

ORDINANCE NO. 2006-05-047

AN ORDINANCE OF THE CITY OF BELLINGHAM, WASHINGTON, AMENDING BELLINGHAM MUNICIPAL CODE CHAPTERS 15.16 (SURFACE AND STORMWATER UTILITY), 15.40 (DRAINAGE), AND 15.42 (STORMWATER MANAGEMENT) RELATING TO IMPLEMENTING BEST PRACTICE STORMWATER MANAGEMENT.

WHEREAS, the City of Bellingham operates a surface and stormwater utility and management program to further public health, safety, and welfare by promoting a comprehensive approach to these issues, controlling storm and surface runoff, and enhancing environmental protection; and,

WHEREAS, the City's stormwater management program is codified in BMC Chapters 15.16., 15.40 and 15.42; and,

WHEREAS, the responsible federal and state regulatory authorities have required local governments to adopt stormwater management regulations, which include minimum requirements; and,

WHEREAS, the City of Bellingham must update its codified regulations to implement the requirements of the federal and state regulatory authorities; and,

WHEREAS, the intent of this ordinance is to comply with these federal and state regulatory requirements to establish best practices for stormwater management; and,

WHEREAS, this ordinance is also intended to promote and facilitate the use of Low Impact Development (LID) for stormwater management to lessen the financial impacts of the City's stormwater management program; and,

WHEREAS, City Council finds that this ordinance's stormwater management program is in the best interests of the citizens of the City of Bellingham;

**NOW, THEREFORE, THE CITY OF BELLINGHAM DOES ORDAIN:**

**Section 1:** Bellingham Municipal Code Section 15.16.030 is hereby amended as follows:

**15.16.030 - Storm And Surface Water Service Rates**

- A. [UNCHANGED – sets monthly utility rate]
- B. **System Development Charge.** There shall be a system development charge on each parcel of property that is developed or redeveloped within the City of Bellingham. These charges shall be:

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1. \$678 for a single family residence.
2. For other than a single family house, the fee shall be calculated at the rate of \$0.226 per square foot of impervious surface.
3. Where development meets all of the following minimum thresholds for designation as a Low Impact Development ("LID") a credit of 50% of the usual stormwater system development charge shall be provided:

**Minimum Thresholds for Low Impact Development Credit  
(Table 1)**

	<u>Critical Basin</u>	<u>Urban Residential</u>	<u>Commercial</u>	<u>Access Roads</u>
<u>Vegetated Open Space</u>	65%	35%	10%	NA
<u>Maximum Effective Impervious Surface Area</u>	10%	Per Table 2 Below	70%	NA
<u>Flow Control</u>	Yes	Yes	Yes	Yes
<u>Storage Volume</u>	0%	20%	50%	50%
<u>Treatment</u>	Yes	Yes	Yes	Yes
<u>Soils</u>	Yes	Yes	Yes	Yes

**Maximum Percent Impervious Surface Area Based on Residential Density  
(Table 2)**

<u>Dwelling Units/Gross Acre</u>	<u>Max. % Impervious</u>	<u>Dwelling Units/Gross Acre</u>	<u>Max. % Impervious</u>
1.0	10%	5.0	32.5%
2.0	15%	6.0	35%
3.0	20%	7.0	40%
4.0	30%	10.0+	60%

a. "Vegetated open space" in table 1 may include, by way of example, native, undisturbed areas or rehabilitation of previously disturbed areas and may integrate passive recreation facilities. "Passive recreation facilities" shall mean non-intrusive land uses such as, by way of example, open areas, green belts, aesthetic buffers, and contemplative areas. However, trails for walking, hiking, biking, etc and active recreation areas shall not count towards vegetated open space total. "Active recreation areas" shall include intrusive land uses, such as, by way of example, ball fields, athletic sites, playgrounds, pools, skate parks, golf areas, mountain biking, etc.

b. Impervious surface area is defined in BMC 15.42.020

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c. LID projects for purposes of credit shall meet the minimum peak and duration flow control standards per the Department of Ecology Stormwater Management Manual for Western Washington ("DOE Stormwater Management Manual"), current edition.

d. The percentage of storage volume in the table 1 represents the maximum percentage of the total site stormwater storage volume that can be contained in conventional detention facilities with an average design water depth greater than 6 inches for the 2-year storm event and a draw-down period greater than 24 hours.

e. "Treatment" (table 1) Best Management Practices ("BMP's") shall be provided to treat 91 percent of the annual runoff volume per the standards found in the DOE Stormwater Management Manual, current edition.

f. All site soils disturbed during construction shall be rehabilitated according to the standards in BMC 20.12.030, as currently adopted or hereafter amended.

g. Access roads shall incorporate ecology embankment or bio-retention facilities along a minimum of 75% of the total road length. An access road is defined as an impervious surfaced private roadway utilized to provide vehicular access to a parcel or parcels of property. The definition of impervious surface is found in BMC 15.42.020.

h. All projects shall provide a maintenance plan/program including source control BMP's.

This charge shall be imposed upon all parcels to be developed or redeveloped and upon additions, alterations and remodels which add 3,000 square feet or more of impervious surface. The charge shall be paid prior to the issuance of building permits or obtaining other city approvals.

C. The City Council reserves the right to supplement or alter charges from time to time to ensure the long term viability of the surface and storm water utility and to guarantee debt covenants are met. The charges are, and shall be, equitable, fair, and uniform.

**Section 2:** Bellingham Municipal Code Section 15.16.040 is hereby amended as follows:

**15.16.040 - Exemption, Credits And Adjustments**

A. Exemption. [UNCHANGED]

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**B. Credits for Qualified Existing Stormwater Facilities. [UNCHANGED]**

**C. Credits for Qualified Existing Stormwater Facilities with Special Discharge Limits. [UNCHANGED]**

**D. Public Education Credits. [UNCHANGED]**

**E. Special Credits for Partially Pervious Gravel or Approved Pervious Surfacing.**

Those properties that utilize gravel or pervious surfacing materials and systems for parking, driving or storage surfaces will be charged the standard rate for those areas as an impervious surface. The property owner may apply to the City's Department of Public Works for a special credit for gravel-surfacing or other approved pervious surfacing systems if the total area of such surfacing within the property is greater than 6,000 square feet. The credit shall take one of two forms.

1. The property owner provides a letter of request along with mapping of their site which shows the location of surfacing for which a credit is desired, along with a quantified square footage of the area in question. The City will review the information provided for consistency with the original delineation of impervious area. If the information is found accurate and the total area eligible for credit is greater than 6,000 square feet a 20% credit will be applied to the area of the surfacing. The credit will be in the form of a reduction to the square footage used for fee determination. The property owner is responsible to apprise the City of changes to property that may affect any impervious surface determination or the amount or type of special credit.

2. The property owner provides a letter of request, mapping of their site, quantification of area and can demonstrate that the gravel or other pervious surfacing areas meet the following pervious performance standards:

a. The gravel surfacing was designed and is maintained as a pervious pavement system in accordance with or exceeding the requirements contained in the DOE Stormwater Management Manual, current edition , or

b. The gravel or pervious surfacing and underlying soils to the depth of one foot are shown, by testing, to have a surface infiltration rate of at least one-quarter inch per hour as certified by a geo-technical engineer AND the infiltration of water will not result in a violation of any applicable federal, state or local laws, rules or regulations regarding groundwater contamination.

The special credit for demonstration of meeting pervious standards shall be a reduction to the impervious area of the site. The amount of reduction shall be 1/2 of the surface area(s) that meet the pervious criteria. The City may require recertification of the surfacing, for no cause, two years or more after the first pervious special credit has been given. If material changes have been made to the property, the City may require

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recertification at any time. Failure to recertify within 30 days of receipt of the City's letter of request to recertify will result in the loss of the previous special credit. The property owner is responsible to apprise the City of changes to property that may affect any impervious surface determination or the amount or type of any special credit.

**Section 3:** Bellingham Municipal Code Section 15.40.140 is hereby amended as follows:

**15.40.140 - Dedication Of Drainage Facilities To The City - Contract**

All drainage facilities to be dedicated to the city, and which the city agrees to accept, shall be constructed in accordance with a contract between the constructor of the improvements and the city, providing at least:

- A. Terms and conditions satisfactory to the city, setting forth design and construction standards;
- B. Requiring a permit to be issued before commencement of construction; and
- C. If deemed necessary by the director of public works, requiring provision of bonds covering performance, payment, and/or guaranteeing the construction for up to two years after the City accepts the drainage facility.

**Section 4:** Bellingham Municipal Code Section 15.40.170 is hereby amended as follows:

**15.40.170 - Nuisances Declared - Abatement**

- A. The following are declared to be nuisances:
  - (1) Any drainage facility which is the responsibility of the owner or occupant of a premises, or any other person, which is not maintained in accordance with good and acceptable engineering practice and in accordance with any recorded maintenance agreements;
  - (2) Drainage improvements of any kind which are constructed contrary to requirements of the Department of Public Works, if plans for the construction have been submitted to that department for approval for any reason;
  - (3) Any condition in any drainage facility which constitutes an unsanitary, dangerous, or other condition which in the judgment of the Director of Public Works constitutes an immediate hazard or otherwise endangers the public's health, safety or welfare.

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(4) Failure to obtain any permit required or failure to comply with the terms of any such permit or approved plan.

B. Things declared to be nuisances by this section shall be subject to the criminal penalties and abatement procedures provided for nuisances by the city's criminal code, provided notice of a nuisance under this Section shall be provided as indicated in BMC 10.28.030.A., as currently enacted or hereinafter amended.

**Section 5: Bellingham Municipal Code Section 15.42.010 is hereby amended as follows:**

**15.42.010 - Findings Of Fact, Need And Purpose**

(1) **Findings of Fact:** [UNCHANGED]

(2) **Need:** [UNCHANGED]

(3) **Purpose:** It is the purpose of this Chapter to:

A. Minimize water quality degradation in streams, ponds, lakes, wetlands and other water bodies;

B. Minimize the degradation of habitat and habitat forming processes in streams, ponds, lakes, wetlands, and other water bodies.

C. Minimize the impact of increased runoff, erosion and sedimentation caused by land development and maintenance practices;

D. Promote site planning and construction practices that are consistent with natural geological, topographical, vegetational and hydrological conditions;

E. Maintain and protect the City's stormwater management infrastructure and those downstream.

F. Minimize disruption of hydrologic functions, patterns, and processes.

This chapter is not intended to create a special relationship with any individual or individuals, nor to identify and protect any particular class of persons. It is not the intent of this chapter to impose liability upon the city for failure to perform any discretionary act or failure to enforce the provisions of this chapter. It is the intent of this chapter to place the obligation of complying with its requirements upon the owner and/or contractor. Neither the City nor any officer, agent, or employee thereof shall incur or be held as assuming any liability by reason or in consequence of any permission, inspection or approval authorized herein, or issued as provided herein, or by reason or consequence of any thing done or act performed pursuant to the provisions of this chapter.

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**Section 6:** Bellingham Municipal Code Section 15.42.020 is hereby repealed in its entirety and replaced as follows:

**15.42.020 Definitions**

For purposes of this Chapter, the following definitions shall apply:

(1) **Arterial** - A road or street primarily for through traffic. A major arterial connects an Interstate Highway to cities and counties. A minor arterial connects major arterials to collectors. A collector connects an arterial to a neighborhood. A collector is not an arterial. A local access road connects individual homes to a collector.

(2) **Best Management Practice ("BMP")** - Those physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water, and have been approved by Ecology or the City. BMPs are listed and described in the DOE Manual, current edition.

(a) *Source Control BMP.* A BMP that is intended to prevent pollution from entering stormwater.

(b) *Treatment BMP.* A BMP that is intended to remove pollution from stormwater.

(c) *Flow Control BMP.* A BMP that is intended to mitigate the impacts of increased surface and stormwater runoff rates generated by development.

(d) *Low Impact Development BMP.* A set of BMPs containing treatment and flow control solutions that are contained in the LID Guidance Manual.

(e) *Experimental BMP.* Any treatment or methodology proposed for treatment or management of stormwater that is not in the DOE Manual (current edition) and is being studied by the City, Whatcom County and/or the Washington State Department of Ecology for adoption as a BMP.

(3) **Bioretention** - An integrated stormwater management practice that uses the chemical, biological, and physical property of plants, microbes, and soils to remove or retain pollutants from stormwater runoff. Bioretention facilities are depressions that can be isolated detention cells, swales for conveyance as well as treatment, or a connected-cell hybrid of the two. Bioretention facilities include compost amended soils, landscape plantings selected for tolerance to a range of conditions and a mulch layer.

(4) **Clearing** - The destruction and removal of vegetation by manual, mechanical, chemical or other such method.

(5) **Critical Areas** – Means those areas, to include those areas defined in Bellingham Municipal Code Chapter 16.55, with a critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, including unstable slopes, and associated areas and ecosystems.

(5a) **Critical Basins** – Means those geographic basin areas that are of exceptional significance and that have been determined by the City to require special protection. The Lake Whatcom Watershed has been determined to be a Critical Basin.

(6) **Detention** - The release of stormwater runoff from the site at a slower rate than it is collected by the stormwater facility system, the difference being held in temporary storage.

(7) **Detention facility** - An above or below ground facility, such as a pond or tank, that temporarily stores stormwater runoff and subsequently releases it at a slower rate than it is collected by the drainage facility system. There is little or no infiltration of stored stormwater.

(8) **Development** - Means new development, redevelopment, or both, including a combination thereof. See definitions for each.

(9) **Director** – Means the Director of the Public Works Department or his/her assignee.

(10) **Drainage basin** - A geographic and hydrologic subunit of a watershed.

(11) **Ecology or DOE** – Means the Washington State Department of Ecology.

(12) **DOE Manual or Ecology Manual** – Means the Washington State Department of Ecology "Stormwater Management Manual for Western Washington" as currently adopted or hereafter modified. The LID Guidance Manual shall be considered a portion of this Manual.

(13) **Effective Impervious surface** - Those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system. Impervious surfaces on single family residences are considered ineffective if the runoff is dispersed through at least one hundred feet of native vegetation in accordance with BMP T5.30 – "Full Dispersion," as described in Chapter 5 of Volume V of the Ecology Manual.

(14) **Erosion** - The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep. Also, detachment and movement of soil or rock fragments by water, wind, ice, or gravity.



- (15) **Excavation** - The mechanical removal of earth material.
- (16) **Fill** - A deposit of earth material placed by artificial means.
- (17) **Forest practice** - Any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, including but not limited to:
- (a) Road and trail construction;
  - (b) Harvesting, final and intermediate;
  - (c) Precommercial thinning;
  - (d) Reforestation;
  - (e) Fertilization;
  - (f) Prevention and suppression of diseases and insects;
  - (g) Salvage of trees; or
  - (h) Brush control.
- (18) **Highway** - A main public road connecting towns and cities
- (19) **Hydroperiod** - A seasonal occurrence of flooding and/or soil saturation; it encompasses depth, frequency, duration, and seasonal pattern of inundation.
- (20) **Illicit discharge** - All non-stormwater discharges to natural or manmade stormwater drainage systems that cause or contribute to a violation of state water quality, sediment quality or ground water quality standards, including but not limited to sanitary sewer connections, industrial process water, interior floor drains, car washing, and greywater systems.
- (21) **Impervious surface** - A hard surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, packed gravel surfaces, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling. Impervious surfaces that meet the criteria for

full dispersion or that are fully infiltrated in compliance with the Ecology Manual shall be excluded in the determination of thresholds for compliance with this Chapter.

(22) **Land disturbing activity** - Any activity that results in movement of earth, or a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling, and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices or gardening are not generally considered land-disturbing activity with the noted exception of the placement of phosphorous containing materials within the Lake Whatcom Watershed.

(22a) **Lake Whatcom Watershed** - All those lands that drain into Lake Whatcom. The terminus of the Lake Whatcom Watershed is the City of Bellingham control dam located at the juncture of Lake Whatcom and Whatcom Creek. The boundaries are shown on the map in Attachment A. Where in conflict, the definition of the watershed boundaries provided herein shall supersede the map.

(23) **Low Impact Development (LID)** - A group of BMPs and land use practices that are aimed at lessening the hydrologic and water quality impacts to the environment from development. LID practices include but are not limited to, reduction in impervious surfaces, infiltration of flow, dispersion of flow, soil remediation and cluster development.

(24) **LID Guidance Manual** - The January 2005 Low Impact Development Technical Guidance Manual for Puget Sound, prepared by the Puget Sound Action Team and the Washington State University Pierce County Extension as now or hereafter amended.

(25) **Maintenance** - Repair and maintenance includes activities conducted on currently serviceable structures, facilities, and equipment that involves no expansion or use beyond that previously existing use and results in no significant adverse hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems. Those usual activities may include removal and replacement of disfunctioning facilities, including cases where environmental permits require replacing an existing structure with a different type structure, as long as the functioning characteristics of the original structure are not changed. By way of example is the replacement of a collapsed, fish blocking, round culvert with a new box culvert under the same span, or width, of roadway.

(26) **Master Plan** - The City of Bellingham's Watershed Master Plan or Stormwater Comprehensive Plan.

(27) **Mitigation** - Mitigation means, in the following order of preference:

(a) Avoiding the impact altogether by not taking a certain action or part of an action;

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

(c) Rectifying the impact by repairing, rehabilitating or restoring the affected environment;

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and

(e) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.

(28) **Native vegetation** – Vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

(29) **Natural location** - Means the location of those channels, swales, and other non-manmade conveyance systems as defined by the first documented topographic contours existing for the subject property, either from maps or photographs, or such other means as appropriate. In the case of outwash soils with relatively flat terrain, no natural location of surface discharge may exist.

(30) **New development** - Land disturbing activities, including Class IV -general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.

(31) **New Impervious Surface** - Impervious surfaces that replace or supplant existing pervious surfaces. For road construction projects, extending the pavement edge without increasing the size of the road prism, or paving graveled shoulders, resurfacing by upgrading from dirt to gravel, asphalt, or concrete; upgrading from gravel to asphalt, or concrete; or upgrading from a bituminous surface treatment ("chip seal") to asphalt or concrete: These are considered new impervious surfaces and are subject to the minimum requirements that are triggered when the thresholds identified for development or redevelopment projects are met. For other development, the replacement of compacted dirt, gravel or bituminous surface treatment, regardless of use, with structural development, asphalt or concrete shall constitute a new impervious surface.

(32) **Person** - Any individual, partnership, corporation, association, organization, cooperative, public or Municipal Corporation, agency of the state, or local government unit, however designated.

(33) **Pollution** - Contamination or other alteration of the physical, chemical, or biological properties, of waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

(34) **Pollution-generating impervious surface (PGIS)** - Those impervious surfaces considered to be a significant source of pollutants in stormwater runoff. Such surfaces include those which are subject to: vehicular use; industrial activities (as defined in the Ecology Manual); or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall. Erodeable or leachable materials, wastes, or chemicals are those substances which, when exposed to rainfall, measurably alter the physical or chemical characteristics of the rainfall runoff. Examples include erodible soils that are stockpiled, uncovered process wastes, manure, fertilizers, oily substances, ashes, kiln dust, and garbage dumpster leakage. Metal roofs are also considered to be PGIS unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating). A surface, whether paved or not, shall be considered subject to vehicular use if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads, unvegetated road shoulders, bike lanes within the traveled lane of a roadway, driveways, parking lots, unfenced fire lanes, vehicular equipment storage yards, and airport runways. The following are not considered regularly-used surfaces: paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles, fenced fire lanes, and infrequently used maintenance access roads.

(35) **Pollution-generating pervious surfaces (PGPS)** - Any non-impervious surface subject to the use of pesticides and fertilizers or loss of soil. Typical PGPS include, by way of example, lawns, landscaped areas, golf courses, parks, cemeteries, and sports fields.

(36) **Pre-developed condition** - For areas that drain directly or indirectly to a river or stream pre-developed conditions shall mean the native vegetation and soils that existed at a site prior to the influence of Euro-American settlement. The pre-developed condition shall be assumed to be a forested land cover unless reasonable, historic information is provided that indicates the site was prairie prior to settlement. For areas that only drain directly or indirectly to marine or estuarine waters the pre-developed conditions shall be the site conditions as of September 1, 1995.

(37) **Project site** - That portion of a property, properties, or right of way subject to land disturbing activities, new impervious surfaces, or replaced impervious surfaces. The total projected area of new, replaced or new plus replaced impervious surfaces for subdivisions shall constitute a project site. Project site shall also include any and all areas of the project property or properties that have been previously developed on or after September 1, 1995 if said development did not provide permanent stormwater facilities for water quality and quantity mitigation.

(38) **Receiving waters** - Bodies of water or surface water systems to which surface runoff is discharged via a point source of stormwater or via sheet flow.

(39) **Redevelopment** - On a site that is already substantially developed (which means 35% or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

(40) **Regional retention/detention system** - A stormwater quantity control structure designed to correct existing surface water runoff problems of a basin or subbasin. The area downstream has been previously identified as having existing or predicted significant and regional flooding and/or erosion problems. This term is also used when a detention facility is sited to detain stormwater runoff from a number of new developments or areas within a catchment.

(41) **Replaced impervious surface** - For structures, the removal and replacement of any exterior impervious surfaces or foundation. For other impervious surfaces, the removal down to bare soil or base course and replacement.

(42) **Site** - The area defined by the legal boundaries of a parcel or parcels of land that is (are) subject to new development or redevelopment. For road projects, the length of the project site and the right-of-way boundaries define the site.

(43) **Soil** - The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

(44) **Source control BMP** - A structure or operation that is intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. This manual separates source control BMPs into two types. Structural Source Control BMPs are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering stormwater. Operational BMPs are non-structural practices that prevent or reduce pollutants from entering stormwater. See DOE Manual, Volume IV for details.

(45) **Stormwater** - That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

(46) **Stormwater drainage system** - Constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, divert, treat or filter stormwater.

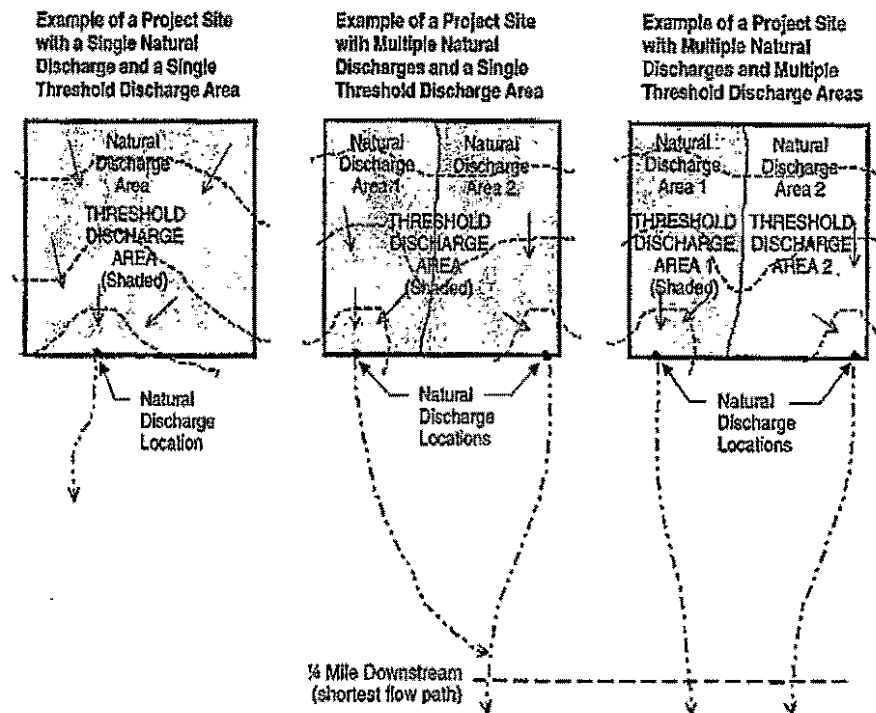
(47) **Stormwater facility** - A constructed component of a stormwater drainage system designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention ponds, retention ponds, constructed wetlands, infiltration devices, catch basins, oil/water separators, and biofiltration swales.

(48) **Stormwater Management Manual for Western Washington (Stormwater Manual)** - This manual, as prepared by and updated by the Department of Ecology, contains BMPs to prevent, control or treat pollution in stormwater and reduce other stormwater-related impacts to waters of the State and shall be interpreted to mean the current edition. The Stormwater Manual is intended to provide a supplement to this BMC to control the quantity and quality of stormwater runoff from new development and redevelopment.

(49) **Stormwater Site Plan** - The comprehensive report containing all of the technical information and analysis necessary for regulatory agencies to evaluate a proposed new development or redevelopment project for compliance with stormwater requirements. Contents of the Stormwater Site Plan will vary with the type and size of the project, and individual site characteristics. It includes a Construction Stormwater Pollution Prevention Plan ("Construction SWPPP") and a Permanent Stormwater Control Plan ("PSC Plan"). The Stormwater Site Plan shall be prepared in accordance with the Ecology Manual and/or the Stormwater Handbook.

(50) **Threshold Discharge Area** - An onsite area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flow path). The examples in Figure 2.1 below [BMC 15.42.020(51)] illustrate this definition. The purpose of this definition is to clarify how the thresholds of the DOE Manual are applied to project sites with multiple discharge points.

Figure 2.1:



(51) **Waterbody** - Surface waters including rivers, streams, lakes, marine waters, estuaries, and wetlands.

(52) **Watershed Master Plan, the Plan or the Stormwater Comprehensive Plan**—Means documents created for the comprehensive management of stormwater for the City of Bellingham urban areas and suburban fringe areas and are adopted by reference. The documents include the current editions of Volume I and II of the 1995 Watershed Master Plan, the Stormwater Management Handbook, the 2006 Stormwater Comprehensive Plan (under development) and all future updates to these documents.

(53) **Wetlands** - Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway.

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Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. (Waterbodies not included in the definition of wetlands as well as those mentioned in the definition are still waters of the State.)

(54) **Vegetation** – Means all organic plant life growing on the surface of the earth.

**Section 7:** Bellingham Municipal Code Section 15.42.050 is hereby amended as follows:

**15.42.050 - General Requirements**

(1) **Stormwater Management Plan Adopted:** [UNCHANGED]

(2) **Stormwater Best Management Practices (BMPs):**

**A. General:** BMPs shall be used to control pollution from stormwater. BMPs shall be used to comply with the standards in this Ordinance. BMPs are in the latest edition of Ecology's Stormwater Technical Manual, hereinafter referred to as Ecology's Manual.

**B. Low Impact Development (LID):** Stormwater BMPs to implement LID Guidance Manual, including prerequisite conditions, design specifications, maintenance requirements, and stormwater modeling criteria, are hereby approved for use subject to the City's stormwater review process.

**C. Experimental BMPs:** In those instances where appropriate BMPs are not in Ecology's Manual or the LID Guidance Manual, experimental BMPs should be considered. Experimental BMPs are encouraged as a means of solving problems in a manner not addressed by the Manual in an effort to improve stormwater quality technology. Experimental BMPs must be approved in accordance with the approval process outlined in Ecology's Manual.

(3) **Illicit Discharges:** Illicit discharges to stormwater drainage systems are prohibited.

(4) **Restrictions on Commercial Phosphorous-Based Fertilizers:** [UNCHANGED]

**Section 8:** Bellingham Municipal Code Section 15.42.060 is hereby repealed in its entirety and replaced as follows:

**15.42.060 – Approval Standards**

(1) **New Development Requirements**

All new development that requires either a building permit or has a land disturbance area greater than 500 sf shall comply with Minimum Requirement #2 within BMC Section 15.42.060(6) and all other applicable federal, state, and local ordinances, codes and

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regulations for stormwater management. In addition, New Development that exceeds certain other thresholds, as further identified herein, shall be required to comply with additional Minimum Requirements as follows.

(A) The following New Development shall comply with Minimum Requirements #1 through #5 within BMC Section 15.42.060(6):

1. New Single Family homes or duplexes, or
2. Developments that create or add 2,000 square feet, or greater, of new, replaced, or new plus replaced impervious surface area, or
3. Land disturbing activity of 7,000 square feet or greater, or
4. A subdivision, or the lots created from a subdivision, that contains two or fewer lots and is not likely to exceed the land disturbance and/or impervious thresholds from future property development, or
5. Developments within the Lake Whatcom Watershed that create or add, 200 square feet or greater, of new, replaced or new plus replaced impervious surface area, or
6. Land disturbing activity within the Lake Whatcom Watershed of 500 square feet or greater, or
7. Other development that is determined by the Public Works Director to contain a significant risk for the degradation of stormwater.

(B) The following New Development shall comply with Minimum Requirements #1 through #10 within BMC Section 15.42.060(6):

1. Creation or addition of 5,000 square feet, or more, of new, replaced or new plus replaced impervious surface area; or
2. Convert  $\frac{3}{4}$  acres, or more, of native vegetation to lawn or landscaped areas; or
3. Convert 2.5 acres, or more, of native vegetation to pasture; or
4. One acre or more of land disturbing activity; or

5. A subdivision containing two or more lots that is likely to exceed the land disturbance and/or impervious thresholds from future property development; or

6. Through a combination of impervious surface and land altering activities the development will result in a 0.1 cfs increase in flow from the pre-developed condition for the 100 year storm event as identified with a qualified continuous flow duration model.

(2) **Redevelopment Requirements**

All Redevelopment shall comply with Minimum Requirement #2 within this BMC Section 15.42.060(6). In addition, all Redevelopment that exceeds certain thresholds, as further identified herein, shall be required to comply with additional Minimum Requirements as follows.

(A) The following Redevelopment shall comply with Minimum Requirements #1 through #5 within BMC Section 15.42.060(6) for the new and replaced impervious surfaces and the land disturbed:

1. The new, replaced, or total of new plus replaced impervious surfaces is 2,000 square feet or more, or 7,000 square feet or more of land disturbing activities; or

2. A subdivision, or the lots created from a subdivision, that contain two or fewer lots and is not likely to exceed the land disturbance and/or impervious thresholds from future property development; or

3. Any redevelopment within the Lake Whatcom Watershed that creates or adds, 200 square feet or greater, of new, replaced or new plus replaced impervious surface area; or

4. Any land disturbing activity within the Lake Whatcom Watershed of 500 square feet or greater; or

5. Other development that is determined by the Public Works Director to contain a significant risk for the degradation of stormwater.

(B) The following Redevelopment shall comply with Minimum Requirements #1 through #10 within BMC Section 15.42.060(6) for the new impervious surfaces and converted pervious areas:

1. Creation or addition of 5,000 square feet, or more, of new, replaced or new plus replaced impervious surface area; or

2. Converts ¼ acres, or more, of native vegetation to lawn or landscaped areas; or
3. Converts 2.5 acres, or more, of native vegetation to pasture; or
4. One acre or more of land disturbing activity; or
5. A subdivision containing two or more lots that is likely to exceed the land disturbance and/or impervious thresholds from future property development; or
6. Through a combination of new impervious surface and land altering activities, the development results in a 0.1 cfs increase in flow from the pre-developed condition for the 100 year storm event as identified with a qualified continuous flow duration model.

(3) If the runoff from the new impervious surfaces and converted pervious surfaces is not separated from runoff from other surfaces on the project site, the stormwater treatment facilities must be sized for the entire flow that is directed to them.

(4) On a case by case circumstance, the Minimum Requirements in BMC Section 15.42.060(6) may be met for an equivalent (flow and pollution characteristics) area within the same site. For public road projects, the equivalent area does not have to be within the project limits, but must drain to the same receiving water. Approval of equivalency shall be determined by the Public Works Director or his assignee.

(5) Additional Requirements and Allowances for New and Redevelopment

(A) For road-related projects, runoff from the new, replaced and/or new plus replaced impervious surfaces and converted pervious surfaces (including pavement, shoulders, curbs, and sidewalks) shall meet all of the Minimum Requirements listed in BMC Section 15.42.060(6), subject to the modification to Minimum Requirement #7 below, if the new impervious surfaces total 5,000 square feet or more and total 50% or more of the existing impervious surfaces within the project limits. The project limits shall be defined by the length of the project and the width of the right-of-way.

(B) For the replaced surfaces for road-related projects, Minimum Requirement #7 is modified as follows:

Replaced surfaces may be allowed to be mitigated differently than new surfaces. When required to comply with the forested standard of Minimum Requirement #7 in BMC Section 15.42.060(6) only 50% of the replaced surfaces must be mitigated to comply with the forested standard. The remaining 50% of the replaced surfaces may either be consisted in the forested condition or if desirable, may be considered in the condition existing as of September 1, 1995 as may be determined using aerial photography or other means acceptable to the City.

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(C) Other types of projects shall comply with all of the Minimum Requirements detailed in BMC 15.42.060(6) for the new and replaced impervious surfaces if the total of new plus replaced impervious surfaces is 5,000 square feet or more, and the valuation of proposed improvements – including interior improvements – exceeds 50% of the assessed value of the existing site improvements. Additionally, for those projects that meet the definition of redevelopment, only 50% of replaced surfaces shall be required to comply with the forested standard of Minimum Requirement #7 in BMC Section 15.42.060(6). The remaining 50% of the replaced surfaces may either be considered in the forested condition or if desirous, may be considered in the condition existing as of September 1, 1995 as may be determined using aerial photography or other means acceptable to the City.

(D) Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics are not subject to redevelopment requirements except construction site erosion control.

(6) Minimum Requirements for Stormwater Mitigation: The following are considered the minimum requirements for stormwater mitigation

(A) Minimum Requirement #1: Preparation of Stormwater Site Plans ("SSP")

All projects meeting the thresholds in BMC Sections 15.42.060(1) OR 15.42.060(2) shall prepare a Stormwater Site Plan ("SSP") for the City's review. SSP's shall be prepared in accordance with the current editions of the "Ecology Manual", the City of Bellingham "Development Guidelines and Improvement Standards" and this BMC. This SSP may be incorporated with building, grading or clearing plan sets as applicable. Those projects that are subject to Minimum Requirements #1 through #10 shall include an engineering report that addresses all Elements and Minimum Requirements of the project's stormwater management along with an analysis that supports the SSP and the Construction Stormwater Pollution Prevention Plan ("Construction SWPPP"). Project facilities that are required by state law to be designed by a professional engineer must also be certified by the engineer of record that facilities have been constructed to design specifications. This shall be accomplished by providing a certified as built of the facility/ies.

(B) Minimum Requirement #2: Construction Stormwater Pollution Prevention Plan ("Construction SWPPP")

1. All new development and redevelopment shall comply with Construction SWPPP Elements #1 through #12 as described in this section below.

2. Projects outside the Lake Whatcom Watershed in which the new, replaced, or new plus replaced impervious surfaces total 2,000 square feet or more, or disturb 5,000 square feet or more of land must prepare a Construction SWPPP as part of the Stormwater Site Plan [see BMC 15.42.060(6)(A)]. Each of the twelve elements must be considered and included in a Construction SWPPP unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the

narrative of the SWPPP. The SWPPP shall include, at a minimum, the narrative, the Stormwater Site Plan and copies of Best Management Practice detail sheets that will be utilized as a part of the SWPPP.

3. Projects outside the Lake Whatcom Watershed that add or replace less than 2,000 square feet of impervious surface and disturb less than 5,000 square feet of land are not required to prepare a Construction SWPPP. They must, however, consider all of the twelve Elements of Construction Stormwater Pollution Prevention detailed below and propose controls for all Elements that pertain to the project site within the Stormwater Site Plan.

4. Those projects, that are within the Lake Whatcom Watershed, that create or add, 200 square feet or greater, of new, replaced or new plus replaced impervious surface area or that disturb more than 500 square feet of land shall provide a Construction SWPPP Plan and a Stormwater Site Plan as described above.

5. Elements of Construction Stormwater Pollution Prevention:

(a) *Element 1: Mark Clearing Limits:* Prior to beginning land disturbing activities, including clearing and grading, all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area should be clearly marked, both in the field and on the plans, to prevent damage and offsite impacts. Plastic, metal, or stake wire fence may be used to mark the clearing limits.

(b) *Element 2: Establish Construction Access:*

(i) Construction vehicle access and exit shall be limited to one route if possible.

(ii) Access points shall be stabilized with quarry spall or crushed rock to minimize the tracking of sediment onto public roads.

(iii) Wheel wash or tire baths should be located on-site, if applicable.

(iv) Public roads shall at a minimum be cleaned thoroughly at the end of each day. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area. Street washing will be allowed only after sediment is removed in this manner.

(v) Street wash wastewater shall be controlled by pumping back on-site, or otherwise be prevented from discharging into systems tributary to state surface waters.

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(c) *Element 3: Control Flow Rates:*

(i) Properties and waterways downstream from development sites shall be protected from erosion due to increases in the volume, velocity, and peak flow rate of stormwater runoff from the project site. Properties subject to Minimum Requirement # 5 and/or #7 shall implement controls as early in the development as is practicable to mitigate for flow rates.

(ii) Downstream analysis is necessary if changes in flows could impair or alter conveyance systems, stream banks, bed sediment or aquatic habitat. See the Ecology Manual for offsite analysis guidance.

(iii) Where necessary to comply with Minimum Requirement #7, Stormwater retention/detention facilities shall be constructed as one of the first steps in grading. Detention facilities shall be functional prior to construction of site improvements (e.g. impervious surfaces).

(iv) If permanent infiltration ponds are used for flow control during construction, these facilities should be protected from siltation during the construction phase.

(d) *Element 4: Install Sediment Controls*

(i) The duff layer, native topsoil, and natural vegetation shall be retained in an undisturbed state to the maximum extent practicable.

(ii) Prior to leaving a construction site, or prior to discharge to an infiltration facility, stormwater runoff from disturbed areas shall pass through a sediment pond or other appropriate sediment removal BMP. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of Element 3(i) above. Full stabilization means concrete or asphalt paving; quarry spalls used as ditch lining; or the use of rolled erosion products, a bonded fiber matrix product, or vegetative cover in a manner that will fully prevent soil erosion. Sediment ponds, vegetated buffer strips, sediment barriers or filters, dikes, and other BMPs intended to trap sediment on-site shall be constructed as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.

(iii) Earthen structures such as dams, dikes, and diversions shall be seeded and mulched according to the timing indicated in Element 5 below.

(e) *Element 5: Stabilize Soils*

(i) All exposed and unworked soils shall be stabilized by application of effective BMPs that protect the soil from the erosive forces of raindrop impact and flowing water, and wind erosion.

(ii) From October 1 through April 30 of each year, no soils shall remain exposed and unworked for more than 2 days. From May 1 to September 30 of each year, no soils shall remain exposed and unworked for more than 7 days. This condition applies to all soils on site, whether at final grade or not.

(iii) Applicable practices include, but are not limited to, temporary and permanent seeding, sodding, mulching, plastic covering, soil application of polyacrylamide (PAM), early application of gravel base on areas to be paved, and dust control.

(iv) Soil stabilization measures selected should be appropriate for the time of year, site conditions, estimated duration of use, and potential water quality impacts that stabilization agents may have on downstream waters or ground water.

(v) Soil stockpiles must be stabilized and protected with sediment trapping measures.

(vi) Work on linear construction sites and activities, including right-of-way and easement clearing, roadway development, pipelines, and trenching for utilities, shall not exceed the capability of the individual contractor for his portion of the project to install the bedding materials, roadbeds, structures, pipelines, and/or utilities, and to re-stabilize the disturbed soils, meeting the timing conditions listed above.

(vii) In addition, at the discretion of the Public Works Director those sites unable to maintain the quality of their stormwater discharge may be required to provide soil stabilization to all exposed soil areas regardless of the working status of the area. Upon written notification, the property owner shall provide full stabilization of all exposed soil areas within 24 hours.

- (f) *Element 6: Protect Slopes*
- (i) Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion.
  - (ii) Consider soil type and its potential for erosion.
  - (iii) Reduce slope runoff velocities by reducing the continuous length of slope with terracing and diversions, reduce slope steepness, and roughen slope surface.
  - (iv) Divert upslope drainage and run-on waters from off-site with interceptors at top of slope. Off-site stormwater should be handled separately from stormwater generated on the site. Diversion of off-site stormwater around the site may be a viable option. Diverted flows shall be redirected to the natural drainage location at or before the property boundary.
  - (v) Contain down slope collected flows in pipes, slope drains, or protected channels.
  - (vi) Provide drainage to remove ground water intersecting the slope surface of exposed soil areas.
  - (vii) Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations.
  - (viii) Check dams shall be placed at regular intervals within trenches that are cut down a slope.
  - (ix) Stabilize soils on slopes, as specified in Element #5.
- (g) *Element 7: Protect Drain Inlets*
- (i) All storm drain inlets made operable during construction shall be protected so that stormwater runoff shall not enter the conveyance system without first being filtered or treated to remove sediment.
  - (ii) All approach roads shall be kept clean, and all sediment and street wash water shall not be allowed to enter storm drains without prior and adequate treatment unless treatment is provided before the storm drain discharges to waters of the State.
- (h) *Element 8: Stabilize Channels and Outlets*
- (i) All temporary on-site conveyance channels shall be designed, constructed and stabilized to prevent erosion from



the expected velocity of flow from a 2 year, 24-hour frequency storm for the developed condition.

(ii) Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes and downstream reaches shall be provided at the outlets of all conveyance systems.

(i) *Element 9: Control Pollutants*

(i) All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled and disposed of in a manner that does not cause contamination of stormwater.

(ii) Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and non-inert wastes present on the site (see Chapter 173-304 WAC, as currently enacted or hereafter modified, for the definition of inert waste, which is incorporated herein by this reference).

(iii) Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into stormwater runoff must be conducted using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

(iv) Wheel wash, or tire bath wastewater, shall be discharged to a separate on-site treatment system or to the sanitary sewer.

(v) Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations shall be followed for application rates and procedures.

(vi) Management of pH-modifying sources shall prevent contamination of runoff and stormwater collected on the site. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and

sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

(j) *Element 10: Control De-Watering*

(i) All foundation, vault, and trench de-watering water, which has similar characteristics to stormwater runoff at the site, shall be discharged into a controlled conveyance system, prior to discharge to a sediment trap or sediment pond. Channels must be stabilized, as specified in Element #8.

(ii) Clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to state surface waters, as specified in Element #8, provided the de-watering flow does not cause erosion or flooding of the receiving waters. These clean waters should not be routed through sediment ponds with stormwater.

(iii) Highly turbid or otherwise contaminated dewatering water, such as from construction equipment operation, clamshell digging, concrete tremie pour, or work inside a cofferdam, shall be handled separately from stormwater at the site.

(iv) Other disposal options, depending on site constraints, may include, by way of example: 1) infiltration, 2) transport off-site in vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters, 3) on-site treatment using chemical treatment or other suitable treatment technologies.

(k) *Element 11: Maintain BMPs*

(i) All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. All maintenance and repair shall be conducted in accordance with BMPs.

(ii) Sediment control BMPs shall be inspected weekly or after a runoff-producing storm event during the dry season and daily during the wet season. All projects that disturb an area greater than one acre shall have a certified erosion control lead available to the site. This erosion control lead shall be responsible to provide overview of ongoing day to day erosion

control requirements. The erosion control lead shall (within 24 hours) report to the City and Department of Ecology any site discharges that exceed state water quality standards that have or are likely to have entered waters of the State.

(ii) All temporary erosion and sediment control BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal of BMPs or vegetation shall be permanently stabilized.

(l) *Element 12: Manage the Project*

(i) Phasing of Construction - Development projects shall be phased where feasible in order to prevent, to the maximum extent practicable, the transport of sediment from the development site during construction. Revegetation of exposed areas and maintenance of that vegetation shall be an integral part of the clearing activities for any phase.

(ii) When establishing these permitted clearing and grading areas, consideration should be given to minimizing removal of existing trees and minimizing disturbance/compaction of native soils except as needed for building purposes. Permitted clearing and grading areas and any other areas required to preserve critical or sensitive areas, buffers, native growth protection easements, or tree retention areas, shall be delineated on the site plans and the development site.

(iii) Coordination with Utilities and Other Contractors - The primary project proponent shall evaluate, with input from utilities and other contractors, the stormwater management requirements for the entire project, including the utilities, when preparing the Construction SWPPP.

(iv) Inspection and Monitoring - All BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function.

(v) For any project disturbing more than one acre, a Certified Professional in Erosion and Sediment Control shall be identified in the Construction SWPPP and shall be on-site or on-call at all times. Certification may be through the Washington State Department of Transportation/Associated General Contractors (WSDOT/AGC) Construction Site Erosion and Sediment Control Certification Program or any equivalent

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local or national certification and/or training program, in the City's discretion.

(vi) Whenever inspection and/or monitoring reveals that the BMPs identified in the Construction SWPPP are inadequate, due to the actual discharge of or potential to discharge a significant amount of any pollutant, the SWPPP shall be modified, as appropriate, in a timely manner.

(vii) Maintenance of the Construction SWPPP - The Construction SWPPP shall be retained on-site. The Construction SWPPP shall be modified whenever there is a significant change in the design, construction, operation, or maintenance of any BMP.

(C) *Minimum Requirement #3: Source Control of Pollution:*

All known, available and reasonable source control BMPs shall be applied to all projects. Source control BMPs shall be selected, designed, and maintained according to the Ecology Manual. Source Controls that are applicable to a project shall be either indicated on the Stormwater Site Plan and/or contained within a stormwater engineering report when such report is required.

(D) *Minimum Requirement #4: Preservation of Natural Drainage Systems and Outfalls*

Natural drainage patterns shall be maintained, and discharges from the project site shall occur at the natural location, to the maximum extent practicable. The manner by which runoff is discharged from the project site must not cause a significant adverse impact to downstream receiving waters and down gradient properties. Additional information on how to comply with this requirement may be found in the Ecology Manual.

(E) *Minimum Requirement #5: On-site Stormwater Management*

Projects shall employ On-site Stormwater Management BMPs to infiltrate, disperse, and retain stormwater runoff onsite to the maximum extent feasible without causing flooding or erosion impacts. On-site Stormwater Management BMPs shall be designed and provided in accordance with the Ecology Manual.

(F) *Minimum Requirement #6: Runoff Treatment*

1. All projects subject to this minimum requirement shall utilize On-site Stormwater BMPs for the treatment of runoff. Additionally, when the following design thresholds are met or exceeded within a threshold discharge area an

engineered water quality facility shall be provided. All runoff treatment facilities and BMPs shall be designed, sized and provided for in accordance with the "Ecology Manual".

2. Water Quality Design Thresholds

(a) Projects in which the total of new and/or replaced effective, pollution-generating impervious surface (PGIS) is 5,000 square feet or more in a threshold discharge area of the project, or

(b) Projects in which the total of new and/or replaced pollution-generating pervious surfaces (PGPS) is three-quarters (3/4) of an acre or more in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site.

3. Additional Requirements. Direct discharge of untreated stormwater from pollution-generating impervious surfaces to ground water is prohibited, except for the discharge achieved by infiltration or dispersion of runoff from residential sites through use of On-site Stormwater Management BMPs.

(G) *Minimum Requirement #7: Flow Control*

1. Applicability: Projects must provide flow control to reduce the impacts of stormwater runoff from impervious surfaces and land cover conversions. All projects subject to this minimum requirement shall utilize On-site Stormwater BMPs for flow control. Additionally, when the following design thresholds are met or exceeded an engineered water quantity facility shall be provided. All water quantity facilities and flow control BMPs shall be designed and provided for in accordance with the Ecology Manual. The thresholds and requirements below apply to projects that discharge stormwater directly or indirectly into a fresh water. Those projects that meet flow control exemption criteria of the Ecology Manual are eligible to apply for modification to these requirements.

2. Water Quantity Design Thresholds: The following require construction of engineered flow control facilities and/or land use management BMPs to satisfy this chapter and the Ecology Manual:

(a) Projects in which the total of new, replaced or new plus replaced effective impervious surfaces are 10,000 square feet or more in a threshold discharge area; or

(b) Projects that convert ¼ acres or more of native vegetation to lawn or landscape, or convert 2.5 acres or more of native vegetation to pasture in a threshold discharge area, and from which there is a

surface discharge in a natural or man-made conveyance system from the site; or

(c) Projects that, through a combination of new, replaced or new plus replaced effective impervious surfaces and converted pervious surfaces, cause a 0.1 cubic feet per second increase in the 100-year flow frequency from a threshold discharge area as estimated using the Western Washington Hydrology Model or other approved model; or

(d) That portion of any development project in which the above thresholds are not exceeded in a threshold discharge area shall apply Onsite Stormwater Management BMPs in accordance with Minimum Requirement #5.

3. Standard Flow Control Methodology: Stormwater discharges shall match developed discharge durations to predeveloped durations for the range of predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. The pre-developed condition to be matched shall be a forested land cover. This standard requirement is waived for sites that will reliably infiltrate all the runoff from impervious surfaces and converted pervious surfaces.

4. Alternate Flow Control Methodology: A modified SCS/SBUH Methodology may be used as an alternate to Department of Ecology Western Washington Hydrology Model if adjustments shown below are utilized and the project area is less than one-acre in size. At such time as the City of Bellingham has a calibrated HSPF model available for use, this alternate flow control allowance will no longer be applicable.

(a) Adjusted target peak flow standard. Limit the peak rate of runoff from individual development sites to 50 percent of the pre-developed condition 2-year, 24-hour design storm. Limit the peak rate from the 10-year, 24-hour design storm to the pre-developed condition peak rate from the 2-year, 24-hour design storm. Limit the peak rate from the 100-year, 24-hour design storm to the pre-developed condition peak rate from the 10-year, 24-hour design storm.

(b) Restricted variable assumptions.

(i) The flow path length assumed for sheet flow runoff in the pre-developed condition calculations shall be 300 feet.

(ii) The Manning's effective roughness coefficient for pre-developed forested conditions shall be 0.80.

(iii) The curve numbers for the pre-developed conditions shall be selected from the Ecology Manual and shall be fair or good forest. The post developed condition shall also be taken from the Ecology Manual.

(H) *Minimum Requirement #8: Wetlands Protection*

1. Applicability: The requirements below apply only to projects whose stormwater discharges into a wetland, either directly or indirectly through a conveyance system. These requirements must be met in addition to meeting Minimum Requirement #6, Runoff Treatment.
2. Thresholds: The thresholds identified in Minimum Requirement #6 – Runoff Treatment, and Minimum Requirement #7 - Flow Control shall also be applied for discharges to wetlands.
3. Standard Requirement: Discharges to wetlands shall maintain the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses. A wetland can be considered for hydrologic modification and/or stormwater treatment in accordance with guidance documents from the Department of Ecology.
4. Additional Requirements:
  - (a) The standard requirement does not excuse any discharger from the obligation to apply whatever technology is necessary to comply with state water quality standards, Chapter 173-201A WAC, or state ground water standards, Chapter 173-200 WAC. Additional treatment requirements to meet those standards may be required by federal, state, or local government.
  - (b) Stormwater treatment and flow control facilities shall not be built within a natural vegetated buffer or wetland, except for:
    - (i) Necessary conveyance systems as approved by the Directors of the City's Public Works and Planning Departments or their designees; or
    - (ii) As allowed in wetlands approved for hydrologic modification and/or treatment in accordance with guidance from the Department of Ecology; or
    - (iii) Where full dispersion of flow within a buffer has been approved as a Low Impact Development practice.

(c) An adopted and implemented basin plan (Minimum Requirement #9), or a Total Maximum Daily Load (TMDL, also known as a Water Clean-up Plan) may be used to develop requirements for wetlands that are tailored to a specific basin.

(l). *Minimum Requirement #9: Basin/Watershed Planning*

Projects may be subject to lesser, equivalent or more stringent minimum requirements for erosion control, source control, treatment, and operation and maintenance, and alternative requirements for flow control and wetlands hydrologic control as identified in Basin/Watershed Plans. Basin/Watershed plans shall evaluate and include, as necessary, retrofitting urban stormwater BMPs into existing development and/or redevelopment in order to achieve watershed-wide pollutant reduction and flow control goals that are consistent with requirements of the federal Clean Water Act. Standards developed from basin plans shall not modify any of the above minimum requirements until the basin plan is formally adopted and implemented by the City and other local governments within the basin, and approved or concurred with by the Department of Ecology.

(J) *Minimum Requirement #10: Operation and Maintenance*

An operation and maintenance manual that is consistent with the provisions within the Ecology Manual shall be provided for all proposed stormwater facilities and BMPs, and the party (or parties) responsible for maintenance and operation shall be identified. At private facilities, a copy of the manual shall be retained onsite or within reasonable access to the site, and shall be transferred with the property to the new owner. For public facilities, a copy of the manual shall be retained in the appropriate department. A log of maintenance activity that indicates what actions were taken shall be kept and be available for inspection by the City or Ecology.

7. **Financial liability / Public Nuisance Declared**

In addition to other remedies, failure to install and/or maintain stormwater facilities as required in this Chapter and applicable permits is hereby declared to be a public nuisance, subject to abatement as provided by applicable laws of the City or the State of Washington. The property owner and all persons engaged in development or land-disturbing activity shall be liable, jointly and severally, for all costs incurred by the City in any public nuisance action taken hereunder, or on account of damage or threatened damage to City property or facilities or water bodies, or associated with remedial actions necessitated by the failure to install and/or maintain required stormwater facilities.

**Section 9: Bellingham Municipal Code Section 15.42.070 is hereby amended as follows:**

1. **General Requirements**

Ordinance Amending BMC Chapters 15.16, 15.40 and 15.42 Relating to Stormwater Management (32)

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**A. Maintenance required:** All stormwater facilities shall be maintained in accordance with this Ordinance and the Stormwater Management Manual. Systematic, routine preventive maintenance is preferred.

**B. Minimum standards:** The following are the minimum standards for the maintenance of stormwater facilities:

1. Facilities shall be inspected annually and cleared of debris, sediment and vegetation when they affect the functioning and/or design capacity of the facility.

2. Grassy swales and other biofilters shall be inspected monthly and mowed or replanted as necessary. Clippings are to be removed and properly disposed of.

3. Maintenance of stormwater facilities including LID facilities, which may include, but are not limited to, bioretention, dispersion, and infiltration facilities, amended soils, pervious systems, vegetated roofs, or roof water harvesting, shall be maintained consistent with conditions of approval, and recorded agreements against subject properties, and City standards as enacted at the time of approval.

4. Where lack of maintenance is causing or contributing to a water quality problem or violation, immediate action shall be taken by the subject property owner to correct the problem.

**C. Compliance:** Property owners are responsible for the maintenance, operation and repair of stormwater drainage systems and BMPs unless the City has accepted maintenance responsibility in writing and a written easement exists granting the City an adequate and sufficient right, in the City's discretion, to enter the property and conduct these activities. Property owners shall maintain, operate and repair the facilities in compliance with the requirements of this Ordinance and the DOE Manual (current edition).

2. **Administration:** The Director of Public Works shall develop and administer an inspection program for stormwater facilities in Bellingham.

3. **Inspection Program:**

**A.** Whenever implementing the provisions of the inspection program or whenever there is cause to believe that a violation of this Ordinance has been or is being committed, the inspector is authorized to inspect stormwater drainage systems within Bellingham to determine compliance with the provisions of this Ordinance.

**B. Development Inspection:** All New Development shall provide for and install adequate runoff controls per an approved SSP or SWPPP. Failure to provide such required runoff controls prior to or simultaneously with the commencement of land disturbance activities shall result in an order to stop all work upon the site for a minimum of three working days, provided that such work that is necessary to bring the site into compliance with this Code, permits, or an approved SSP or SWPPP shall be allowed to continue.

**4. Enforcement**

**A. Orders:** The Director shall have the authority to issue to an owner or person an order to install, maintain or repair a component of a stormwater facility or BMP to bring it in compliance with this Ordinance, the DOE Manual (current edition), and/or City regulations. The order shall include:

1. A description of the specific nature, extent and time of the violation and the damage or potential damage that reasonably might occur;
2. A notice that the violation or the potential violation cease and desist and, in appropriate cases, the specific corrective actions to be taken; and
3. A reasonable time to comply, depending on the circumstances.

**B Civil penalty:** In addition to any other remedy or sanction available, a person who fails to comply with a final order issued by the Director or City Council pursuant to this chapter, or who fails to conform to the terms of an approval issued, shall be subject to a civil penalty.

**1A. Amount of Penalty.** The penalty shall be not less than \$100 or exceed \$5000 for each violation. Each day of continued violation or repeated violation shall constitute a separate violation.

**2. Aiding or Abetting.** Any person who, through an act of commission or omission, aids or abets in the violation shall be considered to have committed a violation for the purposes of the civil penalty.

**3. Notice of Penalty.** A civil penalty shall be imposed by the Director, by a notice in writing, which shall be served either by certified mail with return receipt requested or by personal service, to the person incurring the same. The notice shall describe the violation, the date(s) of violation, and shall order the acts constituting the violation to cease and desist, and, in appropriate cases, require necessary corrective action within a specific time.

**4. Application for Remission or Mitigation.** Any person incurring a penalty may apply in writing within 10 days of receipt of the penalty to the

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Director of Public Works (or designee) for remission or mitigation of such penalty. Upon receipt of the application, the Director of Public Works may remit or mitigate the penalty only upon a demonstration of extraordinary circumstances, such as the presence of information or factors not considered in setting the original penalty. The Director's decision may be appealed to the Hearing Examiner within 10 days of the decision.

**5. Appeal of Civil Penalty.** Persons incurring a penalty imposed by the Director may appeal in writing within 10 days of the receipt of the notice of penalty to the Hearing Examiner. The Hearing Examiner shall hold a de novo hearing to consider the appeal and may affirm, modify or reverse the penalty. The decision of the Hearing Examiner may be appealed to Superior Court within 10 days of the date of the Hearing Examiner's decision.

**C. Penalties due:** Penalties imposed under this Section shall become due and payable 10 days after notice of the penalty is mailed or delivered, whichever occurs first, unless application for remission or mitigation is made or an appeal is filed. Whenever an application for remission or mitigation is made or an appeal to the Hearing Examiner filed (including payment of all applicable Hearing Examiner fees), penalties shall become due and payable 10 days after the date of the decision regarding the remission or payable after all review proceedings and a final decision has been issued confirming all or part of the penalty. If the amount of a penalty owed is not paid within the time specified in this Section, the City may take actions necessary to recover such penalty.

**D. Penalty recovered:** Penalties recovered shall be paid to a fund dedicated to enforcement and/or enhancement of the stormwater management program.

**5. City Action:** In addition to any other remedies the City may have under this Chapter or at law or in equity, nothing in this Chapter or elsewhere within this Code shall prevent the City from effecting repairs or maintenance to stormwater facilities if the Director of Public Works (or designee) determines that imminent danger to public safety, health or welfare, or public or private property, or critical areas or habitat is likely as a result of the actions or inaction of the property owner(s). If the City effects repairs or maintenance, the cost will be charged to the property owner(s) together with any penalties incurred under this chapter and any costs of collection (including attorneys' fees), all of which shall be considered a lien against the subject property and also collectable as a in personam debt against the property owner(s).

**Section 10: Effective Date**

This Ordinance shall take effect on the 16<sup>th</sup> day of May, 2006.

PASSED by the Council this 1st day of May, 2006.

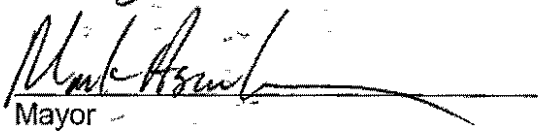
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Ordinance Amending BMC Chapters 15.16, 15.40  
and 15.42 Relating to Stormwater Management (35)



Council President

APPROVED by me this 8<sup>th</sup> day of May, 2006.

  
Mayor

Attest:   
Finance Director

Approved as to form:

  
Office of the City Attorney

Published: May 5, 2006

Ordinance Amending BMC Chapters 15.16, 15.40  
and 15.42 Relating to Stormwater Management (36)

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