are parked or stored outside and are exposed to the elements (not parked under a cover), the fluids can be picked up by stormwater and carried to the storm sewer system.	Discharge of the following materials into the stormwater drainage system or watercourse: • Fuel • Metal • Vehicle Fluids • Lead-Acid Batteries
Pollutant Control Approach	
Provide impervious containment with berms, dikes, etc. and/or store under cover to prevent run-on and discharge of hazardous pollutants.	

Operational BMPs

1. Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
2. Use drip pans or containers under vehicles and equipment that drip or are likely to drip.
3. Remove liquids from vehicles that are retired for scrap.

Structural BMPs

1. Consider storing damaged vehicles inside a building or paved and bermed covered containment area until all liquids are removed.
2. Park/store all vehicles and equipment in a designated covered area.

Pollutant Source Specific BMPs

10. Vegetation Management

Typical Activities	Environmental Concerns
This method of landscaping and lawn vegetation management can include grading, soil transfer, vegetation removal, pesticide/herbicide and fertilizer applications, and watering. Lawn and vegetation management can also include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and herbicides.	Discharge of the following materials into the stormwater drainage system or watercourse: • Fertilizer • Pesticides • Herbicides • Sediment
Pollutant Control Approach	
Control fertilizer and pesticide/herbicide applications, soil erosion, and site debris to prevent contamination of stormwater. Stormwater contaminants include toxic organic compounds, heavy metals, oils, sediment, coliform bacteria, fertilizers and pesticides.	

Operational BMPs

Pesticides, Herbicides, and Fertilizer (below called "Chemicals")

1. Choose the least toxic pesticide/herbicide available that is capable of reducing the infestation to acceptable levels. The pesticide/herbicide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control method used should be conducted at the life stage when the pest is most vulnerable. Any method used should be site-specific and not used wholesale over a wide area.
2. Apply chemicals according to label directions. Under no conditions shall chemicals be applied in quantities that exceed manufacturer's instructions.
3. Mix chemicals and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
4. Store chemicals in enclosed areas or in covered impervious containment. Ensure that contaminated stormwater or spills/leaks of the chemicals are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch.
5. Clean up any spilled chemicals and ensure that the contaminated waste materials are kept in designated covered and contained areas.
6. The chemical application equipment must be capable of immediate shutoff in the event of an emergency.
7. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

8. Do not spray chemicals within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by Ecology or the City of Wenatchee. All sensitive areas including wells, creeks and wetlands must be flagged prior to spraying.
9. Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.
10. Rinse water from equipment cleaning and/or triple-rinsing of chemical containers should be used as product or recycled into product.

Pesticides

1. Develop and implement an Integrated Pest Management (IPM) plan and use pesticides only as a last resort.
2. Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures.
3. Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.

Turf Management

1. Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants.
2. Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
3. Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
4. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
5. Irrigate less often, but for longer frequency to develop a strong root system within the grass.
6. Turf grass is most responsive to nitrogen fertilization, followed by potassium and phosphorus.
7. Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
8. Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.

9. Time the fertilizer application to periods of maximum plant uptake. Generally fall and spring applications are recommended, although WSU turf specialists recommend four fertilizer applications per year.
10. Properly trained persons should apply all fertilizers. Fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the City of Wenatchee.

Appendix F—Spill Response Plan

City of Wenatchee
Spill Response Plan

EMERGENCY

In the event of a hazardous material or waste release, fire, or emergency that is a danger to personnel health and safety immediately call:

911

NON-EMERGENCY

In the event of a non-emergency spill or release to water, soil, or air call:

National Response Center: **1-800-424-8802**
AND
Washington State Emergency Management Division: **1-800-258-5990 OR 1-800-OILS-911**
AND
Washington State Department of Ecology Eastern Region: **1-509-329-3400**

Be prepared to provide the following information (see Spill Reporting Form):

- Where is the spill?
- What spilled?
- How much spilled?
- How concentrated is the spilled material?
- Who spilled the material?
- Is anyone cleaning up the spill?
- Are there resource damages (e.g. dead fish or oiled birds)?
- Who is reporting the spill?
- How can you be reached?

Required Spill Control and Reporting BMPs:

- Stop, contain, and clean up all spills immediately upon discovery. Do not flush absorbent materials or other spill cleanup materials to a storm drain or to surface water. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
- If any spill has reached, or may reach, a sanitary or a storm sewer, groundwater, or surface water, notify Ecology and the local sewer authority immediately (not to exceed one hour). Take reasonable steps to minimize any adverse impacts to waters of the state and to correct the problem. Follow up with written documentation covering the event within thirty (30) days unless otherwise directed by Ecology.
- Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill, and readily accessible to personnel responsible for spill response.
- Oil includes the following: oil, gasoline, or diesel fuel that causes a violation of the state of Washington's Water Quality Standards, or, that causes a film or sheen upon or discoloration of the waters of the state or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- In the event of a spill or release to water, soil, or air utilize the Spill Reporting Form to document information.

Spill Reporting Form

In the event of a spill or release to water, soil, or air collect the following information:

Section 1: Reporting Party	**Section 2: Responsible Party**
Name:	Name:
Phone Number:	Phone Number:
Organization:	Organization:

Section 3: Incident Information			
Incident Description:			
Incident Date:	Time of Discovery:	Cause:	
Address:	City:	State:	County:
Material Involved:	Amount Released:		
Water Body Affected:	Sheen Length:		
Sheen Width:	Sheen Color: (rainbow, silver, grey, etc.)		
Odor Description:	Weather Conditions:		

Section 4: Other
Actions Taken: