

**ORDINANCE 9-2024**

**ORDINANCE OF THE BOROUGH OF MADISON AMENDING AND SUPPLEMENTING CHAPTER 195 OF THE BOROUGH CODE ENTITLED "LAND DEVELOPMENT" REGARDING STORMWATER MANAGEMENT**

**WHEREAS**, the New Jersey Department of Environmental Protection ("NJDEP") has mandated certain changes to municipal stormwater management ordinances; and

**WHEREAS**, the Borough of Madison Planning Board (the "Planning Board") has recommended that the Borough Council amend Chapter 195 of the Borough Code in accordance with NJDEP requirements as well as recommendations from the Madison Environmental Commission; and

**WHEREAS**, the Planning Board has duly considered revisions to the Land Development chapter of the Borough Code regarding stormwater management; and

**WHEREAS**, the Planning Board has adopted a resolution recommending to the Borough Council amend Chapter 195 of the Borough Code regarding stormwater management be enacted; and

**WHEREAS**, the Borough Council believes that amending the Land Development Regulations is in the best interest of the Borough and agrees with the recommendations to revise Chapter 195 of the Borough Code accordingly.

**NOW, THEREFORE, BE IT ORDAINED** by the Council of the Borough of Madison, in the County of Morris and State of New Jersey, as follows:

**SECTION 1:** Chapter 195 of the Borough Code entitled "Land Development", Article I entitled "General Provisions", Section 7 entitled "Definitions" is hereby amended and supplemented as follows (additions **\*\*between asterisks and in bold\*\***, deletions ~~{within brackets and struck through}~~; text in *italics* is meant to guide the reader and is not intended to be adopted as part of this ordinance):

§ 195-7 Definitions.

*The following definitions are amended:*

IMPERVIOUS COVERAGE. Any material which generally reduces or prevents absorption of stormwater into the ground, including but not limited to buildings, parking areas, driveways, sidewalks, paving and patios, ~~{but not}~~ **\*\*and\*\*** swimming pools. All required parking areas which are permitted to remain unimproved, and all gravel areas and detention areas with clay lining shall be considered as impervious surfaces. ~~{Brick pavers in sand shall be calculated as 80% of impervious coverage.}~~

**SECTION 2:** Chapter 195 of the Borough Code entitled "Land Development", Article VI entitled "Environmental Protection" is hereby amended and supplemented as follows (additions **\*\*between asterisks and in bold\*\***, deletions ~~{within brackets and struck through}~~; text in *italics* is meant to guide the reader and is not intended to be adopted as part of this ordinance):

§ 195-37 Definitions.

(A) 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.

*The following definitions are amended:*

LOW-IMPACT DEVELOPMENT TECHNIQUES. Utilizing strategies and measures that manage stormwater runoff quantity and quality to supplement or replace structural stormwater measures. Examples include minimize site disturbance, preserve natural vegetation and drainage features **\*\*such as forests, especially core forests and clusters of trees in their natural state\*\***, reduce and disconnect impervious cover, reduce

ground slopes, **\*\*utilize native vegetation,\*\*** reduce **\*\*and/or minimize\*\*** turf grass, **\*\*revegetate areas and maintain and\*\*** enhance water absorption and filtration.

MINOR DEVELOPMENT. Any development that results in an **\*\*aggregate\*\*** increase in impervious surface of {5,000} **\*\*400\*\*** square feet **\*\*or more\*\***, but does not meet the definition of “major development.” Minor development may include public projects as authorized by the governing body of the Borough of Madison.

*The following definitions to be added in alphabetical order:*

**\*\*CORE FOREST. The area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.\*\***

**\*\*FOREST. A wooded area having an ecosystem typically consisting of a thick growth of trees and plants that has occurred through natural succession or reforestation, that exhibits or normally exhibits a contiguous tree canopy of greater than either 200 feet in width in any direction or one acre in area. The term “forest” shall include, but not be limited to, “core forest” as defined above.\*\***

**\*\*PERVIOUS PAVING SYSTEMS. Engineered paving systems, including porous concrete, porous asphalt and engineered porous paving systems, that permit the flow of water through their surface. Such systems shall comply in general with the requirements of section 9.6 of the NJDEP Stormwater Best Management Practices Manual.\*\***

**\*\*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.\*\***

(B) No change.

§ 195-37.1 Scope and purpose.

(A) No change.

(B) No change.

(C) Applicability.

(1) This article shall be applicable to the following developments:

(a) No change.

(b) No change.

(c) No change.

**\*\*d) An application that has been submitted prior to the adoption date of this ordinance, shall be subject to the stormwater management requirements in effect on the date the application is deemed complete.\*\***

**\*\* (e) An application that has been submitted on or after March 2, 2021, shall be subject to the stormwater management requirements in effect on the date the application is deemed complete. \*\***

**\*\* (f) 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 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. \*\***

(2) No change.

(D) No change.

(E) No change.

§ 195-37.2 No change.

§ 195-37.3 Stormwater management requirements for major development.

(A) No change.

(B) No change.

(C) No change.

(D) No change.

(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 (BMP) Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified. When designed in accordance with the most current version of the New Jersey Stormwater BMP 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. Amendments may be published in the New Jersey Register with a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department's website at [https://njstormwater.org/bmp\\_manual2.htm](https://njstormwater.org/bmp_manual2.htm) **\*\*https://dep.nj.gov/stormwater/bmp-manual/\*\***.

(F) through (O). No change.

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

(1) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations, either:

(a) No change.

(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 195-37.3(P) of this ordinance,** is infiltrated.

(2) No change.

(3) 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 **\*\*a Department approved\*\*** landfill closure plan~~\*\*;~~ and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and
  - (b) No change.
- (Q) No change.
- (R) Stormwater runoff quantity standards.
- (1) No change.
  - (2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations, 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 defined and determined in Section 195-37.4 of this ordinance,\*\*** do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;
    - (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 defined and determined in Section 195-37.4 of this ordinance,\*\*** 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;
    - (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 defined and determined in Section 195-37.4 of this ordinance,\*\*** are 50%, 75% and 80%, respectively, of the pre-construction peak runoff rates. The percentages apply only of 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; or
    - (d) No change.
  - (3) No change.
- (S) No change.

§ 195-37.4 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://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1044171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf) **\*\*https://directives.sc.gov.usda.gov/viewerFS.aspx?hid=21422\*\***,

or at United States Department of Agriculture Natural Resources Conservation Service, ~~{220 Davison Avenue, Somerset, New Jersey 08873; or}~~ **\*\*New Jersey State Office.\*\***

- (b) **\*\*Reserved\*\*** ~~{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 ~~{both}~~ the NRCS methodology above ~~{and the rational and modified rational methods}~~. A ~~{runoff coefficient}~~ **\*\*curve number\*\*** or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover ~~{have}~~ **\*\*has\*\*** existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

(3) through (5). No change.

(B) No change.

**\*\* (C) 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](https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj); and

- (2) The applicant shall utilize Table 5: Current Precipitation Adjustment Factors below, 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 table below.

**Table 5: Current Precipitation Adjustment Factors**

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Morris	1.01	1.03	1.06

**\*\* (D) Table 6: Future Precipitation Change Factors** provided below 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. Alternately, separate rainfall totals can be developed for each county using the values in the table below.

**Table 6: Future Precipitation Change Factors**

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	10-year Design Storm
Morris	1.23	1.28	1.46

§ 195-37.5 No change.

§ 195-37.6 Safety standards for stormwater management basins.

(A) No change.

(B) No change.

(C) Requirements for trash racks, overflow grates and escape provisions.

(1) No change.

(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:

(a) No change.

(b) The overflow grate spacing shall be no {less} **\*\*greater\*\*** than two inches across the smallest dimension.

(c) No change.

(3) No change.

(D) No change.

(E) No change.

§ 195-37.7 No change.

§ 195-37.8 Maintenance and repair.

(A) No change.

(B) General maintenance.

(1) through (7). No change.

(8) The requirements do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency, subject to all applicable municipal stormwater general permit conditions, as issued by the Department. Maintenance and inspection guidance can be found on the Department's website at [https://www.njstormwater.org/maintenance\\_guidance.htm](https://www.njstormwater.org/maintenance_guidance.htm) **\*\*https://dep.nj.gov/stormwater/maintenance-guidance/\*\***.

(9) No change.

(C) No change.

§ 195-37.9 Minor development.

(A) Control of water quantity, quality and recharge will be addressed as follows:

(1) For each square foot of new impervious surface {one gallon} **\*\*two and one half (2.5) gallons\*\*** of stormwater runoff shall be managed using one or more green infrastructure BMP, including grass swale, vegetative filter strip, sand filter, cistern, drywell, green roof, pervious paver, bioretention basin, or infiltration basin.

(2) through (4). No change.

(B) through (D). No change.

§ 195-37.10 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 [http://www.nj.gov/dep/stormwater/bmp\\_manual2.htm](http://www.nj.gov/dep/stormwater/bmp_manual2.htm) **\*\*https://dep.nj.gov/stormwater/bmp-manual/\*\***.

(1) No change.

(2) Additional maintenance guidance is available on the Department's website at [https://www.njstormwater.org/maintenance\\_guidance.htm](https://www.njstormwater.org/maintenance_guidance.htm) **\*\*https://dep.nj.gov/stormwater/maintenance-guidance/\*\***.

(B) Submissions required for review by the Department should be mailed to:

~~{The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420. § 195-37.11}~~ **\*\* 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.\*\*

§ 195-37.11 {~~Drywell/seepage pit~~} **Best Management Practice (BMP)** requirements.

- (A) {~~New roof~~} **Any increase in impervious** areas **with an aggregate area of** {~~less than~~} 400 square feet **or more** {~~are exempt from the dry well~~} **shall meet the** requirements of this chapter.
- (B) Runoff from {~~roof~~} **impervious** areas shall be transported to {~~seepage pits~~} **an approved BMP system or systems** for recharge of groundwater resources.
- (C) {~~Seepage pits~~} **BMP systems** shall have the capacity to temporarily store a volume equal to four inches of runoff from {~~roof~~} **impervious** areas. Alternatively, the capacity of the {~~seepage pit wells~~} **BMP system** may be determined by routing a fifty-year, twenty-four-hour storm through the {~~dry well~~} **stormwater management** system taking into consideration soil infiltration and permeability, water table depth, and {~~dry well~~} **system** capacity.
- (D) through (F). No change.
- (G) {~~Seepage pits~~} **Drywells** shall have an overflow pipe extending to grade. Aluminum pins, or gutter nails, shall be extended through the pipe at its outlet to prevent small animals from entering.
- (H) {~~Seepage pits~~} **Drywells** shall generally be constructed of precast concrete rings surrounded by clean crushed stone or gravel. The nominal stone size shall be 1 1/2 inches. A bed of coarse sand not less than four inches thick shall be placed in contact with the surface of the soil at the bottom of the excavation. A layer of crushed stone or gravel not less than six inches thick shall be placed on top of the coarse sand
- (I) No change.

**(J) Pervious paving systems: Engineered paving systems including porous concrete and porous asphalt shall comply in general with the requirements of the section 9.6 of the NJDEP Stormwater Best Management Practices Manual.**

- (1) Engineered permeable paving systems consisting of gravel or other unbound material, that allow the free flow of water through the surface, will be calculated for impervious cover at 80% of the actual area encompassed by the system.
- (2) The system must be a commercially available system, which includes methods to prevent the compaction or lateral movement of the infill material.
- (3) All permeable paving systems shall include a minimum of a 4" thick bed of open graded aggregate.
- (4) The volume of storage provided by the open graded aggregate bed may be included in the required stormwater storage for the site.
- (5) Pervious paving systems shall not be permitted in areas where high pollutant or sediment loading is anticipated.
- (6) The maximum slope for a permeable paving system shall be 5%.
- (7) Permeable paving systems shall be permitted in all use zones.\*\*

{~~(J)~~} **(K)** All applications shall include calculations and details to show compliance with the chapter.



§ 195-38 through § 195-43 No change.

**SECTION 3:** The Borough Clerk is directed to give notice at least ten (10) days prior to a hearing on the adoption of this Ordinance to the Borough of Madison Planning Board and to all other persons or entities entitled thereto pursuant to N.J.S.A. 40:55D-26 and N.J.S.A. 40:55D-64. The Planning Board is directed to make and transmit to the Borough Council, within thirty-five (35) days after referral, a report including identification of any provisions in the proposed Ordinance that are inconsistent with the Borough Master Plan and recommendations concerning any inconsistencies and any other matter as deemed appropriate.

**SECTION 4:** The Borough Clerk is directed to give notice at least ten (10) days prior to a hearing on the adoption of this Ordinance to the Morris County Planning Board pursuant to N.J.S.A. 40:55D-15(b). Notice shall be made to the Morris County Planning Board by personal service, certified mail, or e-mail with confirmation that the e-mail was delivered.

**SECTION 5:** If any section, paragraph, subdivision, clause or provision of this Ordinance shall be judged invalid, such adjudication shall apply only to that section, paragraph, subdivision, clause or provision, and the remainder of this Ordinance shall be deemed valid and effective.

**SECTION 6:** All ordinances or parts of ordinances inconsistent with or in conflict with this Ordinance are hereby repealed to the extent of such inconsistency.

**SECTION 7:** This Ordinance shall take effect according to law.

ADOPTED AND APPROVED  
March 11, 2024

\_\_\_\_\_  
ROBERT H. CONLEY, MAYOR

Attest:

\_\_\_\_\_  
ELIZABETH OSBORNE, Borough Clerk  
Introduced and passed: February 12, 2024  
Published, Madison Eagle: February 15, 2024  
Hearing and consideration for final adoption: March 11, 2024  
Published upon final adoption, Madison Eagle: March 14, 2024