TOWNSHIP OF WEST WINDSOR
COUNTY OF MERCER, NEW JERSEY

1st Reading June 10, 2024
2nd Reading & Public Hearing June 24, 2024
Date Adopted June 24, 2024
Date Effective July 15, 2024
DOT APPROVAL RECEIVED _____
Planning Board Approval June 19, 2024

Date to Mayor June 25, 2024
Date Signed June 25, 2024
Date Resubmitted to Council _____
Approved as to Form and Legality _____
Township Attorney

ORDINANCE NO. 2024-14

AN ORDINANCE TO AMEND AND SUPPLEMENT CHAPTER 200 OF THE REVISED GENERAL ORDINANCES OF THE TOWNSHIP OF WEST WINDSOR (1999) BY MODIFYING PROVISIONS PERTAINING TO STORMWATER CONTROL REGULATIONS AND DRIVEWAYS

RECORD OF VOTE

First Reading							Second Reading						
Council	Yes	No	NV	AB	Mov	Sec	Council	Yes	No	NV	AB	Mov	Sec
Gawas	✓				✓		Gawas				✓		
Geevers	✓						Geevers	✓					
Mandel	✓						Mandel	✓				✓	
Weiss		✓					Weiss			*✓			
Whitfield	✓					✓	Whitefield	✓					✓

x-Indicates Vote AB-Absent NV-Not Voting Mov-Moved Sec-Seconded

Hemant Marathe, Mayor — June 25, 2024 Date

Rejected _____

Reconsidered by Council _____

Override Vote: YES _____ NO _____

Gay M. Huber, Township Clerk

* Abstain

TOWNSHIP OF WEST WINDSOR
MERCER COUNTY, NEW JERSEY

ORDINANCE NO. 2024-14

AN ORDINANCE TO AMEND AND SUPPLEMENT CHAPTER 200 OF THE REVISED GENERAL ORDINANCES OF THE TOWNSHIP OF WEST WINDSOR (1999) BY MODIFYING PROVISIONS PERTAINING TO STORMWATER CONTROL REGULATIONS AND DRIVEWAYS

WHEREAS, the State of New Jersey "Inland Flood Protection Rule" adopted in July of 2023 amended the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13 and the Stormwater Management Rules at N.J.A.C. 7:8 to recognize the negative impacts of extreme rainfall events in recent years, which are expected to intensify in their frequency and severity over time; and

WHEREAS, the Inland Flood Protection Rule ensures that new and reconstructed improvements are designed using the best available climate-informed precipitation data and modeling methods so as to provide protections from these negative impacts, both now and for the future; and

WHEREAS, the New Jersey Department of Environmental Protection has provided a template for amendments to the stormwater control regulations for municipalities within the State that reflect the protections provided by the Inland Flood Protection Rule to ensure similar protections are provided for and enforceable at the local level; and

WHEREAS, amendments to Chapter 200, Land Use, of the Township Code are required to enact the Inland Flood Protection Rule standards at the local level; and

WHEREAS, Chapter 200 also provides standards for driveway construction within the municipality; and

WHEREAS, there are amendments required to ensure the useable construction of driveways and to preserve the compatibility of driveway scale for one and two-family properties, so as to prevent increased runoff resulting from overly widened driveways, both now and for the future.

NOW, THEREFORE, BE IT ORDAINED, by the West Windsor Township Council, County of Mercer, State of New Jersey, that the Code of West Windsor Township, be amended and supplemented as follows:

SECTION I. Chapter 200 of the Code of the Township of West Windsor (1999), Land Use, Part 3, Subdivision and Site Plan Procedures, Article XIX, Improvements, is hereby amended as follows. Added text is **bold underlined** and text being eliminated is [bracketed].

§ 200-91 Construction, maintenance and installation standards for specific improvements.

P. Landscape standards.

(4) Stormwater. Stormwater **best** management **practices** [areas] include **bio**retention [and detention] basins, **infiltration basins, sand filters, extended detention basins,** [drainage ditches and] swales and **constructed** wetlands areas. Sensitively designed **best management practices** [basins and swales] can benefit the health, welfare and safety of West Windsor Township residents. This may involve integration of these areas as aesthetic landscape features, naturalized wetland areas or active and passive recreation areas, in addition to their stormwater management function. **Plantings are not permitted upon any dikes associated with a stormwater management facility unless approved by the Township Engineer.**

(a) Stormwater **bioretention, infiltration and constructed** wetlands [detention] areas. One of the following landscape concepts for **these areas, as well as** stormwater **extended** detention areas **existing before March 2, 2021,** or an alternative concept complying with the standards set forth above shall be used.

[1] Reforestation. This landscaped treatment is appropriate for [detention basins and drainage] areas that are not highly visible or are adjacent to areas of mature woodlands, Greenbelt or wetlands. It **is intended that the landscape** reverts [the disturbed area] to a revegetated, stable, low-maintenance, natural landscape asset over time.

[a] The area shall be graded creatively to blend into the surrounding landscape and imitate a natural depression with an irregular edge. This shall include gentle berming. Linear, geometric basins **should be avoided to the extent possible** [are unacceptable].

[b] The quantity of trees to be planted on the interior of the basins shall be equal to the number of trees that would be necessary to cover the entire area, based upon a 20-foot by 20-foot grid **along the bottom and embankments, up** to the **largest design storm's maximum water surface** [high-water line or outflow] elevation **(one tree for every 400 square feet of surface area)**. Of this number, 10% shall be 2-1/2 inches[to three inches] caliper, 20% shall be one inch [to two inches] caliper and 70% shall be **whips** six feet **in** [to eight feet] height [whips].

[c] The trees shall be planted in groves and spaced **ten** [five] feet to **twenty** [15] feet on center.

[d] The ground plane shall be seeded with a naturalization, wildflower and/or meadow grass mix. The specific blend shall be approved by the Township's Landscape Architect.

[e] All woody and herbaceous plants shall be species indigenous to the area and[/or] tolerant of typical wet/dry floodplain conditions. **Use of non-indigenous species shall only be permitted when their tolerance to wet/dry conditions warrants it and equivalent indigenous species are unavailable.**

[f] Planting shall not be located within 20 feet of **stormwater devices or other man-made structures**[low flow channels] to allow for maintenance.

[g] The perimeter area (slopes above the [high water line]**largest design storm's maximum water surface elevation**) shall include shade trees (approximately 80 per 1,000 linear feet), evergreen trees (approximately 40 per 1,000 linear feet), **with additional understory flowering** [ornamental] trees and **evergreen** shrubs screening drainage structures and creating visual interests.

[h] Provisions for emergency access as well as general maintenance of the basins shall be reviewed by the Township Engineer. Plantings shall be designed to disguise yet not hinder vehicular access.

[[i] Plantings are not permitted upon any dikes associated with a detention basin unless approved by the Township Engineer.]

[2] [Recreation/o]**O**pen space feature. This landscape concept is appropriate in situations where a **stormwater management area is conspicuously visible or is adjacent to areas of outdoor recreation and social use**. [basin is the largest or only portion of open space in an area or is adjacent to existing open space and recreational open space is desired.] It is also appropriate for smaller, highly visible basins where a visually pleasing open area is desired. **In particular this landscape concept shall be applicable to sand or gravel surface stormwater infiltration areas.** The objective in these situations is to integrate the area into the landscape using topography and plantings in order to complement the function of the area and to provide a visually interesting landscape feature and/or recreation space. **The topographic design should create an aesthetic form that diminishes the view or appearance of functional elements such as headwalls and sand or gravel surfacing. The planting should complement the topographic design. If the topographic design cannot achieve an aesthetic form and view, then the perimeter planting shall be dense and predominantly evergreen to screen views of the functional elements and create the intended aesthetic landscape element.**

[a] The area shall be graded creatively to blend into the surrounding landscape and imitate a natural depression with an irregular edge. This shall include gentle berming **to screen or buffer views of functional elements such as pipes, channels, rip-rap aprons, and sand or gravel surfacing**.

[b] Provide perimeter plantings, including shade trees, formally or informally, evergreen trees to create and screen views and small trees and shrubs to provide a continuous landscape strip screening **functional elements** [drainage structures] and creating visual interest.

[c] Integrate **other** buffer**, parking area, or open space** plantings with **stormwater facility** perimeter plantings where applicable.

[d] The following are guidelines for plant quantities:

Shade trees	**20**[80] per 1,000 linear feet
Evergreen trees	**50**[40] per 1,000 linear feet
Understory flowering[Ornamental] trees	10 per 1,000 linear feet
Shrubs	50 per 1,000 linear feet

[e] **When the topographic design cannot create the desired aesthetic integration into the surrounding landscape then the perimeter planting shall be dense and predominantly evergreen plant species to screen views of the functional elements and create the intended aesthetic landscape element.**[To provide recreational open space, concentrate frequently flooded detention in a basin area (five- to ten-year-storm volume) and provide a gently sloping, less often flooded area (ten- to one-hundred-year storm volume) as a recreational open field space. Provide ball fields and/or open play areas integrated with plantings in a park-like manner.]

[f] If the space allocated for stormwater management and infiltration is extremely limited then a dense evergreen hedge and/or aesthetic screen or enclosure fence may be implemented to achieve the intent of this landscape concept. Evergreen plantings must be specified at a size and spacing with the foliage touching and a height that will screen views at the time of planting. Shrub planting in a double staggered row at two foot on center spacing and/or upright evergreen at five foot on center spacing, adjusted relative to the specific species or cultivar, should be specified. When fencing is utilized, signage shall be provided identifying the name and contact information for the party responsible for maintenance of the facility.

(b) Stormwater retention areas**/wetponds**; open space/recreation features. This landscape treatment can take on a variety of landscape forms, from formal reflecting pools and canals or entry fountain features to natural park-like lakes and ravines.

[1] Water fountains/features are encouraged in the design of research/office/manufacturing parks and developments, especially along the Route 1 corridor.

[2] The water's edge shall be easily maintained and stable. Possible treatments might include rip-rap, stone walls, natural plantings, decking and bulkheads.

[3] The planting of the perimeter of the feature shall accentuate views and interest and integrate pedestrian paths, sitting areas and other uses.

[4] Plantings shall include formal or informally-massed deciduous and evergreen trees and shrubs to screen and frame views with ornamental trees, shrubs and grasses used for visual interest or special effects. A continuous landscape area shall be provided. **Planting quantities may vary, but shall include at least four shade trees and four evergreen trees for every 100 feet of perimeter dimension as measured along the normal water surface elevation.**

[5] If used as a recreational feature, the **pedestrian** connection to the water must be addressed and controlled. The types of uses shall be specified, and the plantings and pedestrian spaces shall be integrated with these uses.

[6] Plants with pervasive root systems shall not be located where they may cause damage to drainage pipes or other underground utilities.

[7] All engineered basin structures shall be designed to blend into the landscape in terms of construction materials, color, grading and planting.

[8] Design features are to include the integration of wildlife management measures to discourage geese and other nuisance wildlife.

SECTION II. Chapter 200 of the Code of the Township of West Windsor (1999), Land Use, Part 3, Subdivision and Site Plan Procedures, Article XXI, Stormwater Control, is hereby amended as follows. Added text is **bold underlined** and text being eliminated is [bracketed].

ARTICLE XXI Stormwater Control

§ 200-99. Scope and Purpose:

A. Policy Statement - Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure Best Management Practices ("GI BMPs") and nonstructural stormwater management strategies. GI BMPs and low impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose - The purpose of this Article XXI is to establish minimum stormwater management requirements and controls for "major development," as defined below in § 200-100.2

C. Applicability

(1) This Article XXI shall be applicable to the following major developments:

(a) Non-residential major developments; and

(b) Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

(2) This Article XXI shall also be applicable to all major developments undertaken by West Windsor Township.

(3) **An application required by ordinance pursuant to C(1) above that has been submitted and deemed complete prior to {*insert adoption date of this ordinance*}, shall be subject to the stormwater management requirements in effect on {*insert 1-day prior to the adoption date of this ordinance*}.**

(4) **An application required by ordinance for approval pursuant to C(1) above that has been submitted and deemed complete on or after March 2, 2021, but prior to {*insert adoption date of this ordinance*}, shall be subject to the stormwater management requirements in effect on {*insert 1-day prior to the adoption date of this ordinance*}.**

(5) **Notwithstanding any rule to the contrary, a major development for any public roadway or railroad project conducted by a public transportation entity that has determined the entity's desired concept, typically referred to as a "preferred alternative" or reached an equivalent milestone before July 17, 2023, shall be subject to the stormwater management requirements in effect prior to July 17, 2023.**

D. Compatibility with other permit and ordinance requirements.

(1) Development approvals issued pursuant to this Article XXI are to be considered an integral part of the development approval process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this Article XXI shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

(2) This Article XXI is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this Article XXI imposes restrictions different from those imposed by any other Article, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

§ 200-100. General administration.

A. No application for major development shall be approved unless the Township Engineer or other Township review engineer has certified to the approving authority, in writing, that:

(1) The applicant has provided sufficient information to determine whether or not the proposed development will conform with Township stormwater control standards and stormwater management BMP design criteria.

(2) In the judgment of the Township's review engineer, the proposed development will substantially conform with these standards and the design criteria set forth herein.

B. The stormwater management plans submitted shall also demonstrate careful consideration of the general and specific concerns, values and standards of the Township Master Plan and

applicable County and State storm drainage control programs, any Mercer County Mosquito Commission control standards, and shall be based on environmentally sound site planning, engineering and landscape architectural techniques.

C. Development shall use the best available technology to minimize off-site stormwater runoff, increase on-site infiltration, simulate natural drainage systems and minimize off-site discharge of pollutants to ground and surface water and encourage natural filtration functions. These goals are best achieved through GI BMPs and nonstructural stormwater management strategies.

D. All development sites [major or not] shall be graded to secure proper drainage away from buildings per applicable New Jersey State building codes, and to prevent the collection of stormwater in pools on improved surfaces and lawn areas not specifically designed for that purpose. Sufficient inlets, catch basins, swales and other drainage appurtenances shall be provided to convey runoff to the stormwater management BMPs.

§ 200-100.1. Design and Performance Standards for Stormwater Management Measures

A. Stormwater management measures for major development shall be designed to provide erosion control, groundwater recharge, stormwater runoff quantity control, and stormwater runoff quality treatment as follows:

(1) The minimum standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules at N.J.A.C. 2:90.

(2) The minimum standards for groundwater recharge, stormwater quality, and stormwater runoff quantity shall be met by incorporating green infrastructure.

The standards in this Article XXI apply to major development, as defined herein, and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. To the extent that alternative design and performance standards are applicable under a regional stormwater management plan, or Water Quality Management Plan adopted in accordance with Department rules, the standards in this Article XXI do not apply to major development. **Alternative standards shall provide at least as much protection from stormwater-related loss of groundwater recharge, stormwater quantity and water quality impacts of major development projects as would be provided under the standards in N.J.A.C. 7:8-5.**

§ 200-100.2. Definitions:

For the purpose of this Article XXI, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Article clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always

mandatory and not merely directory. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

"Best Management Practice" or "BMP" - A strategy or technique to prevent or mitigate one or more of the negative impacts of stormwater runoff. BMPs can be nonstructural or structural.

"Compaction" - the increase in soil bulk density.

"Contributory drainage area" - the area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

"Core" - a pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

"County review agency" - an agency designated by the Mercer County Board of County Commissioners to review municipal stormwater management plans and implementing ordinance(s). The County review agency may either be:

1. A Mercer County planning agency or
2. A Mercer County water resource association created under N.J.S.A 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

"Department" - the New Jersey Department of Environmental Protection or NJDEP.

"Design engineer" - a person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

"Development" - the division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 *et seq.*

In the case of development of agricultural land, "development" means any activity that requires a State permit, any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right-to-Farm Act, N.J.S.A 4:1C-1 et seq.

"Disconnected impervious cover" – an impervious surface that directs stormwater runoff to a pervious surface or BMP, and is not directly connected to a drainage system either on the surface or subsurface.

"Disturbance" - the placement or reconstruction of impervious surface or motor vehicle surface, or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Milling and repaving is not considered disturbance for the purposes of this definition.

"Drainage area" - a geographic area within which stormwater, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

"Environmentally constrained area" - the following areas where the physical alteration of the land is in some way restricted, either through regulation, easement, deed restriction or ownership such as: wetlands, floodplains, threatened and endangered species sites or designated habitats, and parks and preserves. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Environmentally critical area" - an area or feature which is of significant environmental value, including but not limited to: stream corridors, natural heritage priority sites, habitats of endangered or threatened species, large areas of contiguous open space or upland forest, steep slopes, and well head protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Erosion" - the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

"Green infrastructure" - a stormwater management measure that manages stormwater close to its source by:

1. Treating stormwater runoff through infiltration into subsoil;
2. Treating stormwater runoff through filtration by vegetation or soil; or
3. Storing stormwater runoff for reuse.

"HUC 14" or "hydrologic unit code 14" - an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

"Impervious surface" - a surface that has been sufficiently compacted or covered with a layer of material so that it is highly resistant to infiltration by water.

"Infiltration" is the process by which water from precipitation [seeps] **moves** into the soil.

"Lead planning agency" - one or more public entities having stormwater management planning authority designated by the regional stormwater management planning committee pursuant to N.J.A.C. 7:8-3.2, that serves as the primary representative of the committee.

"Low Impact Development" or "LID" – development that includes strategies, practices and techniques that preserve, make use of, or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat.

"Major development" - any development or redevelopment, as defined by this section, that individually or collectively results in the disturbance of one or more acres of land since February 2, 2004;

Major development includes all developments that are part of a common plan of development or sale (for example, phased residential development) **that collectively or individually result in the disturbance of one or more acres of land since February 2, 2004**. Projects undertaken by any government agency that otherwise meet the definition of "major development" but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered "major development."

"Motor vehicle" - land vehicles propelled other than by muscular power, such as automobiles, motorcycles, autocycles, and low speed vehicles. For the purposes of this definition, motor vehicle does not include farm equipment, snowmobiles, all-terrain vehicles, motorized wheelchairs, go-carts, gas buggies, golf carts, ski-slope grooming machines, or vehicles that run only on rails or tracks.

"Motor vehicle surface" - any pervious or impervious surface that is intended to be used by "motor vehicles" and/or aircraft, and is directly exposed to precipitation including, but not limited to, driveways, parking areas, parking garages, roads, racetracks, and runways.

"Municipality" - any city, borough, town, township, or village; in this article it is West Windsor Township.

"New Jersey Stormwater Best Management Practices (BMP) Manual" or "NJ BMP Manual" or "BMP Manual" - the manual maintained by the Department providing, in part, design specifications, removal rates, calculation methods, and soil testing procedures approved by the Department as being capable of contributing to the achievement of the stormwater management standards specified in this Article.

The BMP Manual is periodically amended by the Department as necessary to provide design specifications on additional best management practices and new information on already included practices, reflecting the best available current information regarding the particular practice and the Department's determination as to the ability of that best management practice to contribute to compliance with the standards contained in this Article.

"Node" - an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

"Nutrient" - a chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

"Percolation" – flow of water through soil and porous or fractured rock or other media.

"Person" - any individual, corporation, company, partnership, firm, association, political subdivision of this State and any state, interstate or Federal agency.

"Pollutant" - any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2011 *et seq.*)), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, ground waters or surface waters of the State, or to a domestic treatment works. "Pollutant" includes both hazardous and nonhazardous [pollutants]**materials**.

"Public roadway or railroad" means a pathway for use by motor vehicles or trains that is intended for public use and is constructed by, or on behalf of, a public transportation entity. A public roadway or railroad does not include a roadway or railroad constructed as part of a private development, regardless of whether the roadway or railroad is ultimately to be dedicated to and/or maintained by a governmental entity.

"Public transportation entity" means a Federal, State, county, or municipal government, an independent State authority, or a statutorily authorized public-private partnership program pursuant to P.L. 2018, c. 90 (N.J.S.A. 40A:11-52 et seq.), that performs a public roadway or railroad project that includes new construction, expansion, reconstruction, or improvement of a public roadway or railroad.

"Recharge" - **the process by which water is added to groundwater aquifers;** the [amount] **volume** of water from precipitation that infiltrates into the ground **below the root zone** and is not lost to evapotranspiration.

"Redevelopment" - land-disturbing activity that results in the creation, addition, or replacement of impervious surface area on an already developed or disturbed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regulated impervious surface" - any of the following, alone or in combination:

A. A net increase of impervious surface; **and/or**

B. The total area of impervious surface collected by a new stormwater conveyance system (for the purpose of this definition, a "new stormwater conveyance system" is a stormwater conveyance system that is constructed where one did not exist immediately prior to its construction or an existing system for which a new discharge location is created); **and/or**

C. The total area of impervious surface proposed to be newly collected by an existing stormwater conveyance system; and/or

D. The total area of impervious surface collected by an existing stormwater conveyance system where the capacity of that conveyance system is increased.

"Regulated motor vehicle surface" - any of the following, alone or in combination:

A. The total area of motor vehicle surface that is currently receiving precipitation; **and/or**

B. A net increase in motor vehicle surface; and/or

C. The total area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant, where the water quality treatment will be modified or removed.

"Sediment" - solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

"Seepage" – movement of water or gas through a media, typically soil.

"Site" - the lot or lots upon which a major development is to occur or has occurred.

"Soil" - all unconsolidated mineral and organic material of any origin.

"State Development and Redevelopment Plan Metropolitan Planning Area (PA1)" - an area delineated on the State Plan Policy Map and adopted by the State Planning Commission that

is intended to be the focus for much of the State's future redevelopment and revitalization efforts.

"State Plan Policy Map" is defined as the geographic application of the State Development and Redevelopment Plan's goals and statewide policies, and the official map of these goals and policies.

"Stormwater" - water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities, or conveyed by snow removal equipment.

"Stormwater management BMP" - an excavation or embankment and related areas designed to retain and manage release of stormwater runoff. A stormwater management BMP may either be normally dry (that is, a detention basin or infiltration system), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

"Stormwater management measure" - any practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal non-stormwater discharges into stormwater conveyances.

"Stormwater runoff" - water flow on the surface of the ground or in storm sewers, resulting from precipitation.

"Stormwater management planning agency" - a public body authorized by legislation to prepare stormwater management plans.

"Stormwater management planning area" - the geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

"Urban Redevelopment Area" is defined as previously developed portions of areas:

A. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;

B. Designated as CAFRA Centers, Cores or Nodes;

C. Designated as Urban Enterprise Zones; and

D. Designated as Urban Coordinating Council Empowerment Neighborhoods.

"Water control structure" - a structure within, or adjacent to, a water, which intentionally or coincidentally alters the hydraulic capacity, the flood elevation resulting from the 2-, 10-,

or 100-year design storm, flood hazard area limit, and/or floodway limit of the water. Examples of a water control structure may include a bridge, culvert, dam, embankment, fjord (if above grade), retaining wall, and weir.

"Waters of the State" - the ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or groundwater, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

"Wetlands" or "wetland" - an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

§ 200-100.3 Locations.

A. Stormwater management measures as may be required under the terms of this Article XXI shall be located on site and within the zoning district permitting that use, subject to the requirements outlined herein. Such measures shall be considered accessory uses and also subject to the conditions of Part 4, Zoning, of this chapter.

B. Such stormwater management measures may be located within the setback line of the area to be improved, excluding landscape transition buffers, landscape buffers or landscape strips as may be required in Part 4, Zoning, of this chapter. A minimum offset for landscape buffers must be provided from the perimeter of sand-based surface stormwater BMPs outlined in the tables in §200-101 as measured between the maximum water surface elevation and adjacent roads, drive aisles, bike paths, parking lots, property lines and buildings in order to facilitate conformance with the design standards at §200-91 P(4) as follows: 10 feet for small-scale sand filter and small-scale infiltration basin per **§200-101.F** Table 1; 30 feet for sand filter and infiltration basin per **§200-101.F** Table 2 and 30 feet for sand filter per **§200-101.F** Table 3.

§ 200-100.4 Optional locations.

Where it can be demonstrated at the time of Township land use board review that such on-site stormwater management measure location within the zoning district permitting that use is impractical due to engineering feasibility factors, then the Township land use board of jurisdiction may permit such measure to be located off-tract and/or out of the zoning district, provided that the following requirements are met:

A. All of the conditions noted in this article are met, in addition to § 200-226 of this chapter.

B. Location of the measure does not hinder or discourage the appropriate development and use of the property on which it is located or the use of adjacent land and buildings.

C. Permanent access and easement to the measure shall be provided for preservation and for maintenance purposes.

D. Location of the measure shall be referenced in the deed notice required under § 200-101M and a separate deed notice shall be provided and recorded for the property upon which the measure is located.

E. Utilization of other nearby off-tract stormwater management facilities is not feasible or practicable as determined by the developer's engineer, subject to confirmation by the Township Engineer.

§ 200-101. Stormwater Management Requirements for Major Development

A. The development shall include a Maintenance Plan for the stormwater management measures incorporated into the design of a major development in accordance with § 200-105.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department's Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or [*Clemmys muhlnebergi*] ***Glyptemys muhlenbergii*** (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of § 200-101.P, 101.Q and 101.R:

(1) The construction of an underground utility line provided that the disturbed areas are revegetated upon completion;

(2) The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable; and

(3) The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

D. A waiver from strict compliance from the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of § 200-101.O, 101.P, 101.Q and 101.R may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

(1) The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

(2) The applicant demonstrates through an alternatives analysis, that through the use of stormwater management measures, the option selected complies with the requirements of § 200-101.O, 101.P, 101.Q and 101.R to the maximum extent practicable;

(3) The applicant demonstrates that, in order to meet the requirements of § 200-101.O, 101.P, 101.Q and 101.R, existing structures currently in use, such as homes and buildings, would need to be condemned; and

(4) The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation, lands not falling under IV.D.3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of § 200-101.O, 101.P, 101.Q and 101.R that were not achievable onsite.

E. Tables 1 through 3 below summarize the ability of stormwater best management practices identified and described in the New Jersey Stormwater Best Management Practices Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in § 200-101.O, 101.P, 101.Q and 101.R. When designed in accordance with the most current version of the New Jersey Stormwater Best Management Practices Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in Tables 1, 2 and 3 are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. The most current version of the BMP Manual can be found on the Department's website at:

https://dep.nj.gov/stormwater/bmp-manual/.

F. Where the BMP tables in this Article XXI are different from the corresponding tables in the NJ Stormwater Management Rule N.J.A.C. 7:8-5.2(f) due to updates or amendments to N.J.A.C. 7:8-5.2(f), the BMP Tables in the Stormwater Management rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 1
Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)

Cistern	0	Yes	No	--
Dry Well[a]	0	No	Yes	2
Grass Swale	50 or less	No	No	2[e] 1[f]
Green Roof	0	Yes	No	--
Manufactured Treatment Device[a] [g]	50 or 80	No	No	Dependent upon the device
Pervious Paving System[a]	80	Yes	Yes[b] No[c]	2[b] 1[c]
Small-Scale Bioretention Basin[a]	80 or 90	Yes	Yes[b] No[c]	2[b] 1[c]
Small-Scale Infiltration Basin[a]	80	Yes	Yes	2
Small-Scale Sand Filter	80	Yes	Yes	2
Vegetative Filter Strip	60-80	No	No	--

(Notes corresponding to annotations [a] through [g] are found after Table 3)

Table 2
Green Infrastructure BMPs for Stormwater Runoff Quantity
(or for Groundwater Recharge and/or Stormwater Runoff Quality
with a Waiver or Variance from N.J.A.C. 7:8-5.3)

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)
Bioretention System	80 or 90	Yes	Yes[b] No[c]	2[b] 1[c]
Infiltration Basin	80	Yes	Yes	2
Sand Filter[b]	80	Yes	Yes	2
Standard Constructed Wetland	90	Yes	No	N/A
Wet Pond[d]	50-90	Yes	No	N/A

(Notes corresponding to annotations [b] through [d] are found after Table 3)

Table 3
BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity
only with a Waiver or Variance from N.J.A.C. 7:8-5.3

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)
Blue Roof	0	Yes	No	N/A
Extended Detention Basin	40-60	Yes	No	1

Manufactured Treatment Device[h]	50 or 80	No	No	Dependent upon the device
Sand Filter[c]	80	Yes	No	1
Subsurface Gravel Wetland	90	No	No	1
Wet Pond	50-90	Yes	No	N/A

Notes for Tables 1, 2, and 3:

(a) subject to the applicable contributory drainage area limitation specified at § 200-101.(O)2;

(b) designed to infiltrate into the subsoil;

(c) designed with underdrains;

(d) designed to maintain at least a 10-foot wide area of native vegetation along at least 50 percent of the shoreline and to include a stormwater runoff retention component designed to capture stormwater runoff for beneficial reuse, such as irrigation;

(e) designed with a slope of less than two percent;

(f) designed with a slope of equal to or greater than two percent;

(g) manufactured treatment devices that meet the definition of green infrastructure at § 200-100.2;

(h) manufactured treatment devices that do not meet the definition of green infrastructure at § 200-100.2.

G. **Alternative measures.** An alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate may be used if the design engineer demonstrates the capability of the proposed alternative stormwater management measure and/or the validity of the alternative rate or method to the Township. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate shall be provided to the **New Jersey** Department **of Environmental Protection** in accordance with § 200-**[**101.2B**]101.3B**.

(1) Alternative stormwater management measures may be used to satisfy the requirements at § 200-101.O only if the measures meet the definition of green infrastructure at § 200-100.2.

(2) Alternative stormwater management measures that function in a similar manner to a BMP listed at Section 101.O(2) are subject to the contributory drainage area limitation specified at Section 101.O(2) for that similarly functioning BMP.

(3) Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner to any BMP listed at Section 101.O(2) shall have a contributory drainage area less than or equal to 2.5 acres, except for alternative stormwater management measures that function similarly to cisterns, grass swales, green roofs, standard constructed wetlands, vegetative filter strips, and wet ponds, which are not subject to a contributory drainage area limitation.

(4) Alternative measures that function similarly to standard constructed wetlands or wet ponds shall not be used for compliance with the stormwater runoff quality standard unless a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with § 200-101.D is granted from § 200-101.O.

H. Groundwater mounding analysis. Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess the hydraulic impact on the groundwater table and design the site, so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high-water table, so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems or other subsurface structures within the zone of influence of the groundwater mound, or interference with the proper functioning of the stormwater management measure itself.

I. Design standards for stormwater management measures are as follows:

(1) Stormwater management measures shall be designed to take into account the existing site conditions, including, but not limited to, environmentally **sensitive** [critical] areas; wetlands; flood-prone areas; slopes; depth to seasonal high-water table; soil type, permeability, and texture; drainage area and drainage patterns;

(2) Stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure, as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third the width of the diameter of the orifice or one-third the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the safety standards of § 200-103.C;

(3) Stormwater management measures and their components shall be designed, constructed, and installed to be strong, durable, and corrosion resistant, where required. Measures that are consistent with the relevant portions of the Residential Site

Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement;

(4) Stormwater management BMPs shall be designed to meet the minimum safety standards for stormwater management BMPs at § 200-103; and

(5) The minimum size of the orifice at the intake to the outlet from the stormwater management BMP shall be two and one-half inches (2-1/2") in diameter.

(6) To the maximum extent practicable, the design engineer shall design stormwater management measures that incorporate pretreatment measures. Pretreatment can extend the functional life and increase the pollutant removal capability of a stormwater management measure. Pretreatment measures shall be designed in accordance with the New Jersey BMP Manual or other sources approved by the Township Engineer.

J. **Manufactured treatment devices.** Manufactured treatment devices may be used to meet the requirements of this Article, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department. Manufactured treatment devices that do not meet the definition of green infrastructure at § 200-100.2 may be used only under the circumstances described at § 200-101.O(4) where a variance or waiver is granted.

K. **Agricultural developments.** Any application for a new agricultural development that meets the definition of major development at § 200-100.2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at § 200-101.O, 101.P, 101.Q and 101.R and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, horticultural product and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

L. **Requirements by drainage area.** If there is more than one drainage area involved in a major development, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 200-101.P, 101.Q and 101.R shall be met in each drainage area, unless the runoff from the drainage areas converge onsite and no adverse environmental impact would occur as a result of compliance with any one or more of the individual standards being determined utilizing a weighted average of the results achieved for that individual standard across the affected drainage areas.

M. **Deed Notice requirement.** Any stormwater management measure authorized under the Township stormwater management plan or this Article XXI shall be reflected in a deed notice recorded in the Office of the Mercer County Clerk. A form of deed notice shall be submitted to the Township for approval prior to filing. The deed notice shall contain a description of

the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 200-101.O, 101.P, 101.Q and 101.R and shall identify the location(s) of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the Maintenance Plan required to be recorded upon the deed pursuant to § 200-105.B(5) **by Plan title, Project Name, municipal project number, name, title and license information of the preparer, and latest revision date of the Plan.**

Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the Township. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the Clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the Township is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the Township within 180 calendar days of the authorization granted by the Township.

N. **Alterations and replacements.** A stormwater management measure approved under the Township stormwater management plan or Article XXI may be altered or replaced with the approval of the Township, if the Township determines that the proposed alteration or replacement meets the design and performance standards pursuant to § 200-101 of this Article XXI and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the Township for approval and subsequently recorded with the Office of the Mercer County Clerk. The revised deed notice shall contain a description and location of the altered or replacement stormwater management measure, as well as reference to the **amended or supplemental** Maintenance Plan, in accordance with 101.M above.

Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the Township in accordance with 101.M above.

O. Green Infrastructure Standards

(1) This subsection specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.

(2) To satisfy the groundwater recharge and stormwater runoff quality standards at § 200-101.P and 101.Q, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at § 200-101.F and/or an alternative stormwater management measure approved in accordance with § 200-101.G. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Best Management Practice	Maximum Contributory Drainage Area
Dry Well	1 acre
Manufactured Treatment Device	2.5 acres
Pervious Pavement Systems	Area of additional inflow cannot exceed three times the area occupied by the BMP
Small-scale Bioretention Systems	2.5 acres
Small-scale Infiltration Basin	2.5 acres
Small-scale Sand Filter	2.5 acres

(3) To satisfy the stormwater runoff quantity standards at § 200-101.R, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with § 200-101.G.

(4) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with § 200-101.D is granted from the requirements of this subsection, then BMPs from Table 1, 2, or 3, and/or an alternative stormwater management measure approved in accordance with § 200-101.G may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 200-101.P, 101.Q and 101.R.

P. Groundwater Recharge Standards

(1) This subsection contains the minimum design and performance standards for groundwater recharge as follows:

(2) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § 200-101.1, either:

(a) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or

(b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the **projected** two-year storm**, as defined and determined pursuant to Section 101.1D of this ordinance,** is infiltrated.

(3) This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to 101.P(4) below.

(4) The following types of stormwater shall not be recharged:

(a) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan **approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C,** or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

(b) Industrial stormwater exposed to "source material." "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

Q. Stormwater Runoff Quality Standards

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards are applicable when the major development results in an increase of one-quarter acre or more of regulated motor vehicle surface.

(2) Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:

(a) Eighty percent (80%) TSS removal of the anticipated load, expressed as an annual average shall be achieved for the stormwater runoff from the net increase of motor vehicle surface.

(b) If the surface is considered regulated motor vehicle surface because the water quality treatment for an area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant is to be modified or removed, the project shall maintain or increase the existing TSS removal of the anticipated load expressed as an annual average.

(3) The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major

development, including any that discharge into a combined sewer system, shall comply with 101.Q(2) above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS, or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.

(4) The water quality design storm is one and one-quarter inches (1.25") of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table [1] **5-4: Water Quality Design Storm Distribution** at N.J.A.C. 7:8-5.5. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.

(5) If more than one BMP in series is necessary to achieve the required 80 percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (A \times B) / 100,$$

Where:

R = total TSS Percent Load Removal from application of both BMPs, and
A = the TSS Percent Removal Rate applicable to the first BMP
B = the TSS Percent Removal Rate applicable to the second BMP.

(6) Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include green infrastructure BMPs that optimize nutrient removal while still achieving the performance standards in § 200-101.P, 101.Q and 101.R.

(7) In accordance with the definition of "FW1" at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

(8) The Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-4.1(c)1 establish 300-foot riparian zones along Category One waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters. A person shall not undertake a major development that is located within or discharges into a 300-foot riparian zone without prior authorization from the Department under N.J.A.C. 7:13.

(9) Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)3.i, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this subsection to reduce the post-construction load of total suspended solids by 95 percent of the anticipated load from the developed site, expressed as an annual average.

(10) [This] **These** stormwater runoff quality standards do not apply to the construction of one individual single-family dwelling, provided that it is not part of a larger development or subdivision that has received preliminary or final site plan approval prior to December 3, 2018, and that the motor vehicle surfaces are made of permeable materials **such as gravel, soil, and/or shells**.

R. Stormwater Runoff Quantity Standards

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quantity impacts of major development.

(2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § 200-101.1, complete one of the following:

(a) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the **current and projected** two-, ten-, and 100-year storm events**, as calculated using the precipitation depths determined by the standards found in Section 101.1.C and 101.1.D,** do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events; or

(b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the **current and projected** two-, ten- and 100-year storm events**, as calculated using the precipitation depths determined by the standards found in Section 101.1.C and 101.1.D,** and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area; or

(c) Design stormwater management measures so that the post-construction peak runoff rates for the **current and projected** two-, ten- and 100-year storm events**, as calculated using the precipitation depths determined by the standards found in Section 101.1.C and 101.1.D,** are 50%, 75% and 80%, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.

(3) The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system.

§ 200-101.1. Calculation of Stormwater Runoff and Groundwater Recharge:

A. Stormwater runoff shall be calculated in accordance with the following:

(1) The design engineer shall calculate runoff using [one of] the following method[s]:

[(a)] The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in Chapters 7, 9, 10, 15 and 16 Part 630, Hydrology National Engineering Handbook, incorporated herein by reference as amended and supplemented. This methodology is additionally described in *Technical Release 55 - Urban Hydrology for Small Watersheds* (TR-55), dated June 1986, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at:

https://directives.sc.egov.usda.gov/22162.wba
[https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf]

or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873;

[or

(b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330, Trenton, New Jersey 08625. The document is also available at:

http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStandardsComplete.pdf.]

(2) For the purpose of calculating [runoff coefficients] **curve numbers** and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a "wooded" land use with "good" hydrologic condition. The term "[runoff coefficient] **curve number**" applies to the NRCS methodology [and both the Rational and Modified Rational Methods at § 200-101.1.A(1)]. A [runoff coefficient] **curve number** or a groundwater recharge land cover for an existing condition **differing from "wooded" land with "good" cover** may be used on all or a portion of the site if the design engineer verifies **and substantiates** that the **differing** hydrologic condition has existed on the site or portion of the site for at least five (5) years without interruption prior to the time of application.

If more than one **differing** land cover has existed on the site during the five (5) years immediately prior to the time of application, the **differing** land cover with the lowest runoff potential shall be used for the computations.
[In addition, there is the presumption] **The design engineer shall presume** that the site is in "good" hydrologic condition if the **differing** land use type is pasture, lawn, or park; with "good" cover if the **differing** land use type is woods; and with hydrologic condition "good with conservation treatment" if the **differing** land use type is cultivation.

(3) In computing **existing condition** pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes. In computing stormwater runoff from all design storms, the design engineer shall [consider] **determine** the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from disconnected impervious surface, urban impervious area modifications as described in the NRCS *Technical Release 55 – Urban Hydrology for Small Watersheds* or other methods **acceptable to the Township Engineer** may be employed.

(4) If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of [structural] stormwater management measures.

B. **Groundwater recharge.** Groundwater recharge may be calculated in accordance with the following: The New Jersey Geological Survey Report GSR-32, A Method for Evaluating Groundwater-Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at the New Jersey Geological Survey website at https://www.nj.gov/dep/njgs/pricelst/gsreport/gsr32.pdf; or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420, Mail Code 29-01, Trenton, New Jersey 08625-0420.

C. **Current precipitation depths. The precipitation depths of the current two-, 10-, and 100-year storm events shall be determined by multiplying the values determined in accordance with items 1 and 2 below:**

(1) The applicant shall utilize the National Oceanographic and Atmospheric Administration (NOAA), National Weather Service's Atlas 14 Point Precipitation Frequency Estimates: NJ, in accordance with the location(s) of the drainage area(s) of the site. This data is available at:

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj; **and**

(2) The applicant shall utilize the following values from Table 5-5: Current Precipitation Adjustment Factors found under N.J.A.C. 7:8-5.7(c), which sets forth the applicable multiplier for the drainage area(s) of the site, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county. Alternately, separate rainfall totals can be developed for each county using the values in the referenced table.

Table 5-5: Current Precipitation Adjustment Factors

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03

D. Projected precipitation depths. Table 5-6: Future Precipitation Change Factors, found under N.J.A.C. 7:8-5.7(d), sets forth the change factors to be used in determining the projected two-, 10-, and 100-year storm events for use in this chapter, which are organized alphabetically by county. The precipitation depth of the projected two-, 10-, and 100-year storm events of a site shall be determined by multiplying the precipitation depth of the two-, 10-, and 100-year storm events determined from the National Weather Service's Atlas 14 Point Precipitation Frequency Estimates pursuant to (C)1 above, by the change factor in the table below, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development and/or its drainage area lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county.

Table 5-6: Future Precipitation Change Factors

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33

§ 200-101.2. Design standards applicable to all development.

A. All development shall be designed to account for stormwater and natural drainage water which originates not only within the lot or tract boundaries, but also that originating

beyond the lot or tract boundaries which normally flows into or through the development lot or tract boundaries.

B. Stormwater runoff, natural drainage water or water discharged from any source shall not be so diverted or directed as to overload existing drainage systems or create flooding or the need for additional drainage improvements, including structures, on other private properties or public lands. Proper and approved provisions shall be made in the development design to relieve these conditions to the satisfaction of the Township Engineer.

C. Over the sidewalk, under the sidewalk and/or through the curb drains for the purpose of discharging of roof drains or sump pumps is prohibited. These facilities must outlet into an adequate watercourse or drainage conveyance or collection system as approved by the Township Engineer. Roof leaders in violation of §200-101.2.B must be connected to an approved drainage system as determined by the Township Engineer. In the absence of a practical outlet for either a sump pump or roof leader, other drainage systems, as approved by the Township Engineer, may be used.

D. The design of any stormwater runoff collection system shall conform to N.J.A.C. 5:21-7.2 and 7.3, except high density polyethylene pipe (HDPE) shall not be used for any system or portion thereof to be dedicated to West Windsor Township, or for driveway culverts. Minimum pipe size for any public drainage system is 15 inches in diameter.

E. The stormwater collection and conveyance system for major development shall be analyzed for the one-hundred-year design storm event. The temporary maximum depth of standing water at any pavement gutter line shall not exceed nine inches. Further, temporary standing water shall not encroach upon any building envelope, existing or proposed. In sump conditions, overland relief shall be provided in the form of a drainage swale designed to carry the design flow to its intended destination. As an alternative, the storm sewer system shall be designed for the one-hundred-year design storm from the sump location to the stormwater BMP discharge, and shall include adequate capacity at each inlet to admit the one-hundred-year design storm runoff.

F. The materials used in the construction of storm sewers and other drainage structures shall be in accordance with the Standard Specifications for Road and Bridge Construction of the New Jersey Department of Transportation, latest edition, including any supplements, addendum and modifications thereto. "WEST WINDSOR TOWNSHIP STORM SEWER" shall be cast integrally in the cover of any storm manhole cover. Modification or change of these specifications may be affected only with the knowledge and written consent of the Township Engineer.

G. Minimum overland grades on all lots shall not be designed at less than a 2% slope unless within a designed waterway, stormwater management facility or structural pavement

area. Maximum grades shall not exceed a ratio of 3 horizontal to 1 vertical. Wherever possible, all lots without an on-lot stormwater management facility or collection structure shall be designed to provide positive drainage to the roadway facility fronting the same without flowing onto or across adjacent property.

H. Proposed development along or near a stream shall be subject to demonstrating compliance with the requirements of Part 6 of Chapter 200, "Flood Damage and Prevention Ordinance of the Township of West Windsor".

I. Approval for drainage structures shall also be obtained from the appropriate West Windsor, Mercer County, State of New Jersey and Federal agencies and offices. Each applicant shall make application to the Department of Environmental Protection, the Delaware & Raritan Canal Commission, the Mercer County Engineering Department and the Township Engineer, as applicable. Letters of approval from the appropriate governmental authorities shall be furnished to the Township Engineer, with copies to the administrative officer, prior to the granting of final approval or, if approval is granted conditionally, letters of approval shall be provided prior to the Township Engineer's signing of the final map or final plans.

J. Where required by the Township, if a lot or tract is traversed by a watercourse, surface or underground drainageway or drainage system, channel or stream, there shall be provided and dedicated a drainage easement to the Township, or other owners of the private drainage systems, conforming substantially with the lines of such watercourse or drainage system and such further width as will be adequate to accommodate expected stormwater runoff in the future, based upon reasonable growth potential in the Township, and in any event, meeting any minimum widths and locations shown on any adopted Official Map or Master Plan. Such easement dedication shall be expressed on the plan and plat as follows: "Drainage easement granted to *{insert owner, party or entity}* for the purposes provided for and expressed in the Code of the Township of West Windsor." The Township shall have the right, but not the obligation, to inspect, maintain, repair and replace the conveyance system.

K. If the potential for contamination of stormwater runoff by petroleum products exists on-site, the stormwater runoff shall be collected and conveyed through an oil/grease separator or other equivalent manufactured filtering device to remove the petroleum hydrocarbons prior to discharge. The applicant shall provide sufficient data to demonstrate acceptable performance of the device, and maintenance of the device shall be addressed in the development Maintenance Plan.

§ 200-101.[2]3. Sources for Technical Guidance:

A. Technical guidance for stormwater management measures can be found in the documents listed below, which are available to download from the Department's website at:

https://dep.nj.gov/stormwater/bmp-manual/
[http://www.nj.gov/dep/stormwater/bmp_manual2.htm]

1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended and supplemented. Information is provided on stormwater management measures such as, but not limited to, those listed in Tables 1, 2, and 3.

2. Additional maintenance guidance is available on the Department's website at:

   https://dep.nj.gov/stormwater/maintenance-guidance/.
   [https://www.njstormwater.org/maintenance_guidance.htm]

B. Submissions required by this Article for review by the Department should be mailed to:

   The Division of Watershed Protection and Restoration, New Jersey Department of Environmental Protection, Mail Code 501-02A, PO Box 420, Trenton, New Jersey 08625-0420. [The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420]

   Proof of mailing shall be provided to the Township Engineer.

§ 200-102. Solids and Floatable Materials Control Standards:

A. Site design features identified under the BMP Tables at § 200-101.F above, or alternative designs in accordance with § 200-101.G above, in order to prevent discharge of trash and debris from drainage systems, shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. Exemptions to this standard are outlined in § 200-102.A(2).

   (1) Design engineers shall use one of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

      (i) The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines; or

      (ii) A different grate, if each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is no greater than 0.5 inches across the smallest dimension.

Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater system floors used to collect stormwater from the surface into a storm drain or surface water body.

(iii) For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches, or be no greater than two (2.0) inches across the smallest dimension.

(2) The standard in 102.A(1) above does not apply:

(i) Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine (9.0) square inches;

(ii) Where the Township agrees that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;

(iii) Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

(a) A rectangular space four and five-eighths (4.625) inches long and one and one-half (1.5) inches wide (this option does not apply for outfall netting facilities); or

(b) A bar screen having a bar spacing of 0.5 inches.

Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

(iv) Where flows are conveyed through a trash rack that has parallel bars with one-inch (1 inch) spacing between the bars, to the elevation of the Water Quality Design Storm as specified in N.J.A.C. 7:8; or

(v) Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

§ 200-103. Safety Standards for Stormwater Management Facilities:

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs. This section applies to any new, modified or altered stormwater management BMP.

B. Stormwater management BMPs providing long-term water retention, shall be designed to be able to be dewatered, with minimal reliance on mechanical pumping, where practical. Pedestrian or vehicular traffic adjacent to these facilities should be evaluated to determine if and what safety measures or barriers should be provided in addition to safety ledges required by § 200-103.C(3).

C. Requirements for Trash Racks, Overflow Grates and Escape Provisions

(1) A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the Stormwater management BMP to ensure proper functioning of the BMP outlets in accordance with the following:

(i) The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars;

(ii) The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;

(iii) The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and

(iv) The trash rack shall be constructed of rigid, durable, and corrosion resistant material and designed to withstand a perpendicular live loading of 300 pounds per square foot.

(2) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

(i) The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

(ii) The overflow grate spacing shall be no **greater**[less] than two inches across the smallest dimension

(iii) The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.

(3) Stormwater management BMPs shall include escape provisions as follows:

(i) If a stormwater management BMP has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management BMPs. With the prior approval of the Township pursuant to 103.C, a free-standing outlet structure may be exempted from this requirement;

(ii) Safety ledges shall be constructed on the slopes of all new stormwater management BMPs having a permanent pool of water deeper than two and one-half feet. Safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See [103.E] **103.F** for an illustration of safety ledges in a stormwater management BMP; and

(iii) In new stormwater management BMPs, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical (3:1).

D. **Embankments for stormwater management measures shall be designed in accordance with the requirements of the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014, as amended, and are to be constructed impermeable core of inorganic silts and clays (Unified Soil Classification ML CL materials). Embankments shall be provided with an emergency spillway designed to convey the facility's maximum design storm plus 50%, with a minimum of one-foot of freeboard to the proposed top of embankment elevation.**

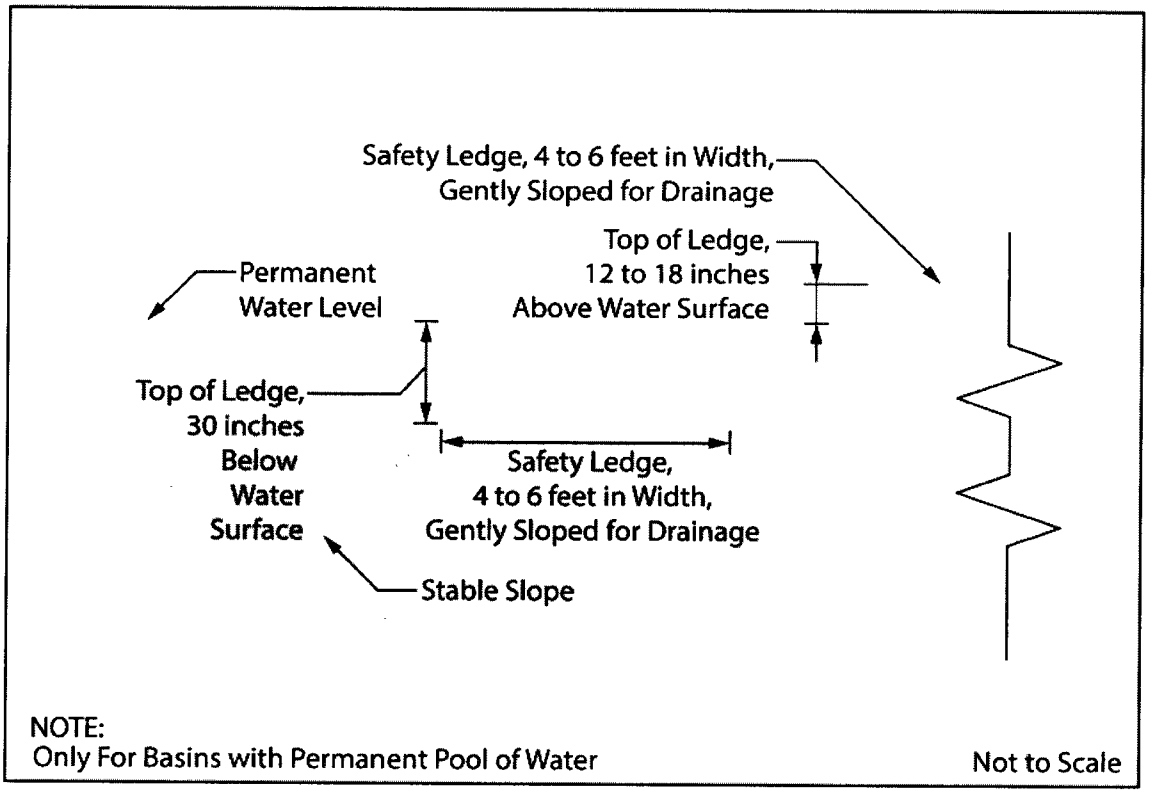
E. Variance or Exemption from Safety Standard

A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the Township that the variance or exemption will not constitute a threat to public safety.

F. Safety Ledge Illustration

Elevation View –Basin Safety Ledge Configuration

[remainder of page intentionally blank due to illustration]



§ 200-104. Requirements for a Site Development Stormwater Plan:

A. Submission of Site Development Stormwater Plan

(1) Whenever an applicant seeks Township approval of a major development subject to this Article XXI, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at § 200-104.C as part of the submission of the application for approval.

(2) The applicant shall demonstrate that the project meets the standards set forth in this Article XXI.

(3) The applicant shall submit two (2) copies of the materials listed in the Checklist for Site Development Stormwater Plans in accordance with § 200-104.C of this Article XXI.

(4) Sketch plats and concept plans shall at a minimum submit the information required by § 200-104.C(1) through § 200-104.C(4).

B. Site Development Stormwater Plan Approval

The applicant's Site Development project shall be reviewed as a part of the review process by the Township board or official from which Township approval is sought. That Township

board or official shall consult the Township's review engineer to determine if all of the checklist requirements have been satisfied and to further determine if the project meets the standards set forth in this Article XXI.

C. Checklist for Site Development Stormwater Plan

The following information shall be required:

(1) Topographic Base Map

Topographic base map of the site shall be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of 1"=200' or greater, showing 1-foot contour intervals **and in the North American Vertical Datum of 1988 (NAVD 88)**. The map is to indicate the following, as appropriate: existing surface water drainage, riparian zones and steep slopes per § 200-149, soil types, perennial or intermittent streams, Greenbelt areas, limits and normal water surface elevation of existing water bodies, wetlands and flood plains along with their appropriate buffer strips, vegetative and other pervious surfaces, existing man-made structures, roads, bearing and distances of project property lines, existing easements or property reservations, and significant natural and manmade features not otherwise shown. The reviewing engineer may require additional upstream tributary drainage system information, as necessary.

(2) Environmental Site Analysis

A written and graphic description of the natural and man-made features of the site and its surroundings is to be submitted. This description is to include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development. Provision of an Environmental Impact Statement prepared in compliance with § 200-23 *Environmental considerations* shall be deemed to satisfy this requirement.

(3) Project Description and Site Plans

Provide a map or maps at the scale of the topographical base map indicating the existing and proposed land use cover conditions, and including location of buildings roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations will occur in the natural terrain and cover, including lawns and other landscaping, and soil test locations with seasonal high groundwater elevations (observed or estimated). A written description of the site plan including justifications for proposed changes in natural conditions shall also be provided.

(4) Land Use Planning and Stormwater Source Control Plan

This plan shall provide a demonstration of how the goals and standards of § 200-100.1 through § 200-[101.1]**101.2** are being met. The focus of this plan shall be to describe how the site is being developed to meet the objectives of maintaining groundwater recharge, addressing stormwater quality and mitigating stormwater quantity increases at the source by land management and source controls whenever possible.

(5) Stormwater Management Facilities Map

The following information, illustrated on a map of the same scale as the topographic base map, shall be provided:

(a) Total area to be disturbed by the project; proposed surface contours after construction; drainage area to each stormwater BMP with breakdown of land area to be occupied by each stormwater BMP, total area to be paved or otherwise built upon, and total area to remain pervious; the location of each stormwater outfall and each stormwater BMP in NAD 1983 State Plane New Jersey FIPS 2900 US Feet **and in the North American Vertical Datum of 1988 (NAVD 88)** [or Latitude and Longitude in decimal degrees], and written summary tables indicating required and achieved groundwater recharge, required and achieved stormwater quality control and required and achieved stormwater quantity control achieved, listing values for each BMP and for the project as a whole.

(b) Details of all stormwater management facility designs, both during and after construction, including precautions and protections to be taken during construction, discharge provisions, discharge capacity for each outlet at different levels of detention, and emergency spillway provisions with maximum discharge capacity of each spillway.

(6) Calculations

(a) Provide comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the required design storms specified in § 200-101, prepared in accordance with the requirements of § 200-101.1 **and § 200-101.2** of this Article XXI by a qualified **New Jersey** licensed **P**rofessional **E**ngineer.

(b) When the proposed stormwater management control measures depend on the hydrologic properties of soils or require certain separation from the seasonal high-water table, then a soils report prepared by a qualified licensed professional shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure. All soils investigation and testing shall be performed in accordance with soil testing criteria outlined in Chapter 12 of the NJ BMP Manual.

(7) Maintenance and Repair Planning

A preliminary Maintenance Plan is to be provided meeting the requirements outlined in § 200-105. The planning and design of stormwater management facilities shall take into consideration aspects of future maintenance requirements, including ease of access, and the costs of maintenance and repair and replacement of their components.

(8) A Major Development Stormwater Summary Form

Submit a preliminary version of the NJDEP's Tier A MS4 NJPDES Permit Attachment D – Major Development Stormwater Summary form for the major development.

D. Waiver from Submission Requirements

The Township official or board reviewing an application under this Article XXI may, in consultation with the Township's review engineer, waive submission of any of the requirements in § 200-104.C(1) through 104.C(6) of this Article XXI when it can be demonstrated that the information requested is impossible to obtain, or it would create a hardship on the applicant to obtain, and its absence will not materially affect the review process.

§ 200-105. Maintenance and Repair:

A. Applicability. Projects subject to review as outlined in § 200-99.C of this Article XXI shall comply with the requirements of § 200-105.B and 105.C.

B. Maintenance Plan and Maintenance Responsibilities

(1) The design engineer shall prepare a Maintenance Plan for the stormwater management measures incorporated into the design of a major development.

(2) The Maintenance Plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance, including replacement. The Plan shall contain information on BMP location, design, ownership, maintenance tasks and frequencies, and other details as specified in Chapter 8 of the NJ BMP Manual, as well as the tasks specific to the type of BMP, as described in the applicable chapter containing design specifics.

(3) If the Maintenance Plan identifies a person other than the property owner (for example, a developer, a public agency or homeowners' association) as having the responsibility for maintenance, the Plan shall include documentation of such person's or entity's agreement to assume this responsibility, or of the owner's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

(4) Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such

owner or tenant owns or leases the entire residential development or project. An individual property owner within a development may be assigned incidental tasks, such as weeding of a green infrastructure BMP, provided the individual agrees to assume these tasks; however, the individual cannot be made legally responsible for all of the maintenance required.

(5) If the party responsible for maintenance identified under § 200-105.B(3) above is not a public agency, the **approved** Maintenance Plan, and any future revisions based on §200-105.B(7) below, shall be **documented by Deed Notice** recorded upon the deed of record for each property on which the maintenance described in the Maintenance Plan must be undertaken **as outlined in § 200-101.M**.

(6) Preventative and corrective maintenance shall be performed to maintain the functional parameters (storage volume, infiltration rates, inflow/outflow capacity, etc.) of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of non-vegetated linings.

(7) The party responsible for maintenance [shall maintain a detailed log of all preventative and corrective maintenance undertaken on the stormwater management measures, including a record of all inspections and copies of all maintenance-related work orders or invoices.] **identified under Section 200-105.B(3) above shall perform all of the following requirements:**

(a) Maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders;

(b) Evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and deed as needed; and

(c) Retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by Section 200-105.B(6) and B(7) above.

(8) The party responsible for maintenance identified under § 200-105.B(3) above shall submit a copy of the detailed log along with an annual inspection report prepared by a **P**rofessional **E**ngineer licensed in New Jersey or a New Jersey certified stormwater inspector to the Township of West Windsor Department of Community Development, Division of Engineering, by June 30th of each year. The inspection report and log shall include those items outlined within the Maintenance Plan, and not be limited to condition assessment with recommendations on the following items:

(a) Stormwater BMP outlet structure and outfall, including escape provisions as outlined in N.J.A.C. 7:8-6.2;

(b) Vegetation cover and health;
(c) Trash racks and overflow grates;
(d) Embankments;
(e) Erosion, including outfall;
(f) Sediment and debris removal;
(g) Retention pond maintenance; and
(h) An evaluation of the effectiveness of the current Maintenance Plan and any recommended adjustments to the plan.

(9) The party responsible for maintenance shall retain and make available, upon request by any public entity with administrative, health, environmental or safety authority over the site, the Maintenance Plan and the documentation required by § 200-105.B(7) and 105.B(8).

(10) Penalty for failure to provide annual inspection report and maintenance log: $100. Each act or violation, and every day upon which any violation shall occur or continues to occur, shall constitute a separate offense as provided for in Chapter 1, General Provisions, Article II, § 1-3, General penalty, of the Township Code.

(11) The requirements of § 200-105.B(3), 105.B(4) and 105.B(8) do not apply to stormwater management facilities that are dedicated to and accepted by the Township or another governmental agency, subject to all applicable Township stormwater general permit conditions, as issued by the Department.

(12) In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the Township shall so notify the responsible party in writing. Upon receipt of that notice, the responsible party shall have fourteen (14) calendar days to effect maintenance and repair of the facility in a manner that is approved by the Township Engineer or his designee. The Township, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible party fails or refuses to perform such maintenance and repair, the Township or County may immediately proceed to do so and shall bill the cost thereof to the responsible party. Nonpayment of such bill may result in a lien on the property.

C. Nothing in this subsection shall preclude the Township from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

§ 200-106. Inspection and stop-work order.

Such stormwater control improvements on the site, during and upon completion of their construction, shall be subject to inspection and approval by the Township Engineer, following the provisions of § 200-92 *Inspection and fees*. No underground installation shall be covered until inspected and approved. Approval or reasons for withholding approval shall be given promptly, and in any event within three (3) business days following an inspection. If work proceeds without such approval or is not in compliance therewith, the Township Engineer, in addition to any other remedies available to the Township, may issue an order requiring

immediate cessation of the affected work and prohibiting resumption thereof (a "stop-work order") until approval is obtained or noncompliance is corrected.

§ 200-107. As-built certification.

A. Prior to the acceptance by the Township of any constructed stormwater BMPs, the developer shall provide a survey prepared by a land surveyor licensed in New Jersey showing the location and pertinent details of all stormwater BMPs and stormwater outfalls as built. The survey shall identify the location of the stormwater management measure(s) and all stormwater outfalls in NAD 1983 State Plane New Jersey FIPS 2900 US Feet **and in the North American Vertical Datum of 1988 (NAVD 88)**. Submission shall be in the form of both signed and sealed prints AND digital data file for incorporation of the information into the Township's GIS database, as directed by the Township Engineer. Alternate standards may be permitted subject to the prior review and approval of the Township Engineer.

B. The developer's engineer shall perform an inspection of the project, review the as-built survey and certify to the Township, in writing, that said facilities were constructed in accordance with the approved stormwater control plans. Along with the certification the developer shall provide a final completed version of the NJDEP's Major Development Stormwater Summary form for the project.

C. The developer shall provide a copy of the as built survey and engineer certification to the party responsible for maintenance of the constructed stormwater BMP(s), for their inclusion into the Maintenance Plan required under § 200-108.

D. If the location of the constructed stormwater BMP(s) differs significantly from that recorded in the deed notice under § 200-108.M, a corrective deed notice shall be recorded by the developer following the procedures outlined in § 200-108.N.

§ 200-108. Time for completion of stormwater detention facilities.

A. Stormwater control improvements shall be completely installed and stabilized, except for final landscaping, prior to issuance of any building permit for the development **or prior to any increase in impervious cover above the existing amount of impervious cover prior to the approved project**.

B. Final landscaping shall be completed in accordance with the schedule established for the completion of all other improvements, and the appropriate planting seasons.

§ 200-109. Violations and penalties.

Any person who erects, constructs, alters, repairs, converts, maintains or uses any building, structure or land in violation of this article where no specific penalty is provided regarding the section violated shall be subject to the penalties as provided in Chapter 1, General Provisions, Article II, § 1-3, General penalty, of the Township Code.

§ 200-110. Severability

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any

such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION III. Chapter 200 of the Code of the Township of West Windsor (1999), Land Use, Part 1, Site Plan Review, Article II, Terminology, § 200-4 Definitions, is hereby amended as follows. Added text is **bold underlined** and text being eliminated is [bracketed].

DRIVEWAY

A defined paved or unpaved surface providing vehicular access to a street. A driveway is not a road, street, boulevard, highway, or parkway.

SECTION IV. Chapter 200 of the Code of the Township of West Windsor (1999), Land Use, Part 2, Subdivision, Article XII, Design Standards for Subdivisions, is hereby amended as follows. Added text is **bold underlined** and text being eliminated is [bracketed].

§ 200-62. Structure location and driveway.

A. All lots shall be such that a structure conforming to the intended use and setback requirements of Part 4, Zoning, of this chapter, can be constructed in an area of the lot that is in conformity with the provisions of Part 4, Zoning, or Part 6, Floodplain Management Regulations, of this chapter.

B. Any structure must be accessible by means of a driveway that complies with the provisions of Article VI, § 200-29, of Part 1 of this chapter. Driveways shall be so laid out that it is possible to turn all vehicles on the lot and that it is not necessary to back any vehicle into a street.

C. Single Family or Two-Family residential driveways shall be a minimum width of 12 feet, with a minimum apron flare of 1.5 feet on each side of the driveway apron at the road, or 10-foot radii provided at the terminus of the driveway at the [Township] road. The maximum width of any single-family residential driveway apron is 22 feet. Common or shared residential driveways amongst two or more single family properties shall be a minimum width of 20 feet, with a minimum apron flare of 1.5 feet on each side of the driveway apron.

SECTION V. Chapter 200 of the Code of the Township of West Windsor (1999), Land Use, Part 1, Site Plan Review, Article VI, Design Details, § 200-29 General circulation; parking and loading area design standards, I. Location of driveways, is hereby amended as follows. Added text is **bold underlined** and text being eliminated is [bracketed].

[Amended 12-22-1980 by Ord. No. 80-41]

(1) Design.

(a) All entrance and exit driveways shall be located to afford maximum safety to traffic, provide for safe and convenient ingress and egress to and from the site and to minimize conflict with the flow of traffic.

(b) Any exit driveway or driveway lane shall be so designed in profile and grading and located to provide the following minimum sight distance measured in each direction. The measurements shall be from the driver's seat of a vehicle standing on that portion of the exit driveway that is immediately outside the edge of the road right-of-way.

Allowable Speed (miles per hour)	**Required Sight Distance (feet)**
25	150
30	200
35	250
40	300
45	350
50	400

(c) Where a site occupies a corner of two intersecting roads, no driveway entrance or exit shall be located within 50 feet of the point of tangency of the existing or proposed curb radius of that site.

(d) No part of any driveway shall be located within a minimum of 10 feet of a side property line. However, the Planning Board may permit a driveway serving two or more adjacent sites to be located on or within 10 feet of a side property line between the adjacent sites.

(e) No entrance or exit driveway shall be located on a rotary ramp of an interchange or within 20 feet of the beginning of any ramp or other portion of an interchange.

(f) Where two or more driveways connect a single site to any one road, a minimum clear distance of 200 feet measured along the right-of-way line shall separate the closest edges of any two such driveways. Where such development fronts on an arterial street, access to parking and service areas, where practicable, shall be provided by a single access to the arterial street.

(g) Where a development fronts on a principal, major or minor arterial or a major collector, a combined one point of access and egress to parking and service areas shall be provided, except where large frontages (1,000 feet or larger) are involved. In those instances where two or more driveways connect a single site to any one road, a minimum clear distance of 300 feet measured along the right-of-way line shall separate the closest edges of any two such driveways.

(2) Driveway angle.

(a) Two-way operation. Driveways used for two-way operation shall intersect the road at an angle to as near 90º as site conditions will permit and in no case will be less than 60º.

(b) One-way operation. Driveways used by vehicles in one direction of travel (right turn only) shall not form an angle smaller than 45º with a road, unless acceleration and deceleration lanes are provided.

(3) Driveway dimensions. The dimensions of driveways shall be designed to adequately accommodate the volume and character of vehicles anticipated to be attracted daily onto the land development for which a site plan is prepared. The required maximum and minimum dimensions for driveways are indicated below. Driveways serving large volumes of daily traffic or traffic of over 15% truck traffic shall be required to utilize high to maximum dimensions.

Type of Use	One-Way Operation Driveway* (width in feet)	Two-Way Operation Driveway* (width in feet)
3- to 10-family residence	10-15	24
Over 10-family	15-25	24
Commercial and industrial	15-30	24

*All driveways shall be five feet wider at the curbline, and this additional width shall be maintained for a distance of 20 feet into the site.

(4) Maximum driveway slope.

(a) The grade of a driveway approach to a public or private road generally, shall be no greater than 3% for a minimum distance of 25 feet from the edge of pavement of the intersecting road. Based on site design constraints the maximum grade of the driveway approach may be exceeded, subject to the approval of the Township Engineer. However, in no instance shall the driveway approach grade be more than 7%.

(b) The vertical profile of the driveway approach to the public or private road shall be designed to prevent impacting of the road or driveway by the front, rear or undercarriage of a vehicle. Where concrete aprons are provided or required, the maximum grade differential between the slope of the driveway apron and the cross slope of the roadway shall be not more than 8%.

(c) When a sidewalk is proposed across a driveway, ADA requirements shall be observed.

SECTION VI. In the event of any conflict between the provisions and requirements of these sections and the provisions and requirements of any other section of this chapter, the provisions and requirements of this section shall govern. Each section, subsection, sentence, clause and phrase of this article is declared to be an independent section, subsection, sentence, clause and

phrase, and the finding of holding of any such portion of this article to be unconstitutional, void or ineffective for any cause or reason shall not affect any other portion of these sections.

SECTION VII. This Ordinance shall take effect twenty (20) days after action or inaction by the Mayor as approved by law, or an override of a mayoral veto by the Council, whichever is applicable; upon the approval by the County review agency or sixty (60) days from the receipt of the ordinance by the County review agency if the County review agency should fail to act; and upon publication according to law.

INTRODUCTION: June 10, 2024
PLANNING BOARD: June 19, 2024
PUBLIC HEARING: June 24, 2024
ADOPTION: June 24, 2024
MAYORAL APPROVAL: June 25, 2024
EFFECTIVE DATE: July 15, 2024

Explanation – Matter enclosed in bold-faced brackets **[thus]** in the above ordinance is not enacted and is intended to be omitted in the ordinance. Matter underlined thus is new matter.