

LEGISTAR FILE NO. 60351 - Body

DRAFTER'S ANALYSIS: This ordinance makes numerous changes to Chapter 37 of the Madison General Ordinances to update the City's stormwater code. To simplify the changes, the entire chapter is being repealed and recreated. The notable changes are as follows:

1. Sec. 37.04 amends the definition of redevelopment by increasing the land disturbance threshold from 4,000 square feet to 10,000 square feet, and exempting out parking lot resurfacing. This is meant to address the unintended consequence of encouraging very small parking lots from being improved due to the need to add very expensive stormwater treatment methods. Dane County is moving this to 20,000 square feet for similar reasons.
2. Sec. 37.05(4)(d) is being amended to allow for credits against the stormwater charge, based upon an approved Rate Adjustment and Credit Policy.
3. Section 37.05(6)(b) reorganizes and alters the design standards for privately financed additions to the public stormwater system, including:
 - a. Making compliance mandatory for new development, and a goal for redevelopment and/or infill development.
 - b. Culverts across streets at greenway crossings were previously required to be designed for the 25-year event. This revision changes that to the 100-year event.
 - c. Overflow of the pipe and road system in the event of a 500-year storm event shall not impact any private habitable structures. Site plans will also be reviewed to confirm that the proposed structure elevations are compliant with this design overflow requirement during a 500-year storm event.
4. Section 37.05(7)(a)2.a. reduces the peak volume of discharge subject to the surcharge fee for stormwater system connection permits from 225 gallons per minute to 100 gallons per minute.
5. Section 37.05(7)(b)5. requires that certain sites with private discharges into an enclosed depression be designed to mitigate the increased volume from include existing discharges during the 25 and 100 year storm events.
6. Section 37.05(7)(b)8 updates the remedial procedures available to the City in the event that a private storm sewer or best management practice is not being adequately maintained.
7. Section 37.05(9) updates language about crossings of the public stormwater system, including clarifying the City's remedial authority where private drainage systems interfere with the public drainage system.
8. Section 37.08(1)(c) is being amended to require that phasing be considered when reviewing erosion control plans.
9. Section 37.08(4) updates erosion control plan performance standards to prevent or reduce certain types of sediment discharge, to ensure that rate or volumetric discharge doesn't increase during construction, and to create implementation requirements for best management practices.
10. Existing language in Section 37.09 is being updated to make it uniformly refer to stormwater management plans, instead of also calling them reports.
11. Section 37.09(2)(e) is being amended to update requirements of a stormwater management plan's runoff peak flow calculations, to require specific levels for pre and post development.
12. Section 37.09(2)(l) is being amended to require that buildings in flood prone areas be designed to provide a minimum flood protection to the 100-year event (instead of half a foot above the regional flood elevation).
13. Section 37.09(3) is being amended in several ways to update the stormwater management performance standards in a stormwater management plan. Among the changes include:
 - a. In Subd. (b), clarifying when oil and grease controls are necessary;
 - b. In Subd. (c)1., updating the general runoff rate control requirements by requiring sites already subject to an approved plan at the plat or CSM level to meet new development standards to maintain predevelopment peak runoff rates for the 100-year and 200-year events;
 - c. In Subd. (c)2., requiring new development to meet the following requirements: maintain predevelopment peak runoff rates for 1, 2, 5, 10, 100 and 200-year events, and to safely pass the 500-year event; factor in downstream system capacity to determine the safe capacity of the off-site drainage system; assure that the 100 year event flows through public right-of-ways and that if private property is to be flooded during a 500-year event, entrance elevations must be set to avoid flooding in this scenario; and requiring the use of green infrastructure to capture the first ½ inch of rainfall to meet the rate and volume reductions;

- d. In Subd. (c)3., if redevelopment has proposed impervious cover that exceeds 80% of the existing impervious cover, the site is required to reduce peak runoff rates by 15% and reduce runoff volumes by 5% during a 10-year event by using green infrastructure to remove the first ½ inch of rainfall;
 - e. In Subd. (c)4., development or redevelopment in flood prone watersheds must comply with the detention and storage requirement identified in individual watershed plans, if on file.
 - f. In Subd. (c)5., if off-site discharge to private lands is to an enclosed depression, the applicant is required to mitigate the increased volume of discharge to include the 25 and 100-year storm events.
14. Section 37.11(1) is being amended to have the Board of Public Works set the erosion control permit fee and stormwater management permit fee. This change is consistent with other permits and fees and will allow easier adjustment of the fee to better recover the City's costs incurred to administer the permit.
15. Section 37.11(2) allows a contractor who is responsible for completion of erosion control measures to take out a permit.

The Common Council of the City of Madison do hereby ordain as follows:

Chapter 37 entitled "The Public Stormwater System Including Erosion Control" of the Madison General Ordinances is hereby repealed and recreated to read as follows:

**"CHAPTER 37
THE PUBLIC STORMWATER SYSTEM INCLUDING EROSION CONTROL**

37.01 - TITLE.

This ordinance shall be known, cited and referred to as the "The Public Stormwater System Including Erosion Control" or "this ordinance." For the purposes of this Section, the phrase "this ordinance" refers to this Chapter of the Madison General Ordinances (MGO) or any condition imposed pursuant to this Chapter.

37.02 - FINDING AND DECLARATION OF PURPOSE.

- (1) The Common Council of the City of Madison finds that urbanizing land uses have accelerated the process of soil erosion, stormwater runoff and sediment deposition within and beyond the Yahara River, the Sugar River, Door Creek and other bodies of water in the City. Soil erosion and uncontrolled stormwater runoff from land-disturbing and land-development activities have significant adverse impacts upon regional water resources and the health, safety, property and general welfare of the community, and diminish the public enjoyment and use of natural resources. Specifically, soil erosion and stormwater runoff can:
- (a) Increase the likelihood of infiltration and inflow into the sanitary sewer system.
 - (b) Carry sediment, nutrients, pathogens, organic matter, heavy metals, toxins and other pollutants to regional lakes, streams and wetlands;
 - (c) Diminish the capacity of water resources to support recreational and water supply uses and a natural diversity of plant and animal life;
 - (d) Clog existing drainage systems, increasing maintenance problems and costs;
 - (e) Cause bank and channel erosion;
 - (f) Increase downstream flooding;
 - (g) Reduce groundwater recharge, which may diminish stream base flows and lower water levels in regional lakes, ponds and wetlands;
 - (h) Contaminate drinking water supplies;
 - (i) Increase risk of property damage and personal injury, and;

- (j) Cause damage to agricultural fields and crops.
- (2) This ordinance is intended to regulate erosion and stormwater runoff, to accomplish the following objectives:
 - (a) Promote regional stormwater management by watershed;
 - (b) Minimize sedimentation, water pollution from nutrients, heavy metals, chemical and petroleum products and other contaminants, flooding and thermal impacts to the waters of the state;
 - (c) Promote infiltration and groundwater recharge;
 - (d) Protect functional values of natural watercourses and wetlands;
 - (e) Provide a set of performance standards that are at least as protective of the environment and natural resources as and not in conflict with the standards set forth by Dane County and the Wisconsin Department of Natural Resources;
 - (f) Achieve an eighty percent (80%) reduction in total suspended solids load to waters of the state as compared to no controls for all new development, a forty percent (40%) reduction in total suspended solids load compared to no controls for all redevelopment and street reconstruction. Further, on a municipality-wide basis, achieve a twenty percent (20%) reduction total suspended solids load compared to no controls for existing developments by 2007; a forty percent (40%) reduction in total suspended solids load compared to no controls by 2011;
 - (g) Ensure no increase in the rate of surface water drainage from sites during or after construction;
 - (h) Control exceedance of the safe capacity of existing drainage facilities and receiving water bodies;
 - (i) Protect public and private property from damage resulting from runoff or erosion;
 - (j) Ensure no increase in temperature of post-construction stormwater in order to protect cold-water communities;
 - (k) Protect spawning grounds, fish and aquatic life;
 - (l) Preserve ground cover and scenic beauty, and;
 - (m) Promote sound economic growth and protect the tax base.

37.03 - GENERAL PROVISIONS.

- (1) Applicability. This ordinance applies to the use of lands within the incorporated boundaries of the City of Madison, and with the exception of Sec. 37.05, applies to the use of lands subject to extraterritorial review as provided by Wis. Stat. ch. 236.10 and Sec. 16.23, MGO.
- (2) Performance Time Requirement. All action required in this ordinance shall be conducted as soon as possible as determined by the Administrative Authority.

37.04 - DEFINITIONS.

For the purpose of this ordinance certain words used herein are defined as follows:

Accepted Soil Erosion Control Methodology means the U.S. Natural Resources Conservation Service Technical Guide based on the universal soil loss equation (USLE) with consideration given to season of year, site characteristics, soil erodability, and slope, or another commonly known soil erosion control methodology that has been approved by the Administrative Authority.

Administrative Authority means the City Engineer, or Director of the Building Inspection Division where specifically stated herein, or their respective designees.

Affected means that a regulated activity has significantly:

- (a) Caused negative impacts on water quality or the use or maintenance of one's property or business; or
- (b) Endangered one's health, safety, or general welfare.

Agricultural means land uses related to or used for the production of food and fiber, including but not limited to, general farming, livestock and poultry enterprises, grazing, nurseries, horticulture,

viticulture, truck farming, forestry, sod production, cranberry productions and wild crop harvesting and includes lands used for on-site buildings and other structures necessary to carry out such activities.

Average Annual Rainfall means the rainfall information for an average year as determined by the information in the following rainfall file: msn1981.ran. This file represents a synthetic rainfall record for the Madison area of 1981, from March 12 through December 2. This file is available on the Wisconsin Department of Natural Resources website (<https://dnr.wi.gov/topic/stormwater/standards/slammm.html>).

Best Management Practices or "BMP"s means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

Certified Survey Map or CSM means the map prepared by a registered land surveyor and recorded in the Register of Deed's office, in accordance with Section 236.34, Wisconsin Statutes, to accomplish a minor land division.

Checklist Plan is an erosion control plan available from the Administrative Authority, which is designed to control soil erosion and sedimentation resulting from land-disturbing activities on areas less than twenty thousand (20,000) square feet, have less than a six (6) percent slope, and are not located in a sensitive area.

Closed Watershed means an area that does not have a surface outlet, with water only able to leave through evaporation, infiltration, or mechanical means. For the purposes of this ordinance, the following are considered closed watersheds:

- (a) Internally drained watersheds that are at least 20,000 square feet in area and at least 1 foot in depth from invert to lowest surface outlet;
- (b) Watersheds with no surface outlet discharges from a 2-year, 24-hour design storm; and,
- (c) Areas that have historically not drained through surface outlets, as determined by the local approval authority.

City means the City of Madison.

Cold Water Community means surface waters capable of supporting a community of cold water fish and other aquatic life, or serving as a spawning area for cold water fish species, as set forth in Wis. Admin. Code ch. NR 102.04(3)(a).

Connected Impervious Area means an impervious surface that is either connected to a separate storm sewer system or water of the state via an impervious flow path or is connected to a separate storm sewer system or water of the state by virtue of not having a minimum of thirty (30) feet of continuous pervious area as measured along the flow path, that is a minimum width of the spread of the water flow or a stormwater best management practice. Grassed swales designed to slow and treat discharge shall not be considered to be part of the separate storm sewer system.

Construction Site Erosion Control means preventing or reducing soil erosion and sedimentation from land-disturbing activity.

Customer Charge shall mean a fixed charge per lot or parcel of land to recover costs which do not vary with the amount of stormwater contributed to the system, including costs to administer the Stormwater Utility or the billing system.

Design Storm means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall. The NRCS MSE4 storm distribution shall be used for stormwater calculations,

Detention Storage is the temporary detaining or storage of stormwater in reservoirs, under predetermined and controlled conditions, with the rate of discharge therefrom regulated by installed devices.

Development means any of the following activities:

- (a) New development;
- (b) Redevelopment; or,
- (c) Existing development.

Downstream System Capacity refers to the ability of the existing stormwater conveyance system off-site/downstream of the proposed development to safely pass an amount of runoff.

Driveway Approach shall mean the area improved for vehicular traffic on a public street right-of-way, which connects the traveled portion of the street with a driveway.

Effective Infiltration Area means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

Enclosed Depression means any delimited area that has no surface drainage outlet and from which water escapes only by evaporation, subsurface drainage or a pipe outlet. On a contour map, it is identified as an area of lower ground indicated graphically by a hachured contour line forming a closed loop.

Erosion means the process by which the land's surface is worn away by the action of wind, water, ice, or gravity.

Excavation means any act by which organic matter, earth, sand, gravel, rock or any other similar material is cut into, dug, quarried, uncovered, removed, displaced, relocated or bulldozed and shall include the resulting conditions.

Existing Development means buildings and other structures and impervious area existing prior to October 19, 1982 as it pertains to storm water detention (rate control). Existing Development means buildings and other structures and impervious area existing prior to August 22, 2001 as it pertains to the impervious area threshold, twenty thousand (20,000) square feet, for all other storm water management requirements.

Fill means any act by which earth, sand, gravel, rock or any other material is deposited, placed, replaced, pushed, dumped, pulled, transported, or moved to a new location and shall include the resulting conditions.

Final Stabilization means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.

Financial Security Instrument means a surety bond, performance bond, maintenance bond, irrevocable letter of credit, or similar guarantees in a form approved by the City Attorney that is submitted to the Administrative Authority to assure that requirements of the ordinance are carried out in compliance with the stormwater management plan.

Flood Prone Watershed means an area of the City that the Administrative Authority has identified as having insufficient drainage capacity to accept the 100-year storm event without significant property damage.

Grading is altering the elevation of the land surface by stripping, excavating, filling, stockpiling of soil materials or any combination thereof and shall include the land from which the material was taken or upon which it was placed.

Green Infrastructure is the range of measures/devices/systems that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters. Green infrastructure includes, but is not limited to, the following practices: rainwater harvesting/reuse, rain gardens, bioretention systems, infiltration basins, planters that are connected to roof drainage, bioswales, permeable pavement, green roofs, and rain barrels.

Green Roof means a roofing system with a layer of vegetation planted over a waterproofing system that is installed on top of a flat or slightly sloped roof. They fall into two main categories—extensive and intensive.

An extensive green roof has a shallow growing medium—usually less than six (6) inches thick—with a modest roof load, limited plant diversity, and minimal watering requirements.

An intensive green roof has a minimum twelve (12) inch thick growing medium, though it may range upwards to several feet. This depth of growing medium can support a more diverse plant selection, including small trees.

Gully Erosion means a severe loss of soil caused by or resulting in concentrated flow of sufficient velocity to create a defined flow channel.

Hydrologic Soil Group (HSG) has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices

Impervious Area means any land surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by rain or melting snow. The term includes without limitation due to enumeration, all areas covered by structures, roofs (including overhangs), roads, sidewalks, patios, porches, driveways, parking lots, loading docks, and semi-impervious surfaces such as compacted clay and gravel, all as measured on a horizontal plane. It is noted here that due to the myriad of different styles and configurations of solar panel installations, these will be reviewed by the administrative authority on an individual basis for impervious coverage purposes.

Impervious Area Charge shall mean the charge per one thousand (1,000) square feet of impervious area to recover those costs that vary with the quality or quantity of the stormwater, including operation and maintenance of the storm sewer system, street cleaning, and debt retirement on additions to the Public Stormwater System and capitalized maintenance equipment.

Impervious Surface means an area that releases as run-off all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, parking lots, gravel storage areas, underground structures with less than two (2.0) feet of pervious material installed above the outside top of the concrete structure and streets are examples of surfaces that typically are impervious. Pervious/permeable pavement constructed in accord with WDNR Technical Standard # 1008 to meet the requirements of an Ordinance stormwater management requirement shall not be considered pervious for the purposes of Stormwater Utility Charges nor for calculation of composite curve numbers as part of stormwater management requirements. However if constructed meeting SOC #1008 this type of pavement may meet Zoning code requirements for greenspace.

Infill Development, for the purposes of design standards for new sewer additions to the storm sewer system, shall be considered to apply only to lots created by a CSM or Plat prior to October 1, 2004.

Infiltration refers to any precipitation that does not leave the site as runoff.

Infiltration System means a device or practices such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns or minimal infiltration from practices such as swales or road side channels designed for conveyance and pollutant removal only.

Land-Disturbing Activities means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment or other debris into waters of the state. Land-disturbing activities include, but are not limited to, clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

Land Treatment Measures are structural or vegetative practices, or combinations of both, used to control erosion and sediment production, including areas to be protected by fencing.

Lightly Disturbed Site means a site where an area of land is subjected to minor compaction due to the limited removal of vegetative cover or earthmoving activities.

MEP or "Maximum Extent Practicable" means a level of implementing best management practices in order to achieve a performance standard specified in this chapter that takes into account the best available technology, cost effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features. MEP allows flexibility in the way to meet the performance standards and may vary based on the performance standard and site conditions.

New Development means any of the following activities:

- (a) Structural development, including construction of new building(s) or other structure(s);
- (b) Land disturbing activities not considered redevelopment; or,
- (c) Creation or expansion of impervious surface.

Non-Erosive Velocity means a rate of flow of stormwater runoff, usually measured in feet per second, which does not erode soils. Non-erosive velocities vary for individual sites, taking into account topography, soil type, and runoff rates.

PDF means portable document format, a digital file format that allows for ease of document exchange.

Peak Flow is the maximum rate of flow of water at a given point in a channel, watercourse, or conduit resulting from a predetermined storm or flood.

Permittee means any person, corporation, limited liability company, partnership or other entity granted a permit under this ordinance.

Person shall mean any individual, firm, company, partnership, municipality, association, corporation, cooperative, society, institution, enterprise, government agency, or other entity.

Pervious Area means an area that releases as runoff a small portion of the precipitation that falls on it and shall be a minimum of two (2) feet deep. Lawns, gardens, parks, forests or similar vegetated areas are examples of surfaces that typically are pervious. Additionally, pervious pavement areas (concrete, asphalt or modular block), which are specifically designed to infiltrate stormwater may be considered to be pervious but may not be considered to be a best management practice.

Pervious Area Charge shall mean the charge per one thousand (1,000) square feet of pervious area to recover those costs that vary with the quality or quantity of the stormwater, including operation and maintenance of the storm sewer system, street cleaning, and debt retirement on additions to the Public Stormwater System and capitalized maintenance equipment.

Pervious/Permeable Pavement shall be pavement that is constructed in accord with WDNR Technical Standard # 1008 to meet this Ordinance's stormwater management requirements. If constructed to meet a requirement of this Ordinance, it shall not be considered pervious for the purposes of Stormwater Utility Charges nor for calculation of composite curve numbers as part of stormwater management requirements. However, if constructed meeting Technical Standard #1008 this type of pavement may be considered to meet lot coverage standards under Chapter 28.

Plan means an erosion control plan as required by Sec. 37.08 or a stormwater management plan as required by Sec. 37.09.

Post-development refers to the extent and distribution of land cover types anticipated to occur under conditions of full development of the submitted plan. This term is used to match pre- and post-development stormwater peak flows as required by the ordinance.

Pre-development refers to the extent and distribution of land cover types present before the initiation of land-development activity, assuming that all land uses prior to land-disturbing activity are in "good" condition as described in the Natural Resources Conservation Service Technical Release 55, "Urban Hydrology for Small Watersheds" (commonly known as TR-55). This term is used to match pre- and post-development stormwater peak flows as required by the ordinance. In a situation where cumulative impervious surface created after October 19, 1982 exceeds the twenty thousand (20,000) square feet threshold, the pre-development conditions shall be those prior to any land disturbance.

Pre-existing Detention refers to existing (and often unintended) detention that is occurring on a site prior to development. This detention may be due to downstream restrictions, adverse grading on the site or other issues.

Private Structure refers to structures that are habitable or directly attached to habitable structures such as attached garages. It is not intended to mean decks, gazebos or other accessory structures.

Protective Area means an area of land that commences at the top of the channel of lakes, streams, and rivers or at the delineated boundary of wetlands, and that is the greatest of the widths defined in Section 37.09(3)(g), as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However, protective area does not include any area of land adjacent to any stream enclosed within a pipe or culvert such that runoff cannot enter the enclosure at this location.

Public Lands means all government owned lands, which are subject to regulation by the City, including, but not limited to:

- (a) All lands owned or controlled by the City;
- (b) All lands which are owned by another unit of government.

Public Stormwater System shall mean all public storm sewers, drainage conduits, drainage conveyances, private non-exclusive drainage easements, public non-exclusive drainage easements, roadside ditches or curb and gutter on public rights-of-way, public greenways, and public parkways and all improvements thereto which by this section are constituted as the property and responsibility of the Stormwater Utility. These are to be operated to, among other things, conserve water, control discharges necessitated by rainfall events, incorporate methods to collect, convey, store, absorb, inhibit, treat, use or reuse water to prevent or reduce flooding, over-drainage, environmental degradation and water pollution or otherwise affect the quality and quantity of discharge from such system.

Redevelopment means any of the following activities:

- (a) Construction, alteration or improvement exceeding ten thousand (10,000) square feet of land disturbance performed on sites where the existing site is predominantly developed as commercial, industrial, institutional or multifamily residential uses and the proposed development is replacing older development.
- (b) Construction, alteration or improvement exceeding ten thousand (10,000) square feet of land disturbance performed on sites where the existing site is predominantly developed as commercial, industrial, institutional or multifamily residential uses and the creation or expansion of impervious surface physically cannot exceed twenty thousand (20,000) square feet beginning August 22, 2001.
- (c) Any combination of (a) and (b) above. Should the site have twenty thousand (20,000) square feet or more of land available for the creation or expansion of impervious surface since August 22, 2001 then the project may include a mix of new development and redevelopment.
- (d) Resurfacing of a parking lot is not considered redevelopment for the purpose of this ordinance, nor is pulverizing and overlay of bituminous pavement. However, if base course (granular material below pavement) is disturbed, the resurfacing shall be considered redevelopment.

Residential Development, for the purpose of determining infiltration requirements, shall be considered to be one (1) or two (2) family units. Apartment complexes or condominiums in excess of this size shall be considered to be commercial development/non-residential.

Resurfacing means an improvement project on a parking lot where the improvement includes prepping and cleaning the affected area, milling the existing asphalt, adjusting drainage structures and installing a new layer of asphalt over the prepared base.

Roadside ditch shall mean a ditch located within the public right-of-way to an unimproved street.

Runoff means stormwater or precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow

Runoff Curve Number (RCN) has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices.

Sediment is solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, or ice, and has come to rest on the earth's surface at a different site.

Sedimentation means the deposition of eroded soils at a site different from the one where the erosion occurred.

Sensitive Area means lakes, perennially flowing streams, or wetlands subject to regulation by the City.

Sheet and Rill Erosion means a loss of soil caused by sheet flow or shallow concentrated flow, and characterized by an absence of channeling or a relatively uniform loss across the exposed upper layer of the soil or shallow irregular scouring of the soil surface.

Site means the area of the lot where work is being proposed. In the case of a shared lot or lease agreement for a portion of a lot it shall be considered the bounded area described in an erosion control plan or stormwater management plan.

Slope means the net vertical rise over horizontal run, expressed as a percentage, which represents a relatively homogeneous surface incline or decline over the area disturbed.

Soil Loss is soil moved from a given site because of land-disturbing activities or by the forces of erosion and re-deposited at another site on land or in a body of water.

Soil Loss Rate(s) means the rate, usually measured in tons per acre per year, at which soil is transported beyond the perimeter of a given control site and which occurs as a result of sheet and rill erosion. This term does not apply to soil movement resulting from concentrated flow such as gully or bank erosion.

Storm Building Sewer shall mean that part of the stormwater system which receives the discharge from building storm drains and sub-drains, yard drains, parking lots, yard fountains and other permissive sources and conveys such waters to a public stormwater system, private stormwater system or other approved point of disposal.

Storm Events mean the precipitation amounts that occur over a 24-hour period that have a specified recurrence interval for Dane County, Wisconsin. For example, one-year, two-year, 10-year, 100-year and 200-year storm events mean the precipitation amounts that occur over a 24-hour period that have a recurrence interval of 1, 2, 5, 10, 25, 100, and 200 years, respectively. The amounts associated with these events are further defined as follows:

- a) 1-year, 24-hour storm event = 2.49 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- b) 2-year, 24-hour storm event = 2.84 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- c) 5-year, 24-hour storm event = 3.45 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- d) 10-year, 24-hour storm event = 4.09 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- e) 25-year, 24-hour storm event = 5.02 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- f) 100-year, 24-hour storm event = 6.66 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- g) 200-year, 24-hour storm event = 7.53 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.
- h) 500-year, 24-hour storm event = 8.94 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution.

Storm Sewer shall mean a drain or sewer for conveying water, groundwater, subsurface water, or unpolluted water from any source.

Stormwater means the flow of water which results from, and which occurs during and immediately following, a rainfall, snow- or ice-melt event.

Stormwater Management means any measures taken to permanently reduce or minimize the negative impacts of stormwater runoff quantity and quality after land-development activities.

Stormwater Runoff is the water derived from rains falling or snowmelt or ice melt occurring within a tributary drainage basin, flowing over the surface of the ground or collected in channels, watercourses or conduits.

Stormwater Utility means the utility established under this ordinance for the purpose of managing stormwater and imposing charges for the recovery of costs connected with such stormwater management.

Street Reconstruction means removal and replacement of the road sub-grade, where existing stormwater conveyance systems are modified.

Structure means any human-made object with form, shape and utility, either permanently or temporarily attached to, placed upon, or set into the ground, streambed or lakebed.

Structural Measures are works of improvement for land stabilization to prevent erosion, sediment or runoff.

Undeveloped means land, which has runoff characteristics equivalent to runoff curve number (CN) 68, as used in the runoff methodology promulgated by the U.S. Natural Resources Conservation Service National Engineering Handbook.

Unimproved Street shall mean a street without a curb and gutter.

Unnecessary Hardship means that circumstance where special conditions, which were not self-created, affect a particular property and make strict conformity with regulations unnecessarily burdensome or unreasonable in light of the purposes of this ordinance.

Unpolluted Water is water of quality equal to or better than the effluent criteria in effect or water that would not cause violation of receiving water quality standards and would not be benefited by discharge to the sanitary sewers and wastewater treatment facilities provided.

USLE means universal soil loss equation.

37.05 - THE PUBLIC STORMWATER SYSTEM.

- (1) Purpose and Necessity. The Common Council of the City of Madison finds that the management of stormwater and other surface water discharges within and beyond the Yahara River, the Sugar River, Door Creek and other bodies of water within the City is a matter that affects the health, safety, welfare and well-being of the City, its residents and businesses and others in the surrounding area. Failure to effectively manage stormwater affects the sanitary sewer utility operations of the City by, among other things, increasing the likelihood of infiltration and inflow into the sanitary sewer system. Surface water runoff may cause erosion of lands, threaten residences and businesses with water damage, and create environmental damage to the rivers, streams, and other bodies of water within and adjacent to the City. A system for the collection and disposal of stormwater provides benefits to all properties within the City and surrounding areas, including those properties not currently served by the system. Beyond designated initial Capital Expenses for system improvements, the cost of operating and maintaining the City stormwater management system and financing necessary repairs, replacements, improvements and extensions thereof should, to the extent practicable, be allocated in relationship to the services received from the system.

In order to protect the health, safety and welfare of the public, the Common Council hereby exercises its authority to establish a stormwater utility and establish the rates for stormwater management services. Nothing in the foregoing shall affect the determination of the Common Council to provide for the payment of designated initial capital expenses for system improvements by other necessary and convenient means. In promulgating the regulations contained in this section, the City is acting pursuant to authority granted by Wis. Stat. chs. 62 and 66 including, but not limited to, Secs. 62.04, 62.11(5), 62.16(2), 62.18, 62.23(6), 66.0809, 66.0811, 66.0813, 66.0821, and 66.0627.

- (2) Creation and Supervision. The purpose of this section is to state the intention of the City to provide and maintain a public stormwater system capable of conveying stormwater from public lands and right-of-ways and to dispose of such water in a manner that the health, safety and welfare of the public shall be protected. There is hereby established a stormwater utility within the purview of Wis. Stats § 66.0821. The Administrative Authority shall be responsible for the maintenance and management of the public stormwater system under the direction of the Board of Public Works.
- (3) Authority. The City, acting through the stormwater utility, may acquire, construct, lease, own, operate, maintain, extend, expand, replace, clean, dredge, repair, conduct, manage, and finance such utilities, operations and activities, as are deemed by the City to be proper and reasonably necessary for a system of storm and surface water management. These facilities may include, without limitation due to enumeration, surface and underground drainage facilities, sewers, watercourses, retaining walls, ponds, streets, roads, ditches and such other facilities relating to

collection, runoff and retention. This includes facilities that will support a stormwater management system, whether such facilities are owned and operated directly by the City or are provided under statutory or contractual provisions and furnishing of which facilities create or impose a cost or charge upon the City for the services afforded by such facilities.

(4) Rates and Charges.

- (a) It is hereby determined and declared to be necessary and conducive for the protection of the health, safety, and welfare of the public to charge and collect charges or fees upon all lots, lands and premises served or benefited by the stormwater system of the City.
- (b) There shall be established a charge for stormwater services to all lots and parcels of land within the municipal boundaries of the City. The charge schedule shall be made up of a Customer Charge, an Impervious Area Charge, and a Pervious Area Charge.
- (c) Measurement of Impervious Area and Pervious Area. The Administrative Authority shall measure the total area, impervious area, and pervious area of each lot or parcel of land within the City using aerial photography, site or building plans submitted by the property owner, actual on-site surveys, or, in the case of single family and duplex residential lots, using information from the data base of the City Assessor and formulas.

Individual property owners may submit site and building surveys to the Administrative Authority, which more accurately determine the total area, impervious area and/or pervious area. Property owners may appeal the measurements of the Administrative Authority to the Board of Public Works.

- (d) Credits and Adjustments to the Measured Impervious and Pervious Areas. Individual property owners may submit, to the Administrative Authority, site and building surveys or documentation of mitigation or treatment measures which more accurately determine or reflect the total area, impervious area and/or pervious area. The Administrative Authority may reduce the measured impervious area and/or pervious area after taking into consideration the volume or peaking of stormwater or surface water discharge that is caused by the area of impervious surfaces, topography, and other surface characteristics, and the extent and reliability of mitigation or treatment measures that demonstrably and materially reduce treatment, conveyance, construction or mitigation costs to the Stormwater Utility.

It shall be the burden of the property owner to demonstrate by a preponderance of the evidence that a fee adjustment and/or credit is warranted. Any such adjustments and/or credits shall be made in accordance with the Rate Adjustment and Credit Policy, which policy shall be established by the Administrative Authority and approved by the Board of Public Works.

- (e) Appeals. The appeal process is as provided in Sec. 37.13 of this ordinance. The pendency of an appeal of a decision or determination of the Administrative Authority shall not excuse payment of any stormwater charge. If a decision or determination of the Administrative Authority is reversed or modified, the Board of Public Works may grant a refund to the aggrieved party, prorated and retroactive to the date on which an application for fee adjustment was filed with the Administrative Authority.
- (f) Rate Structure. The City Engineer shall, consistent with the standards set forth in Wis. Stat. Sec. 66.0821(4), annually set the Customer Charge, Impervious Area Charge and Pervious Area Charge rates. These rates shall be set annually, and will go into effect upon approval by the Board of Public Works and the Common Council.
- (g) Collection of Customer Charge, Impervious Area Charge and Pervious Area Charge. The Administrative Authority shall divide the City into sections for billing purposes, which shall coincide with the billing schedule of the Water Utility. The Customer Charge, Impervious Area Charge and Pervious Area Charge shall be payable to the City Treasurer at the same time that the Water Utility bills are payable. All charges established by this Ordinance shall be a lien on the property served pursuant to Wis. Stat. §§ 66.0809, 66.0811, 66.0813 and 66.0821.
- (h) The bills for stormwater services shall be dated and issued to users. A late payment charge of one percent (1%) of any unpaid balance shall be assessed and added to the bill for such services if the amount of the bill is not paid within twenty (20) days thereafter (the "due date") and an additional late payment charge of one percent (1%) of the unpaid balance of the bill

plus any previously assessed late payment charge remaining due at the end of every monthly anniversary of the due date shall be assessed and added to bills then remaining unpaid.

(5) Transfer of Assets and Outstanding Debt.

(a) The land rights and improvements of the City, or such rights determined to exist, for the following components of the public stormwater system are hereby transferred to the land assets of the Madison Stormwater Utility.

1. Storm sewers;
2. Inlets, catch basins, retention ponds, and related appurtenances;
3. Access structures;
4. Greenways.

(b) Effective January 1, 2001, the Stormwater Utility shall assume the responsibility for debt service on all outstanding general obligation debt issued for storm drainage purposes

(6) Additions to the Public Stormwater System.

(a) Additions to and reconstruction of the Public Stormwater System shall be financed by the Stormwater Utility except as follows:

1. Inlets, inlet leads, curb and gutter, manholes not located on trunk system, temporary corrugated facilities, and temporary ditching, unless said construction is incidental to the storm sewer installation.
2. The construction of greenways required by Sec. 16.23, MGO.
3. Storm sewer constructed in accordance with Sec. 7.47, MGO.
4. Public drainage systems required by Sec. 16.23(9)(d)5., MGO.
5. Any public drainage system installed to benefit redevelopment, as that term is defined in Sec. 37.04.

(b) Design Standards for Privately Financed Stormwater System Additions.

1. Applicability. The standards in this subdivision apply to privately financed Public Stormwater system additions as set forth in subd. (a)1-5 above.
2. Compliance Required. For new development, compliance with these standards shall be mandatory. For redevelopment and/or infill development, compliance shall be considered a goal.
3. System Determination. A determination of the type or types of storm drainage system to be used shall be made by the Administrative Authority on the basis of required capacity, economics, and use of abutting lands.
4. Standards. Additions to the Public Stormwater System shall, in general, be designed and constructed to convey stormwater in accordance with the following:
 - a. General storm design shall convey the runoff that would drain from upstream lands during the 10-year storm event.
 - b. Culvert crossings in greenway drainage systems shall be designed to convey runoff created during a 100-year storm event that uniformly impacts the watershed draining to said road crossing, without road overtopping.
 - c. Enclosed Depressions, whether existing or created shall be designed to convey the runoff that can be expected to result from a 100-year storm event or larger depending on the risk of property damage and public safety, as determined by the Administrative Authority. For design purposes, the acceptable flooding area associated with this design event shall not leave the public right of way, public lands as approved by the Administrative Authority, or public easements. This shall be applied and reviewed within the limits of the development.

- d. In new development areas, design of the road system shall be such that during pipe capacity exceeding storm events the combination of the stormwater pipe system and road surface flow system shall adequately convey the runoff from the 100-year storm event within the Right of Way or publicly owned outlots/greenways. Provision of public easements shall not be allowed for this purpose. The 500-year event shall be conveyed using a combination of pipes and surface flow such that it may use both public and private property for surface flow but shall not impact private structures. This shall be applied and reviewed within the limits of the development under review.
 - e. Emergency overflows for ponds shall be designed to be utilized only in events exceeding a 100-year storm event.
 - f. Inlet design shall include a clogging factor of 50% occluded for inlets at low points with the ability to pond one half (0.5) foot or more without overtopping or 25% for all other inlets, when determining the number of inlets required as part of the storm sewer system.
 - g. Inlets shall be installed behind the sidewalk on dedicated easements as deemed necessary by the Administrative Authority to accept private drainage prior to it impacting the public sidewalk.
 - h. Development Site Plans shall be reviewed by Engineering staff for compliance with stormwater overflow routes. Where these overflow routes are known and established as part of a stormwater management plan, the building elevations shall be reviewed and approved by the City Engineer prior to issuance of building permits to confirm that the proposed structure elevations are compliant with the design overflow conveyance during the 500-year storm event. Where overflow routes have not been established by a stormwater management plan, Engineering staff shall use reported flood information as a basis for review. Site plans shall include USGS datum elevations.
- (c) Inspection of Additions to the Public Stormwater System. The Administrative Authority shall inspect the construction of all public sewers and all private sewers, including building sewers, from the property line to the public stormwater system and shall inspect the construction of private sewers and best management practices within private property when deemed necessary by the Administrative Authority.
- (7) Connection to the Public Stormwater System.
- (a) Permit Required for Connection, Disconnection or Abandonment.
- 1. General Requirements. No person shall do any work whatsoever for the purpose of connecting, disconnecting or abandoning an existing connection to the public stormwater system or existing building sewers or existing private sewers, or for the purpose of laying building sewers or private sewers, without first obtaining from the Administrative Authority a written permit to connect, disconnect or abandon a connection to the public stormwater system. The street curb and gutter is considered to be part of the stormwater conveyance system. Curb discharges via pipes, tubes, flumes or "curb scupper" devices of any type of discharge, including sump pumps, roof drains or any other discharge, shall require a permit to connect to the stormwater system.

All private sewers and all building sewers between the property line and terminating at the public stormwater system shall be either installed by City forces, City contract, contract under the supervision of the Board of Public Works, or by a Contractor approved by the Board of Public Works for sewer construction, or a plumber qualified by the Board of Public Works (terrace only) and inspected by City forces. All work shall comply with the City of Madison Standard Street and Sewer Specifications and General Conditions.
 - 2. Stormwater System Connection Permit.
 - a. Permit Fee. For each original permit to connect to the public stormwater system, the applicant shall pay to the City Treasurer an application fee of one hundred dollars (\$100) and conform to the procedures and regulations of this Subsection. Should the

stormwater system connection permit be for dry weather flow (a foundation drain or sump pump system) an additional surcharge fee shall be charged consistent with the following:

- i. For peak discharges up to a maximum of 100 gallons per minute, no surcharge fee.
 - ii. For peak discharges over 100 gallons per minute up to 675 gallons per minute, a surcharge fee of five hundred (\$500) dollars shall be charged.
 - iii. For peak discharges in excess of 675 gallons per minute, the Administrative Authority shall first determine if the system can accept the proposed discharge rate. Should the discharge be approved, the surcharge fee shall be one thousand (\$1,000) dollars.
- b. The stormwater system connection permit issued under this Subdivision shall be on the premises and in the hands of the person completing the connection.
 - c. Prior to allowing connections to the public stormwater system, for the purpose of a non-stormwater discharge (not including residential sump pump discharges from building foundation drains), the applicant shall first obtain a permit from the City Health Department in accordance with Sec. 7.47, MGO.
3. Stormwater System Disconnection or Abandonment Permit.
- a. Permit Fee. For each original permit to disconnect or abandon a public stormwater system connection, the applicant shall pay to the City Treasurer an application fee of one thousand (\$1,000) dollars and conform to the procedures and regulations of this Subsection. Upon a successfully inspected disconnection or abandonment of the private connection and closure of the permit application, the City shall refund an amount of not more than nine hundred (\$900) dollars to the applicant.
 - b. As connections to the public stormwater system come in almost infinite types and combinations, the approved method of disconnection or abandonment shall be clearly defined in the permit conditions.
 - c. The stormwater system disconnection or abandonment permit issued under this Subdivision shall be on the premises and in the hands of the person completing the disconnection or abandonment.
 - d. All conditions of the permit must be adhered to and the disconnection or abandonment must be successfully inspected by the City Inspector to obtain any refund of the deposit.
 - e. The permit issued under this Subdivision shall be valid for 60 days from the date of issuance unless the permit is extended in writing by the City Engineer. Following an additional 60 days after the expiration of the permit, the permit shall be closed and any deposits remaining, less any inspection fees or other permit costs, will be returned. Upon closing of the permit, the owner must apply for a new permit to complete the disconnection or abandonment.
- (b) Private Site Plan and Treatment System Design, Review, Maintenance and Enforcement. The Administrative Authority shall review all parking facility permit applications and applications for "commercial sites" as defined by Sec. 10.08, MGO, hereinafter termed the "site." Single and two family detached dwellings shall be reviewed by the Director of the Building Inspection Division.
1. All sites, which include ten thousand (10,000) square feet or less of impervious surface, may be permitted to drain over the sidewalk with the provision that the site shall be graded so that the resultant flow shall be distributed over at least ten (10) linear feet of sidewalk.
 2. All sites, which include over ten thousand (10,000) square feet of impervious surface, shall be designed to convey stormwater drainage to the public stormwater system by means of a private storm sewer or storm building sewer.

3. As part of all plat or CSM developments, where the area draining to a single discharge point from a swale or other conveyance to a sidewalk or driveway exceeds fifty-five thousand (55,000) square feet the area shall be served with public storm sewer prior to the discharge to the public right-of-way. Serving of this area with storm sewer shall be at the expense of the developer proposing the improvement.
4. When the Administrative Authority deems that the existing storm sewer is unavailable, or that connection to the storm sewer is not in the public interest, he/she may permit drainage across the sidewalk on a temporary or permanent basis.
5. When a site being reviewed by the Administrative Authority proposes to continue existing drainage patterns and discharge stormwater runoff onto property neither under the applicants control (via ownership, easement or agreement) nor onto property under the control of the City of Madison, the Administrative Authority shall require the applicant to provide documentation that they have made significant efforts to obtain the right to discharge this stormwater onto this property. If no right can be obtained, the applicant shall be required to mitigate the increased volume of discharge on their property prior to making this discharge. Mitigation shall consist of implementation of a stormwater practice that shall match the existing volumetric discharges from the applicant's property to other lands not under their control in storm events including the 1, 2, 5 & 10-year storm events. If the proposed discharge is to an area that is an enclosed depression, this requirement shall be increased to include the 25 and 100-year storm events.
6. The Administrative Authority shall review and approve the location, direction of flow, depth, size and type of material to be used in the private storm sewer or storm building sewer. No storm sewer lateral shall be less than six (6) inches in diameter.
7. The property owner shall be responsible for the cost of installation of the private storm sewer or storm building sewer from his/her property line to the public stormwater system. The cost of installation shall include excavation, pipe laying, backfilling, and street restoration where required under the supervision of the Administrative Authority and in accordance with the City of Madison Street and Sewer Specifications.
8. The maintenance of the private storm sewer, storm building sewer, and/or best management practices shall be the responsibility of the property owner on whose property they exist. Every private storm sewer, storm building sewer, and best management practice shall be properly installed in accordance with the plans approved by City Engineering and shall be maintained in good working condition, free from defects, leaks and obstructions, and in accord with the maintenance agreement recorded against the property, if applicable.
 - a. Where existing City-approved private storm sewer, storm building sewer, and/or best management practices are in a state of disrepair, not constructed in accord with approved plans, or present an obstruction to the drainage system, and the resulting drainage overflows cause damage to the roadway or adjacent public or private lands, the Administrative Authority is authorized to resolve the drainage problem such that the system is functioning in accord with the approved design. Authorized actions include, but are not limited to: removal of any drainage obstructions (at existing inlets, at existing ditch lines and similar locations); regrading of existing ditch lines; repairing best management practices to bring them into compliance with the approved design; and construction of improvements to the stormwater management systems such that they are constructed in accordance with the approved plans. The Administrative Authority may proceed as follows to complete the work:
 - i. Where, in the opinion of the Administrative Authority, a situation exists that could adversely affect the health and safety of the public and/or cause significant damage to public or private property other than the property in question, the Administrative Authority is authorized to enter private property and correct the situation. The City shall special charge the full cost of the completed work in accord with Sec. 4.09(13), MGO.
 - ii. Where, in the opinion of the Administrative Authority, the situation affects only the property on which the problem exists, the Administrative Authority may

proceed in accord with Sec. 27.05, MGO, and order the owner of the property causing the problem to correct the situation.

- iii. Where, in the opinion of the Administrative Authority, the situation on one (1) property affects the drainage on other properties but does not threaten the health and safety of the public or threaten to cause significant damage to public or private property, or where the required maintenance is on a best management practice that is part of the approved stormwater management plan, the Administrative Authority may proceed in accord with Sec. 27.05, MGO, and order the owner of the property causing the problem to correct the situation.
- b. Any property owner required to have a Best Management Practice or a maintenance agreement on the property shall submit to the City Engineer an annual report reviewing the condition of that practice and the maintenance performed during the past calendar year. This report shall be submitted by June 1 and be sealed by a Professional Engineer currently licensed in the State of Wisconsin.

Where a recorded maintenance agreement exists, which specifies the annual inspection requirements, that agreement shall be the minimum information required. Where a maintenance agreement does not exist, the City Engineer shall make available inspection forms and maintenance guidelines for the most common types of stormwater management BMP's. These will be considered the minimum inspection and maintenance standards acceptable for the specific sites developed prior to maintenance agreements being required. Inspection forms will also be accepted for those properties with maintenance agreements, provided the minimum inspection and maintenance standards match that proscribed in the agreement.

(8) Discharges to the Public Stormwater System.

- (a) Definitions. In addition to the terms set forth in this Chapter, the definitions set forth in Sec. 7.47(2) shall apply to this Subsection.
- (b) Non-storm Discharges. All non-stormwater discharges to the public stormwater system shall be approved and permitted by the Health Department, as required and authorized under Sec. 7.47.
- (c) Illicit Discharges. All non-stormwater discharges to the public stormwater system that are either not permitted under Sec. 7.47 or are not required to have a permit (this includes, but is not limited to, foundation drains, sump pumps, and some air conditioning condensation discharges) shall be considered to be illicit and are hereby prohibited.
- (d) Clean-up or Repair of Wastes Discharged to the Public Stormwater System. The Administrative Authority shall work cooperatively with the Health Department to prevent, repair, and remove pollutants/waste from the public stormwater system. Should a discharge of pollutant/waste to the public stormwater system be caused by any individual, this person is responsible for immediately cleaning up any spilled material to prevent it from becoming a hazard to health or safety, or directly or indirectly causing pollution to the lakes and streams under the jurisdiction of the City of Madison.
- (e) Notification. Spills or the accidental release of hazardous materials or potentially polluting substances at a site of a quantity or nature that cannot be adequately cleaned up by the responsible person shall be reported immediately to the emergency number for the Police department (911) so that assistance can be provided by the proper agency.
- (f) Access. Where the Administrative Authority, under the direction of, or in consultation with and the approval of, the Health Department, has determined that a situation exists that could adversely affect the health and safety of the public or that a potential waste/pollutant discharge poses a significant threat of pollution to the waters of the State, and to remedy this situation access to privately owned property is required, the Administrative Authority shall have the right to enter private property for the specific purpose of remedying the potential discharge of waste/pollutants.
- (g) Financial Liability. The person responsible for the release, escape or discharge of potentially polluting substances/wastes shall be held financially liable for the cost of clean-up or attempted

clean-up deemed necessary or desirable and undertaken by the City of Madison, or its designated agents. This clean up shall be done only where the Administrative Authority, under the direction of, or in consultation with and the approval of, the Health Department, has determined that a situation exists that could adversely affect the health and safety of the public or that a potential waste/pollutant discharge poses a significant threat of pollution to the waters of the State. When the Administrative Authority acts consistent with this guidance it shall be determined to be acting in good faith. The costs associated with these remediation efforts shall be recovered as a special charge against the property served pursuant to Sec. 4.09(13), MGO.

(9) Vehicular and Pedestrian Crossings of the Public Stormwater System.

- (a) New Private Driveway Approaches. As stated in Sec. 10.08(5)(f) of the Madison General Ordinances and Wis. Stat. § 88.87(3) all new private driveway approaches (entrances) from unimproved public roadways into private property, shall have drainage facilities such as culverts and roadside ditch grading done in accordance with requirements of the Board of Public Works. Ditching and culverts required by the Board of Public Works shall be installed and properly maintained at the property owner's expense.

The Administrative Authority shall determine said requirements which shall include, but are not limited to; size, length and type of culvert, alignment and grade of culvert, type of embankment needed at culvert end, roadside ditching and grading required to provide roadside drainage. The construction shall be done by and at the expense of the property owner and the Administrative Authority will provide engineering and inspection.

- (b) Existing Private Drainage Systems. The maintenance, repair and replacement of private crossings of the drainage systems, including, but not limited to, pipes, culverts for private driveways, and roadside ditches along unimproved public roadways, are the responsibility of the adjacent private property owner. Where existing private drainage systems present an obstruction to the drainage system, and the resulting drainage overflows cause damage to the roadway or adjacent public or private lands, the Administrative Authority is authorized to correct any drainage obstruction. Authorized actions include but are not limited to removal of any drainage obstructions in existing ditch lines and regrading of existing ditch lines to allow for positive drainage. The Administrative Authority may proceed as follows to complete the following work:

1. Where, in the opinion of the Administrative Authority, a situation exists that could adversely affect the health and safety of the public or cause significant damage to public or private property, other than the property in question, the Administrative Authority is authorized to resolve the situation and the City will special charge the completed work in accord with Sec. 4.09(13), MGO.
2. Where, in the opinion of the Administrative Authority, the situation affects only the property on which the problem exists, the Administrative Authority may proceed in accord with Sec. 27.05, MGO, and order the owner of the property causing the problem to correct the situation.
3. Where, in the opinion of the Administrative Authority, the situation on one property affects the drainage on other properties but does not threaten the health and safety of the public or threaten to cause significant damage to public or private property, the Administrative Authority may proceed in accord with Sec. 27.05, MGO, and order the owner of the property causing the problem to correct the situation. It is noted here that for this scenario to be utilized the drainage problem must be clearly limited to one property affecting other properties. In the more common case, of drainage problems on multiple properties affecting the drainage for the area, paragraph 4. below will apply.
4. Where, in the opinion of the Administrative Authority, the situation is such that drainage problems are caused by a poorly maintained drainage system throughout the area, and it is only possible to correct the situation through regional improvements made on multiple properties, the Administrative Authority may propose an assessment improvement district to correct the situation or may proceed to improve the drainage via the Rural to Urban street improvement program.

(10) Public Harvesting of Foliage or Seeds from Storm Utility Lands.

- (a) Request to Harvest Plant Materials. A City of Madison resident or volunteer may make a written request to the Administrative Authority for the harvesting of foliage or gathering of wildflower or prairie seeds from lands owned and operated by the City of Madison stormwater utility. Each instance or location must be made as a separate request, reviewed, and approved prior to any harvesting or gathering activities. Harvested materials must be used for non-profit purposes and cannot be resold. The person or persons allowed to harvest materials from City of Madison stormwater utility lands must also complete a City of Madison volunteer waiver. Any damage caused by harvesting activities other than removal of the proscribed plant or seed materials must be repaired to the satisfaction of the Administrative Authority.

37.06 - LAND-DISTURBING ACTIVITIES SUBJECT TO EROSION CONTROL AND STORMWATER MANAGEMENT.

- (1) General Requirement. Any person who undertakes, commences or performs land-disturbing activities, or who permits or directs another person to do the same, on land subject to this section, shall be subject to this ordinance.
- (2) Land-Disturbing Activities Subject to Erosion Control. Unless expressly exempted by Sec. 37.06(4), an erosion control permit under Sec. 37.11 shall be required and the erosion control provisions of Sec. 37.08 shall apply to any of the following activities in the City:
 - (a) Land-disturbing activity in excess of four thousand (4,000) square feet resulting in the loss or removal of protective ground cover or vegetation;
 - (b) Land-disturbing activity that involves the excavation or filling, or any combination thereof, in excess of four hundred (400) cubic yards of material;
 - (c) Any public (federal, state or local) street, road or highway that is constructed, enlarged, relocated or substantially reconstructed;
 - (d) Any new public or private roads or access drives longer than one hundred twenty-five (125) feet;
 - (e) Land-disturbing activity that disturbs more than one hundred (100) lineal feet of road ditch, grass waterway or other land area where surface drainage flows in a defined open channel; including the placement, repair or removal of any underground pipe, utility or other facility within the cross-section of the channel;
 - (f) Any subdivision of land as defined by Sec. 16.23, MGO, entitled "Land Subdivision Regulations" which requires plat approval or any certified survey;
 - (g) Any use by a unit of government or by public or private utilities in which underground pipe or facilities will be laid, repaired, replaced or enlarged for a distance of over three hundred (300) feet.
 - (h) Land-disturbing activity that disturbs less than four thousand (4,000) square feet of land, including the installation of access drives, that the Administrative Authority determines to have a high risk of soil erosion or water pollution, or that may significantly impact a lake, stream, wetland, or other sensitive area. Examples of activities with a high risk of soil erosion or water pollution may include, but are not limited to, land disturbance on erodible soil or disturbance adjacent to lakes, rivers, streams or wetlands. All such determinations made by the Administrative Authority shall be in writing, unless waived by applicant.
- (3) Land-Disturbing Activities Subject to Stormwater Management. Unless otherwise exempted by Sec. 37.06(4), a stormwater management permit under Sec. 37.11 shall be required, and the noted stormwater management provisions of Sec. 37.09 shall apply, for the following activities within the City:
 - (a) Development. Any development(s) commenced after October 19, 1982 that either:
 - 1. Results in the addition of twenty thousand (20,000) square feet of new impervious surface to the site; or,
 - 2. Arises from the development of a previously developed or partially developed site(s) and results in a new site(s) condition with a total cumulative addition of twenty thousand

(20,000) square feet of new impervious surface, since August 22, 2001, shall meet all the provisions of Sec. 37.09.

- (b) Land Subdivision. Any subdivision of land, as defined by Sec. 16.23(2) of the Madison General Ordinances, which requires plat approval or any certified survey for property intended for commercial or industrial use.
 - (c) Redevelopment. Any development that meets the standards for redevelopment, as defined in Sec. 37.04, shall meet the stormwater management performance standards of Sec. 37.09(1), (2), (3).
 - (d) Other Land-Development Activities. Any development activity, including but not limited to the redevelopment or alteration of existing buildings and other structures, which the Administrative Authority determines may exceed the safe conveyance capacity of the existing drainage facilities and/or receiving body, significantly increase downstream runoff volumes, flooding, soil erosion, water pollution or property damage, or significantly impact a lake, stream, wetland, or other sensitive area, shall meet all the provisions of Sec. 37.09.
 - (e) Site Disturbance/Grading. Any land disturbance equal to or greater than one (1) acre, regardless of the amount of impervious area that is part of the project after construction, shall be subject to Sec. 37.08 and all the provisions of Sec. 37.09.
 - (f) Street Construction and Reconstruction. Any street construction or reconstruction exceeding twenty thousand (20,000) square feet of added impervious area that is not directly associated with a new plat or CSM development and does not result in the removal of a defined ditch section that drained the existing street is subject to Secs. 37.09(1), (2) and (4). Any street reconstruction exceeding 1 acre of land disturbance that is not directly associated with a new plat or CSM development and results in the removal of a defined ditch section that drained the existing street is subject to Secs. 37.09(1), (2) and (3) with regard to total suspended solids (TSS) control (sediment removal) and rate control (detention).
 - (g) Resurfacing. A site improvement project that requires zoning approval and has thirty thousand (30,000) square feet or more of parking lot resurfacing as defined in Sec. 37.04 shall meet the stormwater management performance standards of Sec. 37.09(1), (2), (3)(a) and (3)(b).
- (4) Exemptions and Clarifications.
- (a) The following activities are exempt from all the requirements of this ordinance:
 - 1. Any activity directly related to the planting, growing and harvesting of agricultural crops;
 - 2. Construction of agricultural buildings provided the resulting new total impervious surface area does not exceed twenty thousand (20,000) square feet.
 - (b) The following activities are exempt from the construction site erosion control provisions of Sec. 37.06(2):
 - 1. One- and two-family dwelling units regulated under the Wisconsin Uniform Dwelling Code; The Director of the Building Inspection Division shall regulate these sites during the period that residential building permits are in effect, consistent with the most current Wisconsin Uniform Dwelling Code requirements.
 - 2. Construction of public buildings and buildings that are places of employment relating to activities specifically regulated by the Wisconsin Department of Commerce during the period that Department of Commerce-authorized building permits are in effect and specific erosion control procedures on these construction sites are effective, pursuant to Wis. Stat. § 101.1205.
 - 3. State building projects subject to Wis. Stat. § 13.48 (13) and state highway projects subject to Wis. Admin. Code ch. Trans 401.
 - 4. Industrial activities wherein the disturbance is an ongoing part of the daily activity on the site, such as a nonmetallic mining operation, materials storage yards, etc. However, these activities could be required to obtain a permit for construction site erosion control from time to time when doing temporary construction to alter the site or the facility such as constructing a new building, adding a new roadway, or as identified in Secs. 37.06(3) and

37.06(4)(c). Furthermore, these industrial activities are still subject to the Stormwater Management requirements of this Ordinance, with an annual modified fee schedule as described in Paragraph 37.11(1)(d).

- (c) Notwithstanding the language of Sec. (4)(b)2., activities unrelated to actual building construction shall be subject to all the requirements of this ordinance. These activities shall include, but are not limited to:
 - 1. Land-disturbing activity prior to excavation for foundation work;
 - 2. Landscaping;
 - 3. Installation of driveways, parking areas and sidewalks;
 - 4. Earthwork on an area greater than four thousand (4,000) square feet on sites not directly related to structural concerns; and
 - 5. Development of ponds and channelized watercourses, commercial parks, and landing strips or airport runways.
- (d) Notwithstanding the language of Sec. (4)(b)3., the following activities are subject to the requirements of this ordinance:
 - 1. Buildings and activities of municipalities;
 - 2. Buildings and activities of school districts;
 - 3. Local highway projects;
 - 4. Municipal streets; and
 - 5. County roadways.

37.07 - PERMITTING OR CAUSING EROSION PROHIBITED.

No person shall cause or permit erosion or the tracking or dropping of dirt or sediment deposits on adjacent land, public streets or bodies of water from any land whether otherwise subject to this ordinance or not.

37.08 - EROSION CONTROL PLAN REQUIREMENTS.

(1) Control Plan Required.

- (a) Every applicant for an erosion control permit shall submit both a paper copy, 11" x 17", and a PDF copy of a plan to control erosion, sedimentation and runoff to the Administrative Authority. These plans shall be at a 40:1 or larger scale and include the information described in Sec. 37.08(2). Plans shall be submitted when the proposed activity:
 - 1. Disturbs an area twenty thousand (20,000) square feet or larger;
 - 2. Disturbs an area adjacent to or draining directly into any sensitive area;
 - 3. Regardless of size, proposes to have an onsite pumping system to control groundwater or to dewater the site after rain events;
 - 4. Is considered redevelopment and disturbs an area ten thousand (10,000) square feet or larger; or
 - 5. Is considered development and disturbs an area twenty thousand (20,000) square feet or larger.
 - 6. Any combination of new development and redevelopment with land disturbing activity in excess of twenty thousand (20,000) square feet.
- (b) Sites not requiring a control plan as identified above shall submit erosion control proposals using the simplified plan checklist provided with the permit application as described in Sec. 37.08(3).
- (c) The Administrative Authority may require separate erosion control plans and measures for Planned Development Districts where there is more than one building or multiple development phases.

- (2) Plan Materials. Erosion control plans required under Sec. 37.08(1) may include consideration of adjoining landowners' cooperative efforts to control transport of sediment and except as specifically exempted below, shall be completed and sealed by a Professional Engineer currently licensed in the State of Wisconsin and shall include the following information:
- (a) Limits of disturbed area;
 - (b) Limits of impervious area;
 - (c) All erosion control measures to be installed, including a pumping plan as needed;
 - (d) Cross sections of and profiles within road ditches;
 - (e) Kinds of utilities and areas of installation, including special erosion control practices for utility installation;
 - (f) Culvert sizes;
 - (g) Topographical features and the natural direction of flow of runoff;
 - (h) Watershed size for each drainage area;
 - (i) Design discharge for ditches and structural measures;
 - (j) Runoff velocities;
 - (k) Soil loss rate calculations for the construction period per the USLE or another method approved by the Administrative Authority;
 - (l) Fertilizer and seed types, rates and recommendations;
 - (m) Time schedules for stabilization of ditches and slopes;
 - (n) Description of methods by which sites are to be developed;
 - (o) Provision for sequential steps mitigating erosive effect of land-disturbing activities to be followed in appropriate order and in a manner consistent with accepted erosion control methodology suitable to proposed sites and amenable to prompt re-vegetation. Practices shall be installed consistent with Wisconsin Department of Natural Resources' guidance in Storm Water Management Technical Standards as provided on the website as follows:
https://dnr.wi.gov/topic/stormwater/standards/const_standards.html.
 - (p) Provisions such as stone access drives to prevent mud-tracking off-site onto public thoroughfares during the construction period and all incidental mud tracking shall be cleaned up and removed by the end of each working day using proper cleaning and disposal methods; and
 - (q) Any other information necessary to reasonably determine the location, nature and condition of any physical or environmental features of the site.
- (3) Simplified Plan Checklist. Applicants may submit erosion control proposals using simplified checklists of standard erosion control practices, on a standard form approved by the Administrative Authority, wherever all of the following conditions exist:
- (a) The site does not exceed twenty thousand (20,000) square feet in area; and
 - (b) The slope of the land does not exceed six percent (6%) throughout the site.
- Simplified plan checklists shall be reviewed by the Administrative Authority for completeness and accuracy.
- (4) Erosion Control Performance Standards. Plans will not be approved nor permits issued unless the proposed design, suggested location and phased implementation of effective, practicable erosion control measures for plans are designed, engineered and implemented to achieve the following results:
- (a) Prevent gully and bank erosion.
 - (b) Limit total off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion to an annual, cumulative rate not to exceed seven point five (7.5) tons per

acre per year (also referred to as five (5.0) tons of sediment yield per acre annually). These rates shall be determined using the U.S. Natural Resources Conservation Service Technical Guide or another commonly accepted soil erosion methodology approved by the City Engineer that considers season of year, site characteristics, soil erodibility and slope. The approved plan shall prevent or reduce all of the following:

1. The deposition of soil from being tracked onto streets by vehicles.
 2. The discharge of sediment from disturbed areas into on-site storm water inlets.
 3. The discharge of sediment from disturbed areas into adjacent waters of the state.
 4. The discharge of sediment from drainage ways that flow off the site.
 5. The discharge of sediment by dewatering activities.
 6. The discharge of sediment eroding from soil stockpiles existing for more than 7 days.
 7. The transport by runoff of chemicals, cement and other building compounds and materials on the construction site during the construction period.
- (c) Ensure that by design all necessary phasing is included in the plans such that during construction the erosion control plan in coordination with the stormwater management plan ensures that no increase in rate or volumetric discharge occurs during the construction process.
- (d) Modifications. Any proposed modifications of approved plans or alterations of accepted sequencing of land-disturbing site activities shall be approved by the Administrative Authority prior to implementation of the modifications.
- (e) Plan compliance shall be determined using the U.S. Natural Resources Conservation Service Technical Guide or another commonly accepted soil erosion methodology approved by the Administrative Authority, which considers season of year, site characteristics, soil erodability and slope.
- (f) Implementation. The BMPs used to comply with this section shall be implemented as follows:
1. Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
 2. Erosion and sediment control practices shall be maintained until final stabilization.
 3. Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
 4. Temporary stabilization activity shall commence when land disturbing construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
 5. BMPs that are no longer necessary for erosion and sediment control shall be removed.
- (5) Erosion Control Inspections.
- (a) Applicability. Applicants who must submit a control plan because the proposed activity meets the criteria of Secs. 37.08(1)(a)4. or 37.08(1)(a)5. shall also be required to conduct erosion control inspections of the site and the erosion control devices/practices at the site as set forth in this Subsection.
- (b) Required Inspections. The applicant shall inspect the erosion control measures on a weekly basis and within twenty-four (24) hours after each half inch (½") rain event.
- (c) Winter Dormant Inspection Requirements. When a permitted construction site is shut down and dormant over the winter season, the applicant shall be exempt from weekly inspections as required in Sec. 37.08(5)(b) upon approval of the Administrative Authority. In order for a permitted site to be classified as winter dormant, the applicant must install erosion control measures to the satisfaction of the Administrative Authority, provide an inspection of these measures and then cease all construction activities except for minor maintenance activities. Once a site is classified as winter dormant by the Administrative Authority, inspections are only

required within twenty-four (24) hours of a rain or thaw event as determined by the Administrative Authority. If at any time construction resumes or an erosion control failure occurs at the site, the site shall lose the winter dormant classification and the applicant must resume normal inspection requirements. The winter dormant classification only applies to inspections required by Sec. 37.08(5)(a) and at no time negates inspection requirements imposed by other permits the applicant may have obtained such as Dane County or WDNR Land Disturbance Permits.

- (d) Documentation of Inspection. Erosion control inspections, including any repairs needed and/or actions taken at the site, shall be documented on the City of Madison Erosion Control Website. The permittee will be given access to this website, which contains documentations and forms for use in the erosion control inspections. Digital photographs of each of the erosion control practices and the site conditions shall be submitted and shall be required to meet the minimum inspection requirements of this Subsection.
 - (e) If the site is noted as being within the Rock River TMDL area, the City of Madison may require additional erosion control measures in addition to those needed to meet the minimum standard of limiting erosion to a rate of five (5) tons per acre per year. The applicant will be made aware of these additional measures either as a condition of permit issuance or as the result of a site inspection performed by the City of Madison.
- (6) Additional Requirements. In addition to the requirements set forth elsewhere in this Ordinance, applicants for an erosion control permit who must submit a control plan under Sec. 37.08(1)(a) must do the following:
- (a) Hold a Preconstruction Meeting Prior to the Start of Construction. This preconstruction meeting shall be attended by a Professional Engineer licensed in the State of Wisconsin responsible for the initial implementation of the erosion control plan. The erosion control permitting and reporting requirements shall be discussed at this meeting. The Professional Engineer in attendance shall document the meeting and submit minutes of the meeting to the Administrative Authority within one (1) week of this meeting. The Administrative Authority, at their discretion, may allow other appropriately credentialed professionals to complete this requirement.
 - (b) Initial Installation Certificate. Provide documentation to the Administrative Authority, on forms available from the City Engineer, from a Professional Engineer licensed in the State of Wisconsin showing the initial installation and implementation of the erosion control plan. These forms shall be submitted to the Administrative Authority within one (1) week of the completion of the initial installation and implementation of the erosion control plan. The Administrative Authority, at their discretion, may allow other appropriately credentialed professionals to complete this requirement.
 - (c) Notice of Termination. Within ten (10) working days of completion of the project, or the erosion control portion of the project (meaning the final site stabilization has been completed), notify the Administrative Authority that the Applicant requests closure of the Erosion Control Permit. This request shall be made via the Erosion Control Notice of Termination (ECNOT) form available from the City Engineer.
 - (d) Non-Compliance. Upon written or verbal notice by an agent of the City of Madison to the applicant, or the applicant's designated representative, regarding an erosion control action or repair needed to bring the site into compliance, the applicant has not less than twenty-four (24) nor more than seventy-two (72) hours to bring the project site into compliance and document those subsequent actions with the Administrative Authority. The time allotted to bring the site into compliance shall be noted on the notice.

37.09 - STORMWATER MANAGEMENT PLAN REQUIREMENTS.

- (1) Stormwater Management Plan Required.
 - (a) Every applicant for a stormwater management permit shall submit a plan documenting the system(s) and measures proposed to control stormwater runoff from the site. Included in this stormwater management plan shall be a completed standard stormwater management summary template. This template shall be available at:

<http://www.cityofmadison.com/engineering/stormwater/> under the stormwater regulations section. The stormwater management plan shall be completed and sealed by a Professional Engineer currently licensed in the State of Wisconsin.

- (b) Evidence of Financial Responsibility. The Administrative Authority may require a financial security instrument sufficient to guarantee complete construction of the stormwater management systems proposed in the stormwater management plan.
- (2) Plan Contents. Stormwater management plans shall satisfy all of the requirements in Sec. 37.09(3), and shall provide, at a minimum, the following information:
 - (a) The summary template required in 37.09(1)(a) above, and a narrative describing the proposed project, including implementation schedule for planned practices;
 - (b) Identification of the entity responsible for long-term maintenance of the project;
 - (c) A topographic map of the site location, including the contiguous properties, existing drainage patterns and watercourses affected by the proposed development of the site and the existing vegetative cover;
 - (d) A map showing drainage areas for each watershed area;
 - (e) A summary of runoff peak flow rate calculations, by watershed area, including all of the following:
 - 1. Pre-existing peak flow rates;
 - 2. Post-construction peak flow rates with no detention;
 - 3. Post-construction peak flow rates with detention;
 - 4. Estimated runoff curve numbers (RCNs). For pre-development and post-development conditions, RCNs shall be consistent with the following:
 - a. Pre-development RCNs shall be considered to be a maximum of Hydrologic Soil Group B
 - b. Post-development RCNs shall be considered to be a minimum of Hydrologic Soil Group C unless methods are taken to reduce compaction of the site. Approval of the proposed compact mitigation methods are at the discretion of the Administrative Authority and, if approved, shall require documentation by a Registered Professional Engineer in the State of Wisconsin.

	<i>Hydrologic Soil Group</i>			
	A	B	C	D
Woodland	30	55	70	77
Grassland	39	61	71	78
Cropland	51	68	78	83

- 5. Time of concentration (T_c) used in calculations.
- (f) A complete site plan and specifications, sealed by the Professional Engineer who designed the stormwater management system(s) and measures. All plans and specifications shall be drawn to a legible scale, shall be clearly labeled, and shall include, at a minimum, all of the following information:
 - 1. Property lines and lot dimensions;
 - 2. All buildings and outdoor uses, existing and proposed, including all dimensions and setbacks;

3. All public and private roads, interior roads, driveways and parking lots and shall show traffic patterns and type of paving and surfacing material;
 4. All natural and artificial water features, including, but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense;
 5. Depth to bedrock;
 6. Depth to seasonal high water table;
 7. The extent and location of all soil types as described in the Dane County Soil Survey, slopes exceeding twelve percent (12%), and areas of natural woodland or prairie;
 8. Existing and proposed elevations (referenced to USGS Vertical NAVD88 Datum);
 9. Elevations, sections, profiles, and details as needed to describe all natural and artificial features of the project;
 10. Soil erosion control and overland runoff control measures, including runoff calculations as appropriate;
 11. Detailed construction schedule indicating the anticipated starting and completion dates of the development sequence;
 12. Copies of permit or permit applications required by any other governmental entities or agencies;
 13. Any other information necessary to reasonably determine the location, nature and condition of any physical or environmental features;
 14. Location of all stormwater management practices;
 15. All existing and proposed drainage features;
 16. The location and area of all proposed impervious surfaces;
 17. The limits and area of the disturbed area;
 18. Seeding mixtures and rates, lime and fertilizer application rates, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
- (g) Engineering designs and detailed drawings for all structural management practices;
- (h) If required under Sec. 37.09(3)(b), the plans to provide required oil and grease control;
- (i) If required under Sec. 37.09(3)(a), the plans to provide required sediment (TSS) removal;
- (j) If required under Sec. 37.09(3)(e), the plans to provide required infiltration;
- (k) A maintenance plan and schedule for all permanent stormwater management practices as recorded on the affidavit required in Sec. 37.11(2);
- (l) Where the area being developed is in or adjacent to an area prone to flooding, as determined by the Administrative Authority, the applicant shall provide detailed survey and proposed site plan information on the proposed lowest entrance openings to the building (including underground parking). Further, the applicant shall complete an analysis of the stormwater drainage conveyance system for the area as it relates to the proposed new building and shall certify to the Administrative Authority that the building has been designed to provide a minimum flood protection to the 100-year event by limiting the lowest entrance opening elevations.

This plan and analysis shall be reviewed and accepted by the Administrative Authority and placed on file with the City Engineer. The elevations set under the above process are minimums and the Developer may be required to exceed the elevations by the Administrative Authority.

These elevation requirements shall apply to all entrances to the proposed structure including access to underground parking. In the case where the entrance to subsurface parts of a building is served by a pumping system, the pumping plans shall be submitted to the Administrative Authority and shall be stamped by a Professional Engineer in the State of Wisconsin. These plans shall provide and document that the pump system can adequately control the anticipated flows that result from a 100-year storm event. Alternatively, the pumping plan may be certified by a Professional Engineer and the pump design and installation plan itself certified by a Master Plumber as defined by Wisconsin Statute;

- (m) A completion date for all proposed stormwater management devices to be constructed and in service on the site. Failure to complete the project and bring the devices into service by the approved date shall constitute a violation of this section.
- (3) Stormwater Management Performance Standards. The proposed design, suggested location and phased implementation of effective, practicable stormwater management measures as set forth in the stormwater management plan shall be designed, engineered, and sealed by a Professional Engineer licensed in the State of Wisconsin, and implemented to achieve the following results:
 - (a) Sediment Control.
 - 1. For new development, by design:

Reduce, to the maximum extent practicable, total suspended solids load leaving the site by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls. This shall require the use of a continuous model such as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website (<https://dnr.wi.gov/topic/stormwater/>).

No person shall be required to exceed an eighty percent (80%) total suspended solids reduction, for the site as a whole, to meet the requirements of this subdivision. The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program that provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.
 - 2. For redevelopment, by design:

Reduce, to the maximum extent practicable, total suspended solids (TSS) loads leaving the redeveloped site by forty percent (40%), based on average annual rainfall, as compared to no runoff management controls. This shall require the use of a continuous model such as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website (<https://dnr.wi.gov/topic/stormwater/>).

No person shall be required to exceed a forty percent (40%) total suspended solids reduction, for the site as a whole as compared to no runoff management controls, to meet the requirements of this subdivision except as noted below in Sec. 37.09(3)(a)3. for sites located in the Rock River TMDL watershed. The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program that provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.
 - 3. For redevelopment and/or resurfacing by design for sites located within the Rock River TMDL:

Reduce, to the maximum extent practicable, total suspended solids (TSS) loads leaving the redeveloped or resurfaced site by eighty percent (80%), based on average annual rainfall, as compared to the existing conditions of the site prior to the proposed redevelopment and/or resurfacing. This shall require the use of a continuous model such

as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website (<https://dnr.wi.gov/topic/stormwater/>). Changes in TSS loading as compared to the existing site are expected to be met from land use changes and stormwater management practices.

This requirement shall be considered met if the eighty percent (80%) reduction requirement is met for the site or all new exposed parking areas reach a sixty percent (60%) total suspended solids reduction, as compared to no controls. The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program that provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.

4. Redevelopment projects that previously triggered new development TSS reduction levels of eighty percent (80%) since February 8, 2005 shall continue to be required to meet this higher level of treatment and are not eligible for the lower TSS reduction percentages described paragraphs 2. and 3.

- (b) Oil and Grease Control. For new development or redevelopment sites that include commercial or industrial land uses and all other land uses where the potential for pollution by oil and/or grease exists, the first one-half (0.5) inches of runoff will be treated using the best oil and grease removal technology available.

Specifically, oil and grease control shall be required for all parking facilities exposed to the elements that have a cumulative number of parking stalls greater than or equal to forty (40) with all parking areas constructed since August 22, 2001 receiving treatment. Sites with exposed drive up windows or any other sites deemed high potential for oil and grease deposition by the Administrative Authority shall also receive treatment. The Administrative Authority may waive this requirement only when the applicant can demonstrate that the installation of such practices is not necessary.

- (c) Runoff Rate Control

1. General. Runoff rate control is required for new development and redevelopment upon an incremental cumulative increase in new impervious area equal or exceeding twenty thousand (20,000) square feet. Incremental increases over a period of years since August 22, 2001, such that multiple small incremental increases in new impervious area eventually exceeds the twenty thousand (20,000) square foot criteria, shall be retroactively controlled once the cumulative increase in new impervious area meets or exceeds twenty thousand (20,000) square feet.

Sites being developed within a Plat or CSM having a stormwater management plan previously approved for rate control at the Plat/CSM level, with rate control standards that include a maximum control requirement of the 10-year storm event, shall comply with 37.09(3)(c)2.e. and f.

Sites being developed within a Plat or CSM having a stormwater management plan previously approved for rate control at the Plat/CSM level, with rate control standards that include a maximum control requirement of the 100-year storm event, shall comply with 37.09(3)(c)2.f.

For sites noted above that are within developments that had some level of detention at the plat level, the required volume of detention to be provided shall be calculated by the following method:

- a. Determine the runoff from the undeveloped site in compliance with the standards of this ordinance for the 10, 100 and 200 year events.
- b. Determine the runoff from the proposed site in the 10, 100 and 200 year events.
- c. Complete a TR-55 based analysis to determine the volume of detention storage theoretically required to detain the post development 10, 100 and 200 year storm events to the predevelopment discharge rates.

- d. If the development provided 10 year detention at the plat level, subtract the volume needed by the 10 year event from the volume needed by the 200 year event. That volume shall be provided on site and an outlet structure shall be designed to use that volume in the post development 100 – year event.
- e. If the development provided 100 year detention at the plat level, subtract the volume needed by the 100 year event from the volume needed by the 200 year event. That volume shall be provided on site and an outlet structure shall be designed to use that volume in the post development 100 – year event.
- f. For Closed Watersheds, predevelopment modeling shall include closed watershed areas. Sites that drain to closed watersheds must be designed with: (i) an emergency drawdown or pumping plan, and (ii) detention storage capacity for back to back 100-year 24-hour design storms.
- g. For residential areas being re-platted prior to any development occurring on the lands and for which a regional stormwater management plan was approved at the level of the initial plat or preliminary plat meeting the detention requirements for the 100-year event, no recalculation or upsizing of the existing stormwater management features shall be required to accommodate the 200-year event provided the re-platted development pattern does not exceed the proposed CN in the original stormwater management plan and the re-plat occurs within 7-years of the effective date of this ordinance. If the CN for the re-platted area does increase above that submitted as part of originally approved submittal, the change in volume of required to detain the additional impervious area to the 100-year event shall be provided on a lot by lot basis with distributed infra-structure.

Hydrologic calculations for event driven analysis shall be completed according to the methodology described in the Natural Resources Conservation Service's Technical Release 55, "Urban Hydrology for Small Watersheds" (commonly known as TR-55), for analysis requiring average annual results SLAMM or other Technical Standards and Specifications as provided in Sec. 37.10(5). Runoff curve numbers for vegetated areas shall comply with 37.09(2)(e). The TR-55-specified curve numbers for other land uses shall be used.

- 2. New Development. All stormwater facilities for new development shall be designed, installed and maintained to effectively accomplish the following:
 - a. Maintain predevelopment peak runoff rates for the 1-year, 24-hour storm event (2.49 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - b. Maintain predevelopment peak runoff rates for the 2-year, 24-hour storm event (2.84 inches over 24 hours duration using the t4 NRCS Rainfall Distribution).
 - c. Maintain predevelopment peak runoff rates for the 5-year, 24-hour storm event (3.45 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - d. Maintain predevelopment peak runoff rates for the 10-year, 24-hour storm event (4.09 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - e. Maintain predevelopment peak runoff rates for the 100-year, 24-hour storm event (6.66 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - f. Maintain predevelopment peak runoff rates for the 200-year, 24-hour storm event (7.53 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - g. Safely pass the 500-year, 24-hour storm event (8.94 inches over 24 hours duration using the MSE4 NRCS Rainfall Distribution).
 - h. Pre-existing detention on the site shall be taken into account as part of proposed detention calculations. At a minimum, the pre-existing detention volume shall be estimated and shall be considered to be a base amount of storage required for the site prior to completing any pre to post storm rate matching. Effectively the pre-existing detention volume shall be added to the volume required to meet the pre to post rate controls.

- i. Downstream system capacity shall be analyzed to determine the safe capacity of the off-site drainage system. No release rates in excess of this safe capacity shall be allowed. The existing safe release rates are one method that may be used to determine the pre-existing detention volume for the site.
 - j. Overflow elevations shall be calculated through the development to assure that the 100-year event flows through the streets and is confined to the public Right-of-Way. Further the 500-year event flood elevation shall be routed through the development to determine flood elevations. The 500-year event is allowed to flood private property but lowest entrance elevations of structures shall be set to prevent structural flooding during the 500-year event.
 - k. The required rate and volume reductions shall be completed, using green infrastructure that captures at least the first 1/2 inch of rainfall over the total site impervious area. If additional stormwater controls are necessary beyond the first 1/2 inch of rainfall, either green or non-green infrastructure may be used.
 - l. Regardless of how or what green infrastructure features are used to meet the above requirements, they shall require the recording of a maintenance agreement for the features against the appropriate parcel. The following guidance shall be used in interpreting this code:
 - i. An intensive green roof with a media depth of 12" shall have a CN of 68.
 - ii. An extensive green roof with media depth of a minimum of 4" shall have a runoff CN for this type of feature of 76.
 - iii. Pervious pavement designed to comply with the Wisconsin WDNR's guidance for post construction stormwater practices shall have a runoff CN of 74.
 - m. Regardless of how or what green infrastructure features are used to meet the above requirements, the Administrative Authority shall require the recording of a maintenance agreement for the features against the appropriate parcel.
3. Redevelopment. If the redevelopment has proposed impervious cover that exceeds 80% of the existing site impervious cover, the site shall meet the following criteria:
- a. Reduce peak runoff rates from the site by 15% compared to existing conditions during a 10-year design storm.
 - b. Reduce runoff volumes from the site by 5% compared to existing conditions during a 10-year design storm.
 - c. The required rate and volume reductions shall be completed, using green infrastructure that captures at least the first 1/2 inch of rainfall over the total site impervious area. If additional stormwater controls are necessary beyond the first 1/2 inch of rainfall, either green or non-green infrastructure may be used.
 - d. The following guidance shall be used in interpreting these requirements:
 - i. An intensive green roof with a media depth of 12" or more shall have a runoff CN of 68.
 - ii. An extensive green roof with media depth of a minimum of 4" shall have a runoff CN of 76.
 - iii. Pervious pavement designed to comply with the Wisconsin WDNR's guidance for post construction stormwater practices shall have a runoff CN of 74.
 - e. Regardless of how or what green infrastructure features are used to meet the above requirements (37.09(3)(c)3.a.b and c), they shall require the recording of a maintenance agreement for the features against the appropriate parcel.
4. Flood Prone Watersheds. For lands known to the City Engineer to be within watersheds or subwatersheds experiencing flooding, development and redevelopment shall comply with

the detention/storage requirements identified in individual watershed plans. These watershed plans shall be accepted by the Board of Public Works and placed on file with the City Engineer. Maps showing these areas, when available, shall be posted on the City of Madison Website, <https://www.cityofmadison.com/engineering/stormwater/>

In the absence of a completed and accepted watershed plan for a watershed known to be experiencing flooding, new development or redevelopment shall comply with the requirements of 37.09(3)(c)2 and 3, as applicable.

5. Discharge Off-Site to Other Private Lands. When a site being reviewed by the Administrative Authority proposes to continue existing drainage patterns and discharge stormwater runoff onto property neither under the applicant's control (via ownership, easement or agreement) nor onto property under the control of the City of Madison, the Administrative Authority shall require the applicant to provide documentation that they have made significant efforts to obtain the right to discharge stormwater onto this property.

If no such right can be obtained, the applicant shall be required to mitigate the increased volume of discharge on their property prior to making this discharge. Mitigation shall consist of implementation of a stormwater practice that shall match the existing volumetric discharges from the applicant's property to other lands not under their control in storm events including the 1, 2, 5 & 10-year storm events. If the proposed discharge is to an area that is an enclosed depression, this requirement shall be increased to include the 25 and 100-year storm events.

- (d) Outlets. Discharges from construction sites must have a stable outlet capable of carrying designed flow as required in Sec. 37.09(3)(c), at a non-erosive velocity. Outlet design must consider flow capacity and flow duration. This requirement applies to both the site outlet and the ultimate outlet to stormwater conveyance or water body. A minimum of 0.5' of freeboard shall be provided from the design peak elevation at the outlet of the basin compared to the elevation controls surrounding the basin (berms).
- (e) Infiltration. All plats, Certified Survey Maps, development, and redevelopment projects which create a cumulative total of twenty thousand (20,000) square feet or more of new impervious area since October 1, 2004 are required to provide infiltration of stormwater as set forth below. Stormwater management reports submitted to the City of Madison for review shall meet the requirements of Wis. Admin. Code ch. NR 151.12(5)(c). The stormwater management reports shall comply with the sections entitled "Criteria" within the applicable Infiltration Technical Standards as provided by the Department of Natural Resources and maintained by the Standards Oversight Council. A link to the technical standards is provided as follows: https://dnr.wi.gov/topic/stormwater/standards/postconst_standards.html. Stormwater infiltration shall comply with the following:
 1. All Developments. Developments within the City of Madison, regardless of development type, shall be required to infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least ninety percent (90%) of the pre-development infiltration volume, based on an average annual rainfall, regardless of area necessary for this requirement. Should the applicant prove to not be able to meet the infiltration requirement without dedicating more than two percent (2%) of the site area for this purpose, they may optionally choose to meet the secondary recharge standard.
 2. Secondary Recharge Standard. If the infiltration standard cannot be met by the developer with dedication of two percent (2%) or less of the site area, the developer may choose to design an infiltration system and pervious surfaces to meet or exceed the estimated average annual recharge rate as determined from the Wisconsin Geological and Natural History Survey's 2009 report, *Groundwater Recharge in Dane County, Estimated by a GIS-Based Water Balanced Model* or subsequent updates to this report, or by a site specific analysis using other appropriate techniques. If this alternative design approach is taken, at least two percent (2%) of the site area shall be dedicated as part of the effective infiltration area.
 3. Distributed Best Management Practices. If the applicant proposes to use distributed practices (e.g. rain gardens) to meet infiltration requirements, a deed restriction and

maintenance agreement will be required. These shall be recorded against individual parcels. If these devices are utilized to meet infiltration requirements, no credit shall be given towards the volume requirements for Runoff Rate Control in Sec. 37.09(3)(c).

4. Pre-Treatment. Prior to infiltration of runoff from parking lots, new road construction (in commercial, industrial and institutional areas), the runoff shall be pre-treated. This pre-treatment shall be in accord with the applicable Standards Oversight Council Technical Standard. Infiltration systems designed in accordance with this section shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to the groundwater and shall maintain compliance with the prevention action limits at a point of standards application in accordance with Wis. Admin. Code ch. NR 140 for all pollutants excepting chloride. Further, if site-specific information indicates that compliance with the applicable prevention action limit is not achievable, the infiltration device shall not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
5. Prohibitions. Notwithstanding paragraphs 1 through 4, infiltration systems shall not be installed in any of the following areas:
 - a. Areas associated with Tier 1 industrial facilities as identified in Wis. Admin. Code ch. NR 216.21(2)(a).
 - b. Storage and loading areas of Tier 2 industrial facilities as identified in Wis. Admin. Code ch. NR 216.21(2)(b).
 - c. Fueling and vehicle maintenance areas.
6. Exemptions. Runoff from the following areas may be credited toward meeting the requirement for infiltration under Sec. 37(09)(3)(e) when it is infiltrated. However any requirement for infiltration of runoff from these areas is optional:
 - a. Parking areas and access roads less than five thousand (5,000) square feet for commercial development.
 - b. Parking areas and access roads less than five thousand (5,000) square feet for industrial developments not subject to paragraph 5. above.
 - c. Redevelopment sites, unless previous development of the site required infiltration.
 - d. Roads in commercial, industrial and institutional land uses, and arterial residential roads.
 - e. Areas where the infiltration rate of the soil is less than 0.60 inches per hour measured at the bottom of the proposed infiltration system, provided that, based on test pits, a more permeable soil layer with infiltration rates exceeding 0.60 inches per hour does not exist within two (2) feet of the proposed bottom of the infiltration device.
7. Location of Practices. Infiltration practices shall not be located in the following areas:
 - a. Areas with less than five (5) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonal high groundwater or the top of bedrock for Industrial, Commercial, Institutional parking lots and roads, and for residential arterial roads.
 - b. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonal high groundwater or the top of bedrock for all other source areas not identified in (a) above.
 - c. Areas with less than one (1) foot of separation distance from the bottom of the infiltration practice to the elevation of the seasonal high groundwater or top of bedrock for roofs draining to subsurface drainage systems.
 - d. Areas where infiltrated water will contain runoff from commercial, industrial, or institutional land uses or regional infiltration devices serving residential development, where the proposed infiltration device is within four hundred (400 feet) of a community water system well as specified in Wis. Admin. Code ch. NR 811.16(4).

- e. Areas where contaminants of concern, as defined in Wis. Admin. Code ch. NR 720.03(2), are present in the soil through which infiltration will occur.
- 8. Alternative Uses. Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given equal credit toward the infiltration volume required by this section.
- (f) Thermal Control. The stormwater management plan shall include provisions and practices to reduce the temperature of runoff for sites located within the watershed of a river or stream identified by the Wisconsin Department of Natural Resources as a Cold Water Community. For the City of Madison, these watersheds include the Badger Mill Creek (Upper & Lower) and Door Creek. Meeting the infiltration standards of Sec. 37.09(3)(e), MGO, shall satisfy all requirements for thermal control. If a site is exempt or excluded from infiltration requirements but is located in a thermal control watershed, the thermal requirements of this section apply and shall be met.
- (g) Protective Areas. Impervious surfaces shall be kept out of the protective areas to the maximum extent practicable. The stormwater management report shall contain a written site-specific explanation for any parts of the protective area that are disturbed. Where land disturbance occurs within the protective area and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of seventy percent (70%) (of the disturbed area) or greater shall be established and maintained. Best management practices may be located within protective areas.
 - 1. For outstanding resources waters and exceptional resources waters and for wetlands in areas of special natural resource interest as specified in Wis. Admin. Code ch. NR 103.04 — the protective distance is seventy-five (75) feet.
 - 2. For perennial and intermittent streams identified on a United States Geological Survey 7.5 minute series topographic map, or on a county soil survey map, which is more current — the protective distance is fifty (50) feet.
 - 3. For lakes — the protective distance is fifty (50) feet.
 - 4. For highly susceptible wetlands — the protective distance is seventy-five (75) feet. Highly susceptible wetlands include the following: calcareous fens, sedge meadows, open and coniferous bogs, low prairies, coniferous swamps, lowland hardwood swamps and ephemeral ponds.
 - 5. For less susceptible wetlands — the protective distance is ten percent (10%) of the average wetland width, but not less than ten (10) feet nor more than thirty (30) feet.
 - 6. For wetlands not subject to paragraphs 4 or 5 above, the distance shall be fifty (50) feet.
 - 7. For concentrated flow channels with drainage areas greater than one hundred thirty 130 acres — the protective distance is ten (10) feet.
 - 8. Redevelopment post-construction sites are exempt from the protective area requirements.
 - 9. Structures that cross or access surface waters are exempt from the protective area requirements.
- (h) CARPC Requirements. Where, as a condition of approval of an urban service area extension, the Capital Area Regional Plan Commission (CARPC) requires compliance with additional stormwater management standards, the applicant shall comply with the resolution of approval for this urban service area as issued by CARPC and approved by the Wisconsin Department of Natural Resources (WDNR) and/or the Madison Metropolitan Sewerage District (MMSD).
- (4) Stormwater Management Goals.
 - (a) For existing development, implement practices to reduce by twenty percent (20%) the anticipated total suspended solids entering waters of the state, as compared to no controls, by March 10, 2007 and a forty percent (40%) reduction by March 10, 2011. This as designed/modeled standard will be met on a municipality wide basis. In the event that the majority of the communities in the Madison Lakes watershed fail to adopt similar provisions,

then the requirements of this section shall revert to those contained in Wis. Admin. Code ch. NR 151.13(2).

(b) For street reconstruction, the following shall apply:

1. Total Suspended Solids (TSS) Control — Reduce, to the maximum extent practicable, total suspended solids loads leaving the site by forty percent (40%), based on average rainfall, as compared to no runoff management controls. This method requires the use of a continuous model such as SLAMM or P8, and of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website.

No person shall be required to exceed forty percent (40%) total suspended solids reduction to meet the requirements of this subdivision. This analysis shall use approved procedures and assume no re-suspension of particles. This analysis shall require tracking of the particulate sizes trapped by each device used in series (or treatment train). Serial redundant removal efficiencies shall not be allowed. For example, a catch basin and an inlet filter, each being approximately twenty-five percent (25%) effective, do not provide a fifty percent (50%) removal efficiency. Rather, as these devices both trap the same particle size the combined efficiency of these two (2) devices used in series remains at twenty-five percent (25%).

2. Infiltration — design practices to infiltrate stormwater runoff from the roadway in accordance with Wis. Admin. Code ch. NR 151.24(5).
3. Peak Discharge — design practice to reduce peak runoff from the roadway in accordance with Wis. Admin. Code ch. NR 151.24(4).

(5) Off-Site Stormwater Management. Off-site stormwater management is allowed, provided that all of the following conditions for the off-site facility are met:

- (a) The facility is in place;
- (b) The facility is designed and adequately sized to provide a level of stormwater management that at least meets the ordinance standards;
- (c) The facility has a legally obligated entity responsible for its long-term operation and maintenance.

(6) Installation Certification. Each applicant who is granted a stormwater management permit, and who has signed and recorded the required maintenance agreement, shall submit to the City Engineer certification that the BMP's referred to in the stormwater management report have been installed in accord with the plans and specifications of that report. This certification shall be provided and sealed by a Professional Engineer currently licensed in the State of Wisconsin, on forms available from the City of Madison Engineer.

The City of Madison stormwater management permit shall not be closed without submission of this certification. This certification shall serve as Official Notice of Termination by the Applicant with regard to the stormwater management permit, and shall trigger a final site inspection by City Engineering staff. Upon completion of this inspection, a notice of permit closure and reminder to the Applicant of the annual stormwater management report requirement shall be sent and the stormwater management permit shall be closed.

(7) Annual Stormwater Management Report. Each applicant who is granted a stormwater management permit, and who has signed and recorded the required maintenance agreement, shall submit to the City Engineer an annual report on the condition of the site's stormwater management devices.

The annual report shall include the following:

- (a) Documentation of the completion of the required annual maintenance, including copies of receipts (actual prices paid need not be reported) from agents hired to perform the work and the date the work was completed;
- (b) Photos of the management device at the time of inspection. This shall include photos of existing conditions and photos after the completion of any required maintenance.

This report shall be submitted by June 1 of each year following closure of the Stormwater Management Permit required under Sec. 37.09(6). Because of the change of the report due date, no annual report submittal will be required for the calendar year 2013. The annual report shall be completed and sealed by a Professional Engineer currently licensed in the State of Wisconsin, on forms provided by the City Engineer. The requirement that the annual report be sealed by a Professional Engineer may be omitted in the case of a stormwater management plan consisting solely of storm sewer inlet filters and/or catchbasin sumps, provided that the applicant can provide the appropriate documentation and dated photos as outlined in Secs. 37.09(7)(a)&(b). For sites with more extensive stormwater management systems, the Administrative Authority may allow other appropriately credentialed professionals to complete this work at their discretion.

For sites that have a stormwater management device (or devices) that require a topographic survey every three years, this survey requirement may be satisfied through the submittal of adequate photographic documentation. The acceptance of date stamped photographs in lieu of a topographic survey is at the discretion of the Administrative Authority. The topographic survey requirement waiver may only be applied to qualifying detention or infiltration basins.

Upon receipt of the annual report, if requested on the cover letter accompanying the report or by separate email, City Engineering staff shall provide an email response to the contact listed on the reporting forms stating that the report was received. This response from City Engineering shall be made within 15 working days of receiving the report.

37.10 - STANDARDS AND SPECIFICATIONS.

- (1) Tracking. For plan approval and issuance of a permit, there must be adequate provisions to prevent the tracking or dropping of dirt or other materials from the site onto any public or private street.
- (2) Concrete Management. For plan approval and issuance of a permit, the applicant shall provide a plan for Engineering review and approval that documents methods to control and limit concrete waste material from leaving the site.
- (3) Dewatering Plan. For plan approval and issuance of a permit, the applicant shall provide a plan for Engineering review and approval that documents the methods to control sediment from being discharged to the environment as part of any pumping (utility or site dewatering) to be done as part of this application.

If this pumping plan exceeds seventy (70) gallons per minute (GPM) the applicant shall provide documentation of the WDNR dewatering and/or point well permits. Additionally, if Engineering staff suspects site contamination, based on documented reports on file with the WDNR, the applicant shall provide testing results documenting the condition of groundwater on the site. If contamination is found, no plan approval or issuance of a permit can be granted until and unless the applicant documents WDNR permits for discharge of contaminated groundwater to either the sanitary or storm sewer systems. Once WDNR approval is granted additional permits may be required from the Madison Metropolitan Sewerage District, City/County Health and City Engineering.

- (4) Groundwater Contamination. For projects in areas where a review of WDNR records indicate that possible groundwater contamination exists, the applicant shall be required to complete a site investigation including borings and groundwater testing prior to plan approval.
- (5) Technical Standards and Specifications. The design of all best management practices designed to meet the requirements of this ordinance shall comply with the following technical standards:
 - (a) U.S. Natural Resources Conservation Service's "Field Office Technical Guide;" or its successor;
 - (b) U.S. Natural Resources Conservation Service's Technical Release 55 (TR 55) "Urban Hydrology for Small Watersheds";
 - (c) U.S. Natural Resources Conservation Service's Engineering Field Manual for Conservation Practices;
 - (d) U.S. Natural Resources Conservation Service's Engineering Handbook;
 - (e) Wisconsin Department of Natural Resources' "Stormwater Management Technical Standards" as provided at <https://dnr.wi.gov/topic/stormwater/>, or its successor;

- (f) Any other technical methodology approved by the Dane County Conservationist and the Administrative Authority.
- (6) Design Criteria. The applicant for a permit may employ structural or nonstructural measures necessary to achieve all applicable standards set out in this ordinance. However, these measures will be evaluated to determine that they follow currently accepted design criteria and engineering standards. The following general principles shall be used when evaluating control plans and granting permits under this ordinance:
 - (a) The smallest area of land shall be exposed for the shortest period at any given time during development.
 - (b) The rough grading of the lot shall include backfilling the basement and all excess earth shall be hauled off the lot.
 - (c) Accommodation of the increased runoff caused by changed soil and surface conditions during and after development.
 - (d) Permanent, final plant covering or structures shall be installed prior to final acceptance.
 - (e) The plan of development shall relate to the topography and soils of the site so that the lowest potential for erosion is created.
 - (f) All detention and retention basins shall first be constructed to act as a settling basin with later conversion to a permanent basin upon seventy-five percent (75%) build-out of the area served by the basin.
 - (g) Prior to final acceptance by the City and not prior to substantial completion of the development within the plat; all public detention and retention basins shall provide to the Administrative Authority an 'as-built' survey stamped by a Professional Engineer or Professional Surveyor in pdf and AutoCAD format.
 - (h) The developer for all plats or phases thereof shall submit for approval a "Post Erosion Control Plan" that details structural measures and responsibility for erosion control after the initial improvements have been made. The Post Erosion Control Plan shall propose erosion control measures to protect all improvements and include a re-vegetation schedule for denuded areas that takes into account the time of year. This plan may accompany the initial plan or be submitted separately, but must be approved prior to the City's acceptance of the plat improvements and issuance of building permits.

37.11 - APPLICATION FEES AND ISSUANCE OF PERMITS.

- (1) Permit Required; Procedure and Fees.
 - (a) Unless specifically excluded by this ordinance in Sec. 37.06, no person may undertake an activity subject to this ordinance without receiving an erosion control and stormwater management permit issued by the Administrative Authority. Each person desiring to undertake a regulated activity subject to this ordinance shall submit an application for an initial permit together with the appropriate fee.

Any subdivision of land, development or redevelopment for which there is a contract for public improvements in place with the City pursuant to Sec. 16.23(9)(c)6. shall require reimbursement to the City for permit application fees (two permits are possible - one for work in the ROW and one for work on private property) as well as actual costs sustained for inspection and enforcement, as calculated by Sec. 16.23(9)(e), MGO.

A person otherwise subject to this ordinance need obtain only one permit when the disturbance of land activity involves both public and private lands. Note: this presupposes that any work in the ROW associated with the work on private property shall be minimal and covered under a permit to work in the ROW.
 - (b) Erosion Control Permit.
 1. For erosion control permits that do not require the submittal of a plan, there is a one hundred dollar (\$100) erosion control permit application fee.

2. For erosion control permits that do require the submittal of a plan, the erosion control permit fee shall be established by the Board of Public Works in an amount sufficient to recover the costs incurred by the City to administer the permit and the requirements of this Chapter. The permit fee may be reestablished by the Board of Public Works as needed to accurately reflect the costs incurred by the City.
 - (c) Stormwater Management Permit. For stormwater management permits, the stormwater management permit fee shall be established by the Board of Public Works in an amount sufficient to recover the costs incurred by the City to administer the permit and the requirements of this Chapter. The permit fee may be reestablished by the Board of Public Works as needed to accurately reflect the costs incurred by the City.
 - (d) Non-Metallic Mines and Industrial Sites. For the operation of industrial sites that are required to control sediment, such as nonmetallic mining, storage yards, etc., the fee shall be fixed at five hundred and thirty-two dollars (\$532) and paid annually. (Note: the fee is not based upon area, but rather is derived from an estimate of the actual cost for the City to review the permit and plan, inspect the site, and follow up as needed with compliance issues.)
- (2) The applicant must provide the following when requesting a permit:
 - (a) Completed application form;
 1. The application must be signed by the landowner or the contractor that will be directly responsible for completion or having completed the erosion control measures.
 2. If a contractor submits an application pursuant to sub. (2)(a)1, the landowner shall be bound by all of the requirements of this ordinance and the terms of any permit issued to the contractor.
 - (b) Fees as required by Sec. 37.11(1).
 - (c) If required by Sec. 37.06(2), an erosion control plan meeting all the standards of Sec. 37.08, or a simplified checklist as described in Sec. 37.08(3).
 - (d) If required by Sec. 37.06(3), a stormwater management plan meeting all of the standards of Sec. 37.09 and a draft maintenance agreement as described in Sec. 37.11(3).
 - (e) Copies of permits or permit applications or approvals required by any other governmental entity.
 - (f) A proposed timetable and schedule for completion and installation of all elements of approved erosion control and stormwater management plans and a detailed schedule for completion of construction.
 - (g) An estimate of the cost of completion and installation of all elements of the approved erosion control and stormwater management plans.
 - (h) Evidence of financial responsibility to complete the work proposed in the plan. The Administrative Authority may require a financial security instrument in a form approved by the City Attorney sufficient to guarantee completion of the project.
- (3) Review of Application. The Administrative Authority shall verify that the permit application is complete under Sec. 37.11(2). The Administrative Authority shall also review all permit applications accompanied by the control plan, if required, and the appropriate fee, and shall determine if measures are adequate to meet all the applicable standards as set out in Secs. 37.08, 37.09, and 37.10 of this ordinance.

The submitted plan shall either be approved or disapproved within the time frame set by the Administrative Authority.

The applicant will be notified in writing whether the control plan is approved, disapproved, modified or if additional information is required. In the event that the plan is disapproved, the applicant may resubmit a new control plan or may appeal the Administrative Authority's decision as provided in Sec. 37.13 of this ordinance. No additional permit fee is required.

Where installed stormwater practices will be privately-owned, an affidavit which describes the property by legal description, notifying future prospective purchasers of the existence of a

stormwater permit issued under this ordinance and applicable plan, timetables and potential liability imposed by Sec. 37.12(6)(c) for failure to bring the property into compliance with this ordinance after notification, shall be recorded with the Dane County Register of Deeds prior to issuance of an erosion control and stormwater management permit. The foregoing information shall also be noted on every plat and certified survey map.

Upon approval, the erosion control and stormwater management permit shall be issued by the Administrative Authority after the applicant has met all other requirements of this ordinance.

- (4) Permit Conditions. All permits under this ordinance shall be issued subject to the following conditions and requirements.
 - (a) The plan shall be implemented prior to the start of any land-disturbing activity and shall be maintained over the duration of the project. Stormwater components of the plan shall be maintained in perpetuity.
 - (b) The permittee is responsible for successful completion of the erosion control plan and the stormwater management plan. The permittee shall be liable for all costs incurred, including environmental restoration costs, resulting from noncompliance with an approved plan.
 - (c) All land disturbances, will be done pursuant to the approved control plan.
 - (d) The permittee shall give two (2) working days notice to the Administrative Authority in advance of the start of any activity.
 - (e) The permittee shall file a notice within ten (10) days after completion of land-disturbing activities to the Administrative Authority.
 - (f) Approval in writing from the Administrative Authority must be obtained prior to any modifications to the approved control plan.
 - (g) The permittee shall be responsible for maintaining all proposed public roads, road right-of-ways, streets, runoff and drainage facilities and drainage ways as specified in the approved plan until they are accepted and become the responsibility of the City.
 - (h) The permittee shall be responsible at permittee's expense for repairing any damage to all adjoining parcels of land and rights of way caused by runoff and/or sedimentation resulting from permittee's activities.
 - (i) The permittee shall provide and install at permittee's expense all drainage, runoff control and erosion control improvements as required by this ordinance and the approved control plan. Permittee and owner, if not permittee, shall provide perpetual maintenance on all these private control facilities.
 - (j) No portion of the land which is disturbed will be allowed to remain uncovered for greater than two (2) weeks after notice is given that the activity is completed.
 - (k) All incidental mud-tracking off-site onto adjacent public thoroughfares shall be cleaned up and removed by the end of each working day using proper cleaning and disposal methods.
 - (l) Application for a permit shall constitute express permission by the permittee and landowner for the Administrative Authority to enter the property for purposes of inspection under Sec. 37.12(3) or curative action under Sec. 37.12(6)(c). The application form shall contain a prominent provision advising the applicant and landowner of this requirement
 - (m) The permittee authorizes the Administrative Authority to perform any work or operations necessary to bring the condition of the lands into conformity with the approved control plan and further consents to the City collecting the total of the costs and expenses of such work and operating as a special charge against the property for current services rendered as provided by law.
- (5) Permit Duration. The Administrative Authority shall determine the expiration date of the permit based on the proposed land disturbance work, project schedule, site conditions, or other relevant erosion control considerations. The Administrative Authority is authorized to extend the expiration date of the permit and/or require modification of the plans to prevent any increase in sedimentation, erosion or runoff resulting from any extension.

If the Administrative Authority is not contacted with a request from the applicant to extend/modify a permit prior to the expiration of that permit, the applicant shall be required to pay a new fifty dollars (\$50.00) renewal base fee to reinstate the permit.

37.12 - ADMINISTRATION.

- (1) Delegation of Administrative Authority.
 - (a) The City Engineer shall administer, approve plans and enforce the provisions of this ordinance on public lands and upon private lands except single- and two-family residential dwelling units during the period that residential building permits are in effect. In addition, the City Engineer shall enforce the provisions of Sec. 37.11(4)(h) for those permittee's under his/her administrative authority.
 - (b) Except as set forth in sub. (a), the Director of the Building Inspection Division shall, in consultation with the City Engineer, administer, approve plans and enforce the provisions of this ordinance on private lands for single- and two-family residential dwelling units during the period that residential building permits are in effect within the City. In addition, the Building Inspection Division shall enforce the provisions of Sec. 37.11(4)(h) for those permittee's under its administrative authority.
 - (c) The City Engineer shall administer, approve plans and enforce the provisions of this ordinance on lands being subdivided by plat or certified survey within the extraterritorial limits for plat review in accordance with Wis. Stat. § 236.10, for erosion control and stormwater management including both public lands and private lands.
 - (d) The enforcement of the provisions of this ordinance, when the construction site in question is regulated under the Wisconsin Uniform Dwelling Code (UDC), shall not be more restrictive than the provisions of the UDC.
- (2) Administrative Duties. The administration and enforcement of this ordinance shall include the following duties:
 - (a) Keep an accurate record of all plan data received, plans approved, permits issued, inspections made and other official actions.
 - (b) Review all plans and permit applications received when accompanied with the necessary information and the appropriate fee and issue the permits.
 - (c) Investigate all complaints made to the application of this ordinance.
 - (d) Maintain a database of all properties responsible for annual reports. This database shall track annual reports sent in and shall flag delinquent or deficient reports. Staff shall take appropriate action on flagged reports to bring those properties into compliance.
 - (e) Revoke any permit granted under this ordinance if the holder of the permit has misrepresented any material fact in the permit application or plan; or has failed to comply with the plan as originally approved or as modified in writing; or has violated any of the other conditions of the permit as issued to the applicant.
- (3) Inspection Authority.
 - (a) Application for a permit under this ordinance shall constitute permission by the applicant and landowner for the Administrative Authority to enter upon the property prior to permit issuance and to inspect during the construction phase prior to the inspections pursuant to sub. (d) and (f), below, as necessary to confirm compliance with the requirements of this ordinance.
 - (b) As part of the plan approval process, the Administrative Authority shall determine the minimum number of inspections required to assure compliance. The site of any regulated land-disturbing activity shall be inspected once every thirty (30) days, or more frequently as determined by the Administrative Authority during the construction phase.
 - (c) Within ten (10) days after installation of all practices in an approved erosion control plan and achievement of soil stabilization, the permittee shall notify the Administrative Authority.
 - (d) The Administrative Authority shall inspect the property to verify compliance with the erosion control plan within ten (10) days of notification of soil stabilization.

- (e) Within ten (10) days after installation of all practices in an approved stormwater management plan, the permittee shall notify the Administrative Authority and submit drawings documenting construction. The person who designed the stormwater management plan for the permittee shall submit as-built certification stamped by a registered professional to ensure that constructed stormwater management practices and conveyance systems comply with the specifications included in the approved plans. At minimum, as-built certification shall include a set of drawings comparing the approved stormwater management plan with what was constructed. Other information shall be submitted as required by the Administrative Authority.
 - (f) The Administrative Authority shall inspect the property to verify compliance with the stormwater management plan within ten (10) days of notification.
 - (g) Maintenance is the responsibility of the owner, and facilities are subject to inspection and orders for repairs. Proof of maintenance is required with each annual report.
- (4) Permit Transfers.
- (a) When a permittee and landowner act to transfer an interest in property subject to an approved plan prior to completion of the proposed steps to attain soil stabilization, the permittee must secure approval from the Administrative Authority.
 - (b) When a permittee and landowner transfers ownership, possession or control of real estate subject to either or both an uncompleted erosion control plan or stormwater management plan, the successor in interest to any portion of the real estate shall be responsible to control soil erosion and runoff and shall comply with the minimum standards provided in this ordinance.
 - (c) When ownership, possession or control of property subject to an uncompleted erosion control or stormwater management plan, or both, is transferred, the former owner (seller) shall notify the new owner (buyer) as to the current status of compliance with notice to the Administrative Authority, and provide a copy of the erosion control plan or stormwater management plan, or both.
 - (d) Transfers of interest in real estate subject to an approved, uncompleted plan may be conducted consistent with this ordinance under any of the following arrangements:
 - 1. The transferee shall file a new, approved erosion control or stormwater management plan, or both, with the Administrative Authority;
 - 2. The transferee shall obtain an approved assignment from the Administrative Authority as sub-permittee to complete that portion of the approved plan regulating soil erosion and runoff on the transferee's property;
 - 3. The permittee shall provide the Administrative Authority with a duly completed and executed continuing surety bond or certified check in an amount sufficient to complete the work proposed in the approved plan; at the time of transfer the permittee may seek to reduce the surety bond or certified check to the appropriate amount to complete remaining work. If the transferor enters into escrow agreements with transferees to complete an approved plan, these funds shall be available to the Administrative Authority to attain plan compliance. When an approved erosion control plan and, if required, a stormwater management plan is or are not completed as proposed, the Administrative Authority may use the surety bond to complete remaining work to achieve plan compliance.
- (5) Plan or Permit Amendments. Any proposed modifications to approved plans, construction schedules or alterations to accepted sequencing of land-disturbing site activities shall be approved by the Administrative Authority prior to implementation of said changes.
- (6) Enforcement Authority.
- (a) Stop Work Order.
 - 1. Whenever any noncompliance with the provisions of this ordinance is found, the Administrative Authority shall attempt to communicate with the owner or person performing the work to obtain immediate and voluntary compliance if such person is readily available. If the owner or person performing the work is not readily available, that person refuses to voluntarily comply immediately or the noncompliance presents an imminent danger or will cause or threatens to cause bodily injury or damage to off-site

property, including, but not limited to off-site run-off, the Administrative Authority shall post in a conspicuous place on the premises, a stop work order which shall cause all activity not necessary to correct the noncompliance to cease until noncompliance is corrected.

2. The stop work order shall provide the following information: date of issuance, identifying information and location within the City, reason for posting, and the signature of the inspector posting the card.
 3. It shall be a violation of the ordinance for the unauthorized removal of the stop work order from the premises.
- (b) In addition to posting a stop work order, the Administrative Authority shall provide notification to the owner or contractor by personal service, written notice by certified mail, or facsimile transmission.
1. The permittee, landowner and contractor shall have twenty-four (24) hours from the time and date of notification by the Administrative Authority to correct any noncompliance with the plan when notification is by either personal communication of noncompliance to owner or contractor or their respective agents or written notice sent by certified mail to owner or contractor.
 2. If notice is not provided under sub. (6)(b)1., the permittee and landowner shall have seventy-two (72) hours to correct any noncompliance with the plan when notification is by posting notice in a conspicuous place on the site or sending notice by facsimile transmission to owner or contractor.
- (c) If any noncompliance is not corrected within the time periods specified in sub. (6)(b)1. or (6)(b)2., the permittee and landowner authorize the Administrative Authority to take any action, to perform any work, or commence any operations necessary to correct conditions upon the subject property where notice of noncompliance has been issued to bring the property into conformance with plan requirements. The permittee and landowner further consent to reimburse the Administrative Authority for the total costs and expenses of the aforementioned actions. Reimbursement may be imposed and collected as a special charge upon the property for current services rendered as provided by law.
- (d) If the permittee has filed an appeal under Sec. 37.13 prior to the expiration of the time for compliance under Sec. 37.12(6)(b) the Administrative Authority may take action, perform work or correct conditions only to the extent necessary to protect against or correct an imminent hazard or a condition that will cause or threatens to cause personal injury or damage to off-site property.
- (7) Compliance Inspection Fees.
- (a) Any person who shall fail or neglect to comply with any lawful order of the Director of the Building Inspection Division issued pursuant to the provisions of this chapter may be assessed seventy-five dollars (\$75) per compliance inspection, as defined in Sec. 27.03(2), MGO, that does not result in compliance with the order.
 - (b) The Department of Planning and Community and Economic Development shall keep an accurate account of all unpaid inspection fees incurred for compliance inspection services rendered and report the same to the Finance Director, who shall annually prepare a statement of these special charges at each lot or parcel of land and report the same to the City Clerk, and the amount therein charged to each lot or parcel of land shall be by said Clerk entered in the tax roll as a special charge against said lot or parcel of land, and the same shall be collected in all respects like other special charges upon real estate as provided in Wis. Stat. § 66.0627.
- (8) Penalties.
- (a) Any person who violates, disobeys, omits, neglects or refuses to comply with or resists the enforcement of any of the provisions of this ordinance, or causes or directs another to do so, shall, upon conviction thereof, be subject to a forfeiture of not less than one hundred dollars (\$100) nor more than one thousand dollars (\$1,000) for each and every violation thereof. Each day that a violation exists shall constitute a separate offense.

- (b) Any person who has the ability to pay any forfeiture entered against him or her under this ordinance but refuses to do so may be confined in the county jail until such forfeiture is paid, but in no event to exceed thirty (30) days. In determining whether an individual has the ability to pay a forfeiture, all items of income and all assets may be considered regardless of whether or not such income or assets are subject to garnishment, lien or attachment by creditors.
 - (c) As a substitute for or as an addition to forfeiture actions under Sec. 32.12(7)(a) or corrective action under Sec. 37.12(6)(c), the City Attorney is authorized to seek enforcement of any part of this ordinance by court action seeking injunctive relief. It shall not be necessary for the City Attorney to take corrective action or prosecute for forfeiture before resorting to injunctive relief.
 - (d) Where it is found that any of the provisions of this ordinance are not being observed on particular lands, the Administrative Authority is hereby authorized to require the person to perform the work or land treatment measures within three (3) working days and to order that if the person fails to perform, the Administrative Authority may enter upon the land, and bring the condition of said lands into conformity with the requirements of this ordinance, and recover the costs and expenses thereof from the owner. In the event that the owner fails to pay the amount due, it shall be imposed and collected as a special charge for current services rendered upon the property as provided by law.
- (9) Fees. The permit fee shall be payable at the time an application for either an erosion control or a stormwater management permit, or both, is submitted.

37.13 - APPEALS AND VARIANCES.

(1) Appeals.

- (a) Any person aggrieved or any officer, department, board or commission of the City affected by the order, requirement, decision or determination made by the Administrative Authority pursuant to this ordinance may appeal. Where the Administrative Authority is the City Engineer the appeal shall be made to the Board of Public Works as provided herein. Where the Administrative Authority is the Director of the Building Inspection Division the appeal shall be made to the Building Code, Fire Code, Conveyance Code and Licensing Appeals Board. For the purpose of this ordinance, "aggrieved person" shall include applicants and property owners who own land that is subject to this ordinance. Such an appeal shall be taken within fifteen (15) days after the challenged decision. Notice of Appeal setting forth the specific grounds for the appeal shall be filed with the Administrative Authority.
- (b) The Boards shall fix a reasonable time for the hearing of the appeal and give due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing any party may appear in person or by agent or attorney.
- (c) The Boards may, in conformity with the provisions of this ordinance, reverse or affirm, wholly or partly, or modify the order, requirement, decision or determination appealed from and may make such order, requirement, decision or determination as ought to be made, and shall have all the powers of the officer from whom the appeal is taken.
- (d) The concurring vote of a majority of the Board shall be necessary to reverse the decision of the Administrative Authority. The Board's action shall be considered a final action.

(2) Variances.

- (a) An applicant may include in the application a request for a variance from the requirements of Sec. 37.08 or 37.09. No variance shall be granted unless applicant demonstrates and the Administrative Authority finds that all of the following conditions are present:
 - 1. Enforcement of the standards set forth in this ordinance will result in unnecessary hardship to the landowner;
 - 2. The hardship is due to exceptional physical conditions unique to the property;
 - 3. Granting the variance will not adversely affect the public health, safety or welfare, nor be contrary to the spirit, purpose and intent of this ordinance;
 - 4. The project will have no adverse impact upon any of the stated purposes of this ordinance as set forth in Sec. 37.02 or 37.05.

5. The applicant has proposed an alternative to the requirement from which the variance is sought that will provide equivalent protection of the public health, safety and welfare, the environment and public and private property.
 6. The net cumulative effect of the variance will not impact downstream conditions; and
 7. Existing regional facilities are shown to meet the performance standards of this ordinance.
- (b) If all of the conditions set forth in Sec. 37.13(2)(a) are met, a variance may only be granted to the minimum extent necessary to afford relief from the unnecessary hardship, with primary consideration to water quality.
- (c) A variance from the provisions of Sec. 37.09(3)(a), (b) and (f) may only be granted if:
1. The applicant has met the requirements of Sec. 37.13(1)(c); and
 2. The applicant will be denied all reasonable and beneficial use of the property if the variance is denied.
- (d) A person aggrieved by a variance determination by the Administrative Authority may appeal the decision to the Board of Public Works.
- (e) A variance may be granted to two or more property owners, including governmental agencies that submit one runoff control plan for two or more parcels of land. In the event it is in the interest of the City to participate with another property owner(s) in a runoff control plan and contribute available stormwater detention capacity, or construct stormwater detention on City lands, the other participant(s) shall reimburse the City an amount equal to the value of the City lands used, but not less than the fair market value of unimproved lands, plus the estimated construction cost of the detention capacity that would have been required of the other participant(s) to serve their lands in order to comply with this ordinance.”