

**WENATCHEE VALLEY
COLLEGE**

**Stormwater Pollution
Prevention**

Operations and Maintenance Plan



Wenatchee Valley College

1300 5th Street

Wenatchee, WA 98801

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Acknowledgements

The template for this Storm water Pollution Prevention Operations and Maintenance Plan was developed by Otak, Inc. for the Wenatchee Valley Storm water 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 storm water 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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The majority of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Storm water Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Storm water 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 storm water flow. Includes gutters, drainage inlets, pipes, catch basins, manholes, channels, swales, ditches, small drainage courses, streams, and rivers.
- Drywell** A storm water 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.

- Hyperchlorinated** 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 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 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 Storm water Permit, issued by the Department of Ecology on January 17, 2007 and modified June 17, 2009.
Pollutant	A waste material that pollutes wind, water, or soil. A non-storm water discharge that enters the storm water collection and conveyance system.
Receiving Waters	Any water body receiving storm water runoff, including surface water, groundwater, and the storm water 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.
Storm water	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 Storm water Discharges Associated with Construction Activities
ECOLOGY	Washington State Department of Ecology
EPA	Environmental Protection Agency
FTE	Full Time Equivalent
INDUSTRIAL PERMIT	General NPDES Permit for Storm water Discharges Associated with Industrial Activities
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PHASE II PERMIT	Eastern Washington Phase II Municipal Storm water Permit
RCRA	Resource Conservation and Recovery Act
SWPPP	Storm water Pollution Prevention Plan
UIC	Underground Injection Control

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Section I—Introduction

Purpose

The Wenatchee Valley College is currently subject to the requirements of both the National Pollutant Discharge Elimination System (NPDES) Eastern Washington Phase II Municipal Storm water Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. Under the Phase II Permit, the Wenatchee Valley College is required to develop and implement an 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 storm water collection and conveyance system.

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

- Storm water Collection and Conveyance System,
- Parking Lots,
- Vehicle Fleets,
- College Buildings,
- Athletic Fields and Open Space.

This O&M Plan also addresses storm water pollution prevention during Construction Projects.

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.

Section I—Introduction

Continued

Table I-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 plug 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 maintenance 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 Wenatchee Valley College's receiving waters. Section 3 also describes the maintenance of the Wenatchee Valley College's 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 Wenatchee Valley College. 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 I—Introduction

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Section 2—Program Overview

Organization/Structure

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

In addition, many other Wenatchee Valley College departments conduct activities that have the potential to introduce pollutants into stormwater. To protect receiving waters from stormwater pollution, the following Wenatchee Valley College areas are covered under this Stormwater Pollution Prevention O&M Plan:

- FLEET/VEHICLES
- BUILDING MAINTENANCE
- OPEN SPACE/LANDSCAPING
- PARKING LOTS / SIDEWALKS

Stormwater Infrastructure Inventory

The Wenatchee Valley College completed a mapped inventory of the public stormwater infrastructure in 2014. A map of the publically operated stormwater system is included as Figure 2-1. The inventory is continually updated as new structures and facilities are added to the system. As of December 2014 the Wenatchee Valley College's stormwater system was comprised of approximately:

- 65 catch basins
- 5 manholes
- 9 swales
- 1 drywell
- 3 retention ponds
- 2 surface discharges to the Columbia River (No. 2 Canyon Drain and 9th Street {Linden Tree}) Outfalls.

Section 2—Program Overview

Continued

Table 2-1 Summary of Major Stormwater Management Facilities			
Name/Number/Designator	Facility Type	Location/Address	Year Constructed
SP-10 , SP-11A, SP-12	Retention Ponds	7 th and Ringold St.	unknown
CB01 thru CB65	Catch Basins	Varies on campus	unknown
SW01 thru SW09	Swales	5 th Street side	unknown
S-17	Strip drain	Brown’s Library	unknown

Facilities, Equipment, and Storage Areas

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

- Wenatchi Hall
- Eller-Fox Science Center
- Wells Hall
- Brown Library
- Smith Gymnasium
- Van Tassel Center
- Sexton Hall
- Central Washington University
- Batjer Hall
- Wells House
- Music and Arts Center
- Environmental Systems, Refrigeration Technology, Industrial Technology, and Technology
- Facilities and Operations
- Residence Hall



Contracted Activities

The Wenatchee Valley College contracts with private companies to perform some maintenance and construction activities.

Private contractors performing work on behalf of the Wenatchee Valley College 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

Section 3—Stormwater Collection and Conveyance System

Table 3-1 Implementation Checklist Stormwater Collection and Conveyance System		
	Current Activity	Responsibility
All Catch Basin Inspection annually	X	WVC
Catch Basin Cleaning – Clean structures based on inspected conditions	X	WVC
Stormwater Facility Inspections – 100% Inspected Annually	X	WVC

*All required new activities must be implemented prior to the August 2011 to be in compliance with the Phase Permit.

Overview

The Maintenance 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
- Recordkeeping



Section 3—Stormwater Collection and Conveyance System

Continued

Facility Inspections

The Phase II Permit requires regular inspection of the Wenatchee Valley College’s stormwater facilities to check system performance and identify maintenance needs. Stormwater facility inspections will be performed by the Maintenance 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. Drywells and other UICs will be inspected annually. Catch basin and roadside ditch inspections are scheduled annually.

Table 3-2 Stormwater Facility Inspection Frequencies		
Facility Type	Inspection Frequency	Timing
Management Facilities		
Drywells	Twice Yearly	April/October
Infiltration Basins and Trenches	Twice Yearly	April/October
Treatment Swales	Annually	October
Tanks and Vaults	Annually	October
Ponds (Detention, Water Quality, Evaporation, Infiltration)	Annually	October
Control Structures	Annually	October
Conveyance System		
Catch Basins: ALL	Annually	October
Ditches	Annually	October

Inspection Activities

During inspections, field inspectors should utilize the inspection checklists 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 Facilities Director 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 Wenatchee Valley College’s inventory map. Field inspectors should immediately report any spills or illicit discharge concerns to the Facilities Director.

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 Wenatchee Valley College 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 Wenatchee Valley College 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 Wenatchee Valley College meet the permit requirements.

Section 3—Stormwater Collection and Conveyance System

Continued

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 through Waste Management.
- If vegetation is removed during ditch cleaning, the ditch side slopes should be seeded and mulched as soon as possible after cleaning.
- Implement the Wenatchee Valley College'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.



Section 3—Stormwater Collection and Conveyance System

Continued

Structural BMPs

- Stencil drywell and catch basin grates with, “Dump No Waste - Drains to Stream/Groundwater”.
- Prioritize, schedule, and complete repairs and replace damaged components of the stormwater conveyance system identified during inspections.



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 street sweeping.
- Test and dispose of sediment and debris through Waste Management.
- 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.
- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.

Section 3—Stormwater Collection and Conveyance System

Continued

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

- 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 stormwater requirements set forth in Wenatchee City Code 12.10.

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. 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.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. Tom Martin/Maintenance Mechanic 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;
- 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 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, and
- Results of sediment testing.

Hard copy reports should be stored in the file cabinet and hard copy documents will be scanned for electronic storage in WVC data base. Inspections, catch basin cleaning, and facility maintenance should also be imported into the Wenatchee Valley College's work order system, so the Director of Facilities, Rich Peters can track maintenance activities and plan for future work.

In addition, material or liquid spills should be promptly reported to Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the Director of Facilities office.

Section 3—Stormwater Collection and Conveyance System

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Section 4—Parking Lots and Misc BMP's

Section 4—Parking Lots and Misc BMP's

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 street maintenance activities can negatively impact the health of local aquatic resources.

The Maintenance Department is responsible for implementing this O&M Plan during maintenance of the Wenatchee Valley College's sidewalks and parking lots.

The Maintenance Department is also responsible for implementing this O&M Plan during maintenance of all college parking lots over 5,000 square feet. This includes:

- Smith Gym
- Wells Hall
- Sexton Hall
- North side Wells Hall & Brown Library
- Residence Hall

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 parking lots and sidewalks. The Wenatchee Valley College'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 Wenatchee Valley College has identified BMPs related to each of the following activities:



Section 4—Parking Lots and Misc BMP's

Continued

- Parking Lot Sweeping
- Winter Activities
- Vegetation Management
- Recordkeeping

In general, the focus on selecting parking lot BMPs is to reduce the amount of sediment and debris that is washed from the parking lots 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.

Sweeping

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.

Sweeping Schedule

Wenatchee Valley College's 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. Table 4-1 shows the proposed sweeping schedule.

Table 4-1 City of Wenatchee Street Sweeping Schedule		
Location	Sweeping Frequency	Timing
Management Facilities		
Upper Gym Parking Lots	Minimum 1 per Year	Early AM
Wells Parking Lots 9 th	Minimum 1 per Year	Early AM
Parking Lot D	Minimum 1 per Year	Early AM
Sexton Parking Lot	Minimum 1 per Year	Early AM

Section 4— Section 4—Parking Lots and Misc BMP's

Continued

Parking Lot Sweeping BMPs

- Maintain sweeping equipment in good working condition.
- Store swept material in a covered and contained site until it can be disposed of through Waste Management.
- Whenever possible, coordinate parking lot sweeping to occur just prior to catch basin cleaning.
- Schedule additional parking lot sweeping following special events that generate higher than normal pollutant loadings.
- 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.
- 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; plug storm drain inlets and direct wash water to sanitary sewer (with prior approval from the local sewer agency).



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. In some cases, the waste material must be tested to determine the proper disposal method. Wenatchee Valley College re-uses materials that are swept up in the parking lot areas. These materials are sometimes reapplied in sanding operations for winter conditions or used as fill for various campus projects. If contamination of material is a concern waste testing will be performed and materials handled as needed to prevent storm water contamination and assure proper disposal.

Winter Activities

The Wenatchee Valley College 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.

Section 4—Parking Lots and Misc BMP's

Continued

Anti-icing, Deicing and Sanding

- Select anti-icers and deicers that cause the least adverse environmental impact while still providing adequate public safety. The following materials are preferred:
 - sand
 - magnesium chloride
- The following materials shall not be used:
 - Sodium chloride (salt)
 - fertilizer
- 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.
- Place barriers to route deicing material away from water bodies.
- Sweep streets in early spring to collect accumulated sand after the winter season.

Snow Removal

- Whenever possible, avoid covering inlets of the stormwater collection and conveyance system during plowing, so snowmelt can drain.
- Snow removed from Wenatchee Valley College remains on campus during melting.
- 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 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. 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.
- Store chemical anti-icing and deicing materials following manufacturer recommendation.
- Sweep parking lots, material storage areas, and driveways regularly to collect dirt, waste, debris, and loose stockpile materials. Do not hose down the areas toward a storm drain inlet or ditch.
- Whenever possible, collect and recycle stored materials back into the stockpile.
- Place temporary plastic sheeting over uncovered stockpiles.



Section 4— Section 4—Parking Lots and Misc BMP's

Continued

Small Construction BMPs

The following BMPs apply when making small parking lot and access road 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.

Landscaping and Irrigation 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.
- Dispose of lawn clippings, leaves, branches, and other vegetative material at our compost location or at the Stemilt Organic Recycling Center; landscape material should not be disposed of in streams or storm drains.
- Avoid loosening the soil during weed control.
- 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.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.

Section 4—Parking Lots and Misc BMP's

Continued

- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the Wenatchee Valley College's SWPPP. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- 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 Wenatchee Valley College'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. Rich Peters, the Director of Facilities 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 the Director of Facilities, Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the office of the Director of Facilities, Rich Peters.

The following records may also assist the maintenance department in planning for future maintenance activities:

- Parking lot sweeping – location, frequency

Hard copy reports should be stored in the file cabinet and hard copy documents will be scanned for electronic storage in WVC data base. Street sweeping records should also be imported into the Wenatchee Valley College's work order system, so the Director of Facilities Rich Peters can track maintenance activities and plan for future work.

Section 4—Parking Lots and Misc BMP's

Continued

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Section 5—Vehicle Fleets

**Table 5-1
Implementation Checklist for Vehicle Fleets**

	Current Activity	Responsibility
Sweep vehicle storage parking lot as needed	X	Maintenance Department
Maintain spill kit onsite at all times	X	Maintenance Department
Conduct employee training on fueling procedures	X	Maintenance Department
Conduct all vehicle washing at an offsite commercial washing facility	X	Maintenance Department

*All required new activities must be implemented prior to the August 2011 to be in compliance with the Phase Permit.

Overview

The Maintenance Department is responsible for maintaining Wenatchee Valley College vehicles and equipment in proper working order. Most vehicle maintenance is conducted at the Maintenance Shop. 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 Wenatchee Valley College’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 Wenatchee Valley College 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 stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters.

Section 5—Vehicle Fleets

Continued

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 Wenatchee Valley College's primary vehicle storage area is located at 1307 7th street. Passenger vehicles are also stored overnight on the main campus at 1300 5th street.

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 Wenatchee Valley College's SWPPP.
- Install an oil removal system (API, baffle type, or coalescing plate oil water separator, catch basin filter, or equivalent structural BMP) at the vehicle storage area.

Vehicle Fueling

The Wenatchee Valley College operates a fueling station at 1510 9th street. 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

- Fuel tanks and fuel dispensers shall have current permits with the appropriate agencies.
- 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 that plan and immediately clean up all spills.
- Maintain a spill kit onsite at all times.
- 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.
- Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.
- Hosing down of leaks, drips and spills is prohibited.

Structural BMPs

- Install an oil removal system (API, baffle type, or coalescing plate oil water separator, catch basin filter, or equivalent structural BMP) at the vehicle fueling area.

Vehicle Maintenance

Vehicle and equipment maintenance and repair conducted by the Wenatchee Valley College 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.

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 Wenatchee Valley College's SWPPP.

Section 5—Vehicle Fleets

Continued

Vehicle Washing

In accordance with the City of Wenatchee Illicit Discharge Ordinance 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 Wenatchee Valley College washes vehicles off-site at commercial carwash facilities.



Operational BMPs

- Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
- Mark the wash area.
- 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 (with prior approval from the local sewer agency for the connection).

Structural BMPs

- If vehicle washing is to be conducted onsite, construct a designated vehicle wash location, including a covered wash pad, containment berms, and a drains connected to the sanitary sewer system (with prior approval).

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 Director of Facilities, Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the office of the Director of Facilities, Rich Peters.

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Section 6—College Buildings

Section 6—College Buildings

Table 6-1 Implementatino Checklist for College Buildings			
	Current Activity	Required New Activity*	Responsibility
Maintain a spill kit onsite at all times	X		Maintenance Department
Cover storm drain inlets prior to pressure washing		X	Maintenance Department
Inspect the irrigation system monthly during the watering season	X		Grounds crew
Develop a Vegetation and Pest Management Plan		X	Grounds crew

*All required new activities must be implemented prior to the August 2011 to be in compliance with the Phase Permit.

Overview

College 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 Facilities Department is responsible for the maintenance of the Wenatchee Valley College buildings including:

- Batjer Hall
- Brown Library
- Central Washington Univeristy
- Eller Fox Science Center
- Facilites & Operations
- Smith Gymnasium
- Industrial Technology
- Music & Art Center
- Refrigeration
- Residence Hall
- Sexton
- Van Tassel Center
- Wells Hall
- Wenatchi Hall

Section 6—College Buildings

Continued

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of college buildings. The Wenatchee Valley College'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 Wenatchee Valley College has identified BMPs related to each of the following activities:

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

In general, the goals in selecting 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 the 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

College 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 building. Wash water from 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 Director of Facilities, Rich Peters.
- 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, soaps, or detergents, 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 college 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 comeingle.

Section 6—College Buildings

Continued

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 Director of Facilities, Rich Peters.
- 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.

Structural BMPs

- Enclose and(or) contain all work while using a spray gun or conducting sand blasting in compliance with applicable air pollution control, Occupational Safety and Health Administration, and Washington Industrial Safety and Health Act.

Vegetation Management

Vegetation management includes maintaining landscaping for landscaped areas associated with municipal buildings and controlling noxious weeds, pests, and unwanted vegetation growth. Disturbed soil, removed vegetation, and chemicals can all negatively impact receiving waters.

Landscaping and Irrigation BMPs

- Dispose of lawn clippings, leaves, branches, and other vegetative material at our compost location or at the Stemilt Organic Recycling Center; landscape material should not be disposed of in streams or storm drains.
- 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.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the Wenatchee Valley College's SWPPP. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- 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.

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 Wenatchee Valley College'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.

Winter Activities

Winter activities around college 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.

Section 6—College Buildings

Continued

Deicing and Sanding

- Whenever possible, limit the use of chemical deicers. When chemical application is needed, select products with the least adverse environmental impact while still providing for public safety. The following materials are preferred:
 - Sand
 - Magnesium chloride
- The following materials shall not be used:
 - Sodium chloride (salt)
 - fertilizer
- 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 storm water collection and conveyance system so snow melt can drain.
- Snow removed from sidewalks and parking lots shall be deposited on adjacent landscaped, within a seldom used parking stall, or taken to a location on campus for storage during melting.
- 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 well.

Other Maintenance Activities

Additional maintenance activities associated with college 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.



Operational BMPs continued

- 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 storm water conveyance system to the Director of Facilities, Rich Peters.

Structural BMPs

- Stencil drywell and catch basin grates with, “Dump No Waste - Drains to River/Groundwater”.

Recordkeeping

The Phase II Permit requires long term recordkeeping of events and activities that have the potential to impact storm water. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the storm water collection and conveyance system. Material or liquid spills should be promptly reported to the Director of Facilities, Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the office of the Director of Facilities, Rich Peters.

Section 6—College Buildings

Continued

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Section 7—Athletic Fields and Open Space

Section 7— Athletic Fields and Open Space

Table 7-1 Implementation Checklist for Athletic Fields and Open Space			
	Current Activity	Required New Activity*	Responsibility
Minimize use of chemical fertilizers		X	Grounds Crew
Inspect irrigation systems monthly during the watering season	X		Grounds Crew
Develop a Vegetation and Pest Management Plan		X	Grounds Crew

*All required new activities must be implemented prior to the August 2011 to be in compliance with the Phase Permit.

Overview

The maintenance of athletic fields 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 athletic fields and open space maintenance activities are conducted can reduce the amount of storm water pollution that is conveyed to local aquatic resources.

The Director of Facilities, Rich Peters is responsible for the maintenance of the following Athletic Fields and Open spaces:

- Paul Thomas baseball field
- Soccer field
- Softball field
- All turf areas

The Director of Facilities, Rich Peters is responsible for maintaining open space and undeveloped properties owned by the Wenatchee Valley College. These properties include:

- 1300 5th street
- 1307 7th street
- 1337 5th street
- 1409 5th street
- 406 N. Elliott

Section 7—Athletic Fields and Open Space

Continued

Standards and BMP Selection

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

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

In general, the goals in selecting athletic fields and open space maintenance BMPs are to prevent spills, to reduce the potential for a non-storm water discharge into the storm water collection and conveyance system, and to reduce the amount of sediment and debris that is washed into the storm water 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 storm water collection and conveyance system.

Vegetation Management

Proper turf management and landscape maintenance practices have the potential to reduce the amount of storm water 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 athletic fields 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.

Section 7— Athletic Fields and Open Space

Continued

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 mulching type mowers.
- Dispose of vegetated waste (clippings, leaves, branches) at the college’s compost location or at the Stemilt Organic Recycling Center; 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 25 feet of a storm drain inlet, or 50 feet of a stream or water body.
- Blow or sweep fertilizer from all sidewalks
- Store fertilizers in enclosed areas. 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 soaker hoses, rather than sprinklers; irrigate in the morning or evening to conserve water.
- Monitor soil for moisture content and adjust irrigation times accordingly.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- 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.



Section 7—Athletic Fields and Open Space

Continued

Pesticide and Herbicide BMPs continued

- 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 storm water collection and conveyance facilities, excluding dry 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 Wenatchee Valley College'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.

Trash and Debris

Trash and debris collection is important to maintain the aesthetic and livability of the Wenatchee Valley College's athletic fields. Prompt trash removal also helps prevent garbage and leachate from entering the storm water conveyance system and polluting receiving waters.

Trash and Debris Removal BMPs

- When possible, store garbage containers beneath covered structures.
- 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.
- Consider the installation of pet waste kiosks, providing signage and collection bags, to encourage responsible pet waste clean-up.

Section 7— Athletic Fields and Open Space

Continued

Small Construction Activities

The following BMPs apply when small construction or repair activities include grading, soil transfer, or vegetation removal.

Small Construction BMPs

- 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 Storm water 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 add new impervious surfaces, modify components of the storm water system, disturb large areas of soil or include any in-water work, follow the construction activity guidelines in Section 8.

Buildings and Structures

The building facilities in Athletic Fields and open spaces shall be maintained according to the BMPs in Section 6 of this O&M Plan.

Storm water Facilities

The Facilities Department is responsible for the maintenance of storm water management facilities at the Paul Thomas baseball field, soccer field and softball field. Storm water management facilities should be inspected and maintained according to the schedules and maintenance standards in Section 3

Section 7—Athletic Fields and Open Space

Continued

Storage Areas

Maintenance vehicles, equipment, and uncovered material stockpiles have the potential to leak or contribute pollutants to the storm water system during rain or snow melt events. The following operational BMPs should be implemented to limit the transport of materials into the storm water 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 storm water 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 covered containment area.
- Use drip pans or containers under vehicles and equipment that drip or are likely to drip liquids.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. Tom Martin/Maintenance Mechanic is responsible for keeping records of storm water collection and conveyance system maintenance activities within the Paul Thomas baseball field, soccer field and softball field. 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 storm water management facilities;
- Records of spot checks performed following major storm events, and
- Repairs or maintenance actions completed as a result of inspections and spot checks.

The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the storm water collection and conveyance system. Material or liquid spills should be promptly reported to the Director of Facilities, Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the office of the Director of Facilities, Rich Peters.

Hard copy reports should be stored in the file cabinet and hard copy documents will be scanned for electronic storage in WVC data base. In addition, material or liquid spills should be promptly reported to the Director of Facilities Rich Peters and all paperwork related to the spill and cleanup activities should be maintained in the office of the Director of Facilities, Rich Peters.

Section 7— Athletic Fields and Open Space

Continued

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Section 8—Construction Projects

Section 8—Construction Projects

College 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 storm water from flowing away from the site and into the storm water collection and conveyance system. Ecology requires construction sites of a certain size to document their planned sediment and erosion control techniques and to obtain separate NPDES Permit coverage.

The following construction projects are required to have a *General NPDES Permit for Storm water 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 storm water 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 storm water to surface waters of the State; or
- Any size construction activity discharging storm water 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 storm water and non-storm water 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.

College 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.

Section 8—Construction Projects

Continued

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Section 9—SWPPP for 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 storm water to surface or groundwater. The Wenatchee Valley College's obligation is to prevent the discharge of pollutants to the storm water system and protect water quality to the maximum extent practicable. To meet that goal, the Wenatchee Valley College has identified BMPs related to each of the following activities:

- Outdoor storage of raw materials
- Storage of liquids, solid materials, and hazardous materials
- Vehicle and equipment washing
- Vehicle and equipment maintenance and repair
- Vehicle and equipment fueling
- Vehicle and equipment parking and storage

This operations plan describes both operational and structural BMPs that will be implemented at Wenatchee Valley College. In general, the goals of the storage areas maintenance BMPs are to prevent spills, to reduce the potential for a non-storm water discharge into the storm water collection and conveyance system, and to reduce the amount of sediment and debris that is washed into the storm water 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 storm water collection and conveyance system.

Outdoor Storage of Raw Materials

Typical Activities

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.

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.

Section 9—Storage Areas

Continued

Environmental Concerns

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

Asphalt Products

Sand and aggregates

Operational BMPs

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

Structural BMPs

- 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.
- 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.
- 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.
- Store in a building or paved and bermed covered area; or
- Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material; or
- 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.
- 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.

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

Section 9—Storage Areas

Continued

Operational BMPs

- Sweep storage areas frequently to remove material that could otherwise be washed off by stormwater.
- Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur.
- In the event of a spill or leak, follow the procedures outlined the facility's Spill Response Plan.
- Place tight fitting lids on all containers.
- Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
- Label all cabinets, storage sheds, etc. containing hazardous chemicals with proper Hazardous Material signage.
- 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.
- 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.
- 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.
- Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

Structural BMPs

- 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.
- 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.
- 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.
- 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.

- 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.
- 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.

Vehicle and Equipment Washing

Typical Activities

The Wenatchee Valley College washes vehicles off-site at commercial carwash facilities. Equipment is typically washed on-site at the maintenance facilities. When equipment washing is conducted, it is essential that the washwater 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 washwater 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

Section 9—Storage Areas

Continued

Operational BMPs

- Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
- Approved safer alternative products should be used where practical and effective, such as phosphate-free biodegradable soaps and detergents.
- 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.
- Water usage should be minimized.
- 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

- Preferably, conduct vehicle/equipment washing in a building or enclosure constructed specifically for washing of vehicles and equipment, which drains to the sanitary sewer.
- Alternatively, conduct outside washing operations in a designated wash area and:
- 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.
- For additional information see the Washington State Department of Ecology document entitled “Vehicle and Equipment Washwater Discharges/Best Management Practices Manual”, publication number 95-056.

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

Operational BMPs

- 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.
- 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).
- Make sure that the automatic shutoff valve on the fuel nozzle is functioning properly.
- A person must be present at the fuel pump during fueling at all times.
- Hosing down of leaks, drips and spills is prohibited.
- Maintain clean fuel dispensing areas using dry cleanup methods.

Structural BMPs

- 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.
- 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.
- 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.

Section 9—Storage Areas

Continued

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

- 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 spill cleanup supplies.
- Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
- 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

- Use drip pans or containers under parts or vehicles that drip or are likely to drip.
- 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.
- Empty oil and fuel filters before disposal.
- Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids.
- 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).
- Do not mix dissimilar or incompatible waste liquids stored for recycling.
- Ensure safeguards such as oil shut-off valves are installed and maintained on recovery equipment.

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

Section 9—Storage Areas

Continued

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.
- Remove liquids from vehicles that are retired for scrap.

Structural BMPs

- Consider storing damaged vehicles inside a building or paved and bermed covered containment area until all liquids are removed.

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Section 10—Planning, Budgeting and Recordkeeping

Section 10—Planning, Budgeting, and Recordkeeping

The focus of this O&M Plan is to implement activities and practices that will protect receiving waters. Most of the BMPs included in this plan require minor adjustments to behaviors during existing maintenance activities. The Director of Facilities, Rich Peters is responsible for implementing the new activities associated with the storm water collection and conveyance system inspections and maintenance requirements outlined in Section 3. The Director of Facilities, Rich Peters will also need to monitor street sweeping practices and winter activities to comply with the BMPs included in Section 4.

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 storm water collection and conveyance system. Beyond that, the Permit is prescriptive when it comes to implementing BMPs for other Wenatchee Valley College 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 the community;
- The level of service requested by the WVC Cabinet and Board of Directors and
- The maintenance frequencies needed to prevent costly repairs of the storm water collection and conveyance system.

For example, the Phase II Permit does not have required parking lot 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.

Section 10—Planning, Budgeting, and Recordkeeping

Continued

Staff Assignments and Work Orders

Based on the Staffing and Equipment calculations, the staff time required for storm water pollution prevention breaks down into the following major activities:

- Storm water Collection and Conveyance: 80 hours per year Full Time Equivalents (FTE)
- Parking Lots and Sidewalks: 120 hours per year FTE
- Fleet and Vehicles: 100 hours per year FTE
- Other Activities: 200 hours per year FTE
- Program Management: 40 hours per year FTE

Note that the above staff requirements are only for the storm water pollution prevention activities related to each maintenance area. For example, the 120 FTE for parking lots and sidewalks include the time for sweeping, sanding, and plowing, but does not include the time for pothole repair or sign replacement.

The total cost to maintain the storm water collection and conveyance system in accordance with the Phase II Permit requirements will be absorbed by the Facilities & Operations budget. The majority of the cost increase over current expenditures is needed to conduct annual inspections of all components of the storm water system. Over time, these annual inspections will allow the Wenatchee Valley College to adjust crew assignments to focus maintenance activities on neighborhoods and facilities that experience the most problems. Recurring problem areas can also be identified for long term retrofit to address the challenges.

Equipment Needs

The Wenatchee Valley College is generally well equipped to address the maintenance needs identified in this O&M 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 Wenatchee Valley College's operations and maintenance activities. Implementing this O&M Plan will assist the Wenatchee Valley College with compliance with the following:

Illicit Discharge Detection and Elimination

Field inspectors play a key role in verifying and updating information in the Wenatchee Valley College's storm water 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 Rich Peters, the Director of Facilities and all paperwork related to the spill and cleanup activities will be maintained in the office of the Director of Facilities, Rich Petes. 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 storm water collection and conveyance system. The inspection checklists in Appendix A are a key component to the Wenatchee Valley College'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 storm water 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.

Annual Report

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

Appendix A

Stormwater Facility Inspection Checklists

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

Maintenance Codes:

- | | | |
|----------------------------|------------------------|-------------------------------|
| 1 – Accumulated Sediment | 5 – Impeded Water Flow | 9 – Damaged Pipes |
| 2 – Trash & Debris | 6 – Erosion | 10 – Mosquito/Vector Breeding |
| 3 – Vegetation Concerns | 7 – Structural Repairs | 11 – Other |
| 4 – Water Quality Concerns | 8 – Cover/Frame/Grate | 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.

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 3/4 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 1/2 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	<p>Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.</p> <p>Catch basin insert requires replacement if:</p> <ul style="list-style-type: none"> • 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 3/4 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 1/2 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 3/4 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 1/2 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 to 1/2 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	<u>Erosion</u> 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 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.

Inspection Record
Stormwater Treatment & Flow-Control Facilities Spot Check

Date: _____

Inspector: _____

Facilities Inspected:

- Art Building Swales

- Dorms

- Maintenance Facility Swales

- Fifth Street Parking Lot Swales

-

-

-

Needs Maintenance:

- _____

- _____

- _____

- _____

- _____

- _____

Notes:

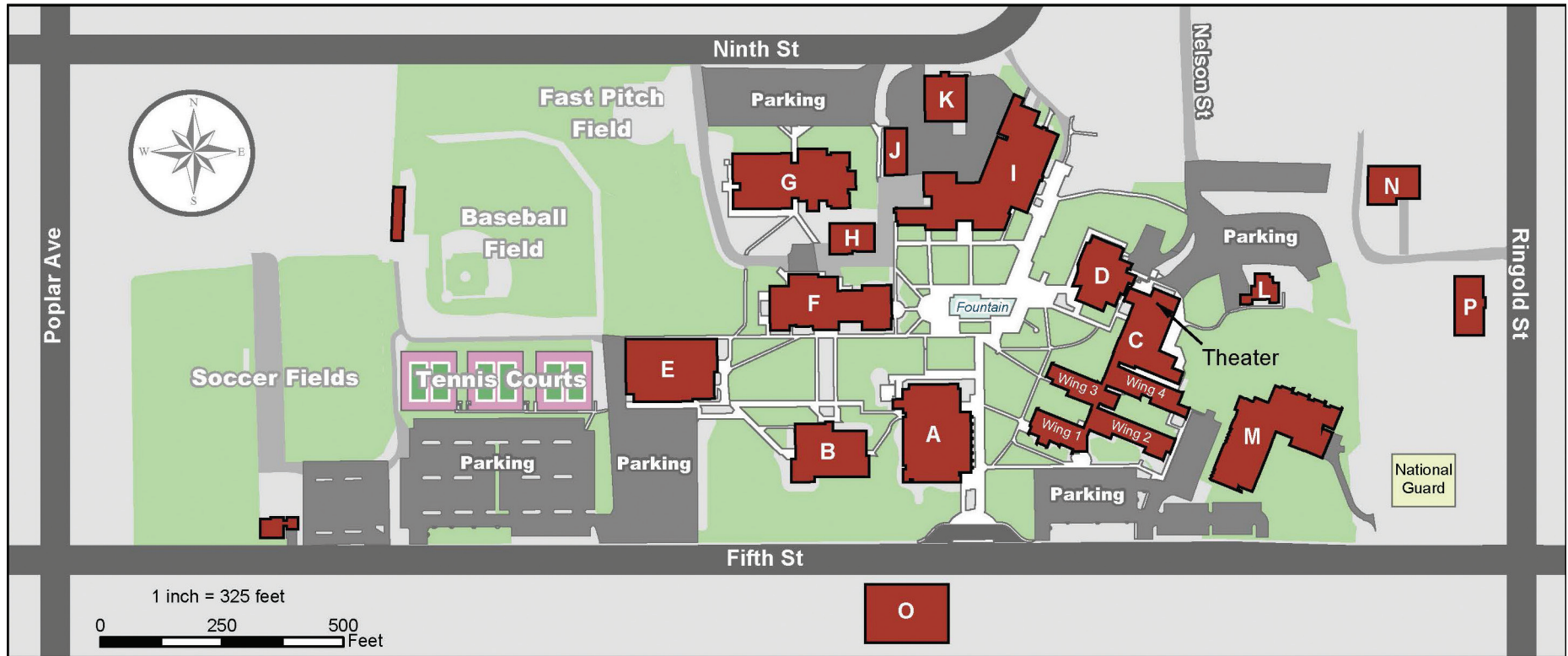
Rain Event Information:

24 hour storm event with a 10 year or greater recurrence interval = 1.3" or more

Wenatchee Campus

1300 Fifth Street, Wenatchee

Breathe easy, our campus is now tobacco free.



- A: Wenatchi Hall**
 Admissions/Registration
 Allied Health
 Biology
 Business Office
 Cashier
 Community Relations
 Counseling
 Educational Planning
 Financial Aid
 Human Resources
 President's Office
 Math
 Nursing
 Radiologic Technology
 Testing Center
 Veterans Office
 WVC Foundation

- B. Eller-Fox Science Center**
 Chemistry
 Earth Sciences

- Medical Lab Technology
 Physics

- C: Wells Hall**
 Adult Basic Skills
 Campus Theater
 CAMP Office
 Ceramics Studio
 Continuing Education
 Instruction Office
 WorkFirst
 Workforce Grants
 WSU

- D: Brown Library**
 Distance Classrooms
 Tutor Center

- E: Smith Gymnasium**
 Athletic Training Center
 Basketball Courts
 Fitness Lab

- F: Van Tassell Center**
 Bookstore
 Cafe
 International Students
 Multicultural Affairs
 Running Start
 Student Lounge
 Student Programs

- G: Sexton Hall**
 Computer Technology
 Business Computer
 Technology
 Robert Graves Gallery
 WriteLab

- H: Central Washington University**

- I: Batjer Hall**
 Agriculture
 Automotive
 Criminal Justice

- Print Shop/Mailboxes
 Security Office

- J: Environmental Systems and Refrigeration Technology**

- K: Industrial Technology**

- L: Wells House**

- M: Music and Art Center (MAC)**
 Art
 MAC Gallery
 Music
 Recital Hall

- N: Facilities and Operations**
 Shipping & Receiving

- O: Residence Hall**

- P: Technology**

Rooms Begin With	Building Name
1000	Wells Hall (C)
1500	Music and Art Center (M)
2000	Wenatchi Hall (A)
3000	Eller-Fox Science Center (B)
4000	Smith Gym (E)
5000	Van Tassell Center (F)
5500	Central Washington University (H)
6000	Sexton Hall (G)
7000	Refrigeration Lab (J)
7500	Industrial Technology (K)
8000	Batjer Hall (I)
9000	Brown Library (D)
9500	Facilities and Operations (N)

