BOROUGH OF PENNINGTON
ORDINANCE NO. 2024-13

ORDINANCE UPDATING BOROUGH STORMWATER CONTROL ORDINANCE IN ACCORDANCE WITH CURRENT REGULATIONS OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

WHEREAS, the Borough of Pennington seeks to update its stormwater control ordinances to reflect amendments to the Stormwater Management Rules at N.J.A.C. 7:8, adopted March 2, 2020 and July 17, 2023;

WHEREAS, the codified regulations which are the basis for these updates are found at N.J.A.C. 7:8-5.6 (Stormwater runoff quantity standards) and N.J.A.C. 7:8-5.7 (Calculation of stormwater runoff and groundwater recharge);

WHEREAS, the subjects of the updates pertain to Chapter 163, Sections 20.4 R and 20.5 of the Pennington Borough Code;

NOW THEREFORE BE IT ORDAINED by the Borough Council of the Borough of Pennington, as follows:

1. Section 163-20.4, Subsection R, pertaining to Stormwater runoff quantity standards, is hereby amended (with new language underlined and deleted language crossed out) as follows:

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 § 163-20.5, 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 pursuant to Sec.163-20.5C and D, respectively,** 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 pursuant to Sec.163-20.5C and D, respectively,** 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 pursuant to Sec.163-20.5C and D, respectively,** 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; or

(d) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with Subsection R(2)(a), (b) and (c) above is required unless the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three, will not result in additional flood damage below the point of discharge of the major development. No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water control structure.

(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.

2. Section 163-20.5, pertaining to Calculation of stormwater runoff and groundwater recharge, is hereby amended (with new language underlined and deleted language crossed out) as follows:

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

(1) The design engineer shall calculate runoff using ~~**one of the following methods (a) T t**~~he 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; or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873~~;~~ .

~~**(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 ~~both~~ the NRCS methodology at § 163-20.5A(1)~~(a) and the Rational and Modified Rational Methods at § 163-20.5A(1)(b)~~. 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 ha~~**ves**~~ 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) In computing 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.**~~

~~**(4) In computing stormwater runoff from all design storms, the design engineer shall consider 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 unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 - Urban Hydrology for Small Watersheds and other methods may be employed.**~~

~~**(5) 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 may be calculated in accordance with the following:

(1) **T**~~**t**~~he New Jersey Geological Survey Report GSR-32, A Method for Evaluating Ground-~~**W**~~**water-** 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 and Water Survey website at http://www.nj.gov/dep/njgs** ~~**http://www.state.nj.us/dep/njgs/**~~ or at ~~**the**~~ New Jersey Geological **and Water** Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

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 (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 Table 5 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 (NEW)

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.01	1.02	1.03
Bergen	1.01	1.03	1.06
Burlington	0.99	1.01	1.04
Camden	1.03	1.04	1.05
Cape May	1.03	1.03	1.04
Cumberland	1.03	1.03	1.01
Essex	1.01	1.03	1.06
Gloucester	1.05	1.06	1.06
Hudson	1.03	1.05	1.09
Hunterdon	1.02	1.05	1.13
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03
Monmouth	1.00	1.01	1.02
Morris	1.01	1.03	1.06
Ocean	1.00	1.01	1.03
Passaic	1.00	1.02	1.05
Salem	1.02	1.03	1.03
Somerset	1.00	1.03	1.09
Sussex	1.03	1.04	1.07
Union	1.01	1.03	1.06
Warren	1.02	1.07	1.15

D. Table 6 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 Table 6 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 (NEW)

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.22	1.24	1.39
Bergen	1.20	1.23	1.37
Burlington	1.17	1.18	1.32
Camden	1.18	1.22	1.39
Cape May	1.21	1.24	1.32
Cumberland	1.20	1.21	1.39
Essex	1.19	1.22	1.33
Gloucester	1.19	1.23	1.41
Hudson	1.19	1.19	1.23
Hunterdon	1.19	1.23	1.42

Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33
Monmouth	1.19	1.19	1.26
Morris	1.23	1.28	1.46
Ocean	1.18	1.19	1.24
Passaic	1.21	1.27	1.50
Salem	1.20	1.23	1.32
Somerset	1.19	1.24	1.48
Sussex	1.24	1.29	1.50
Union	1.20	1.23	1.35
Warren	1.20	1.25	1.37

BE IT FURTHER ORDAINED, that this Ordinance shall be effective upon passage and publication as provide by law.

Introduced: September 9, 2024

Advertised: September 13, 2024

Public Hearing: October 7, 2024 (Carried)

Public Hearing (Carried): _____

Adopted: _____

Published: _____

ATTEST: APPROVED:

_____ _____

Elizabeth Sterling, Borough Clerk James Davy, Mayor

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RECORD OF COUNCIL VOTE ON INTRODUCTION

COUNCILMAN	AYE	NAY	N.V.	A.B.	COUNCILMAN	AYE	NAY	N.V	A.B.
Angarone				abstain	Marciante	X			
Chandler				absent	Stern	M			
Gnatt	X				Valenza	S			

RECORD OF COUNCIL VOTE ON ADOPTION

COUNCILMAN	AYE	NAY	N.V.	A.B.	COUNCILMAN	AYE	NAY	N.V	A.B.
Angarone					Marciante				
Chandler					Stern				
Gnatt					Valenza				