

# CITY OF PLAINFIELD

MC 2024-48

AN ORDINANCE BY THE CITY COUNCIL AMENDING THE CITY OF PLAINFIELD CODE OF ORDINANCES TO REPEAL CHAPTER 17:12 MC 2002.29 17:12.1 DECEMBER 2, 2002 TO ADOPT A NEW CHAPTER 17:12.1; IN ACCORDANCE WITH THE STORMWATER MANAGEMENT RULES AT N.J.A.C. 7:8 AND IT AMENDMENTS ADOPTED MARCH 2, 2020 AND JULY 17, 2023, THE SCO MEETS MINIMUM NJDEP REQUIREMENTS.

Deletions are ~~striked-out~~

Additions are in bold print

~~§ 17:12-1. Stormwater management for non-major development. [MC 2002.29 § 17:12.1, December 2, 2002]~~

Editor's Note: For Stormwater management for major development see § 17:12-2.

- A. ~~All development shall be provided with a stormwater management plan consisting of, but not limited to, inlets, manholes and pipes where necessary for proper surface drainage. The system shall be adequate to carry off and/or store the stormwater and natural surface runoff, which originates not only within the property in question, but also beyond the tract boundaries.~~
- B. ~~Where possible, all runoff within a site shall ultimately leave the site in the same watershed in which it originated and shall be released in such a manner so as to not overload existing drainage systems, create flooding creating a need for additional drainage facilities on other public or private lands or increase predevelopment erosion of adjacent lands.~~
- C. ~~The peak rate of runoff from a site during and after development shall not exceed the predevelopment peak rate of runoff. Development upstream of known areas of problem flooding shall be required to further reduce the peak rate of runoff below the predeveloped rate. Where the upstream tributary drainage area exceeds fifty (50) acres, the standards established in the Technical Manual for Stream Encroachment, N.J.A.C. 7:13-2.8, Stormwater Management, NJDEP, shall govern.~~
- D. ~~The increase in volume of runoff from a site, during and after development, from the predevelopment total of volume of runoff shall be minimized. Runoff control measures shall be used to retard or reduce runoff and increase recharge. Depending on the soil characteristics natural and artificial recharge area and systems should be employed whenever practical to minimize the volume of surface water runoff. These include, but are not limited to, infiltration pits, dry wells, infiltration trenches and the extensive use of sheet flow through vegetated areas. The use of such measures will not eliminate or reduce, even partially, the need for other requirements of this section.~~
- E. ~~The peak rate of runoff for areas of up to twenty (20) acres shall be calculated by the rational method or derivatives. The equation for the rational method is as follows:~~

$$Q_p = CIA$$

Where

~~$Q_p$  = The peak runoff rate in cubic feet per second (cfs).  $C$  = The runoff coefficient.~~

~~$I$  = The average rainfall intensity in inches per hour (in/hr), occurring at the time of concentration  $T_c$  (min).~~

~~$T$  = The time of concentration in minutes~~

~~(min).  $A$  = The size of the drainage area in~~

~~acres (ac).~~

~~1. Typical runoff coefficients ( $C$  values) are provided in the Technical Manual for~~

Stream

~~Encroachment, prepared by the New Jersey Department of Environmental Protection (NJDEP), page 51, Table 3.1-2(B1). Runoff coefficient C used in the rational formula shall be weighted if there is more than one (1) kind of land use within the drainage basin under consideration.~~

- ~~2. The time of concentration (tc) is defined as the time required for water to reach the point in question from the most hydraulically distant point in the basin. Time of concentration (tc) shall be estimated from the Nomograph for the Determination of Time of Concentration, prepared by the State of New Jersey Highway Authority. The analysis shall also consider the procedure outline in Section 3.12(e) for Technical Release (TR) Number 55, Urban Hydrology for Small Watersheds, United States Department of Agriculture, Soil Conservation Series, as supplemented and amended (SCS method).~~
- ~~3. Rainfall intensity as a function of duration and storm recurrence frequency shall be based upon geographically appropriate data as depicted in the plates in Technical Paper Number 25, Rainfall Intensity Duration Frequency Curves, United States Department of Commerce, Weather Bureau, as supplemented and amended. Intensity curves may be based on local rainfall frequency data, where available. In all instances, a minimum time of concentration of five (5) minutes should be used.~~
- ~~4. The peak rate of runoff for areas greater than twenty (20) acres shall be calculated by hydrograph analysis method as outlined in the latest edition of Urban Hydrology for Small Watersheds Technical Release Number 55 (TR55).~~

~~F. Runoff Volume Calculation. Runoff volume shall be calculated by the hydrograph analysis method as outlined in the latest edition of Urban Hydrology for Small Watershed Technical Release Number 55 (SCS method). This method shall be used for watersheds having drainage areas greater than twenty (20) acres. For drainage areas of less than twenty (20) acres, the rational method triangular hydrograph approximation with the peak rate occurring at the time of concentration and the end of the hydrograph at three (3) times the time of concentration may be used as an alternative.~~

~~G. System Design:~~

- ~~1. Collection systems shall be designed to accommodate the intensity for a storm frequency of once in ten (10) years for storm drainage facilities located in or affecting streets of the rural, local and minor collector classifications. A storm frequency of once in twenty five (25) years shall be utilized for systems affecting secondary arterial and major collector streets as well as all open channels.~~
- ~~2. Hydraulic capacity for open channel or closed conduit flow shall be determined by the Manning equation or charts/nomographs based on the Manning equation. The hydraulic capacity is termed "Q" and is expressed as discharge in cubic feet per second. The Manning equation is as follows:~~

<del>Qp</del>	<del>=</del>	<del>1.486 AR<sup>2/3</sup> S<sup>1/2</sup> / n</del>
<del>Where</del>		
<del>n</del>	<del>=</del>	<del>Manning's roughness coefficient.*</del>
<del>A</del>	<del>=</del>	<del>Cross-sectional area of flow in square feet.</del>
<del>R</del>	<del>=</del>	<del>Hydraulic radius in feet (R = Q/P, where P is equal to the wetted perimeter).</del>
<del>S</del>	<del>=</del>	<del>Slope of conduit in feet per foot.</del>

~~\*NOTE: The Manning roughness coefficients to be utilized are shown in the Technical Manual for Stream Encroachment, NJDEP, Table 3.2-11 (A-1).~~

- ~~3. Velocities in open channels at design flow shall not be less than five tenths (0.5) foot per second and not greater than that velocity which will begin to cause erosion or scouring of the channel. Permissible velocities for swales, open channels and ditches are allowed for the appropriate soil type based on the Soil Conservation Service Standards for Soil Erosion and Sediment Control in New Jersey, as amended.~~
- ~~4. Velocities in closed conduits at design flow shall be at least two (2) feet per second but not more than ten (10) feet per second.~~
- ~~5. No pipe size in the storm drainage system shall be less than fifteen (15) inches in diameter.~~
- ~~6. All discharge pipes shall terminate with a precast concrete flared end section or a cast in place concrete headwall with or without wingwalls as conditions dictate.~~
- ~~7. The spacing of inlets shall be such that surface water shall not flow for more than five hundred (500) feet or the quantity of water is such that it caused ponding of water deeper than two (2) inches at Type B and Type E inlets, whichever is the lesser distance. If due to the slope of the approach prior to the inlet, eighty percent (80%) of the stormwater does not enter the inlet, decreased spacing and depth of water permissible shall be required. Sufficient inlets will be placed to eliminate any flow exceeding two (2) cubic feet per second across any roadway intersections or pedestrian crosswalk.~~
- ~~8. Dished gutters shall be permitted at any street intersection on rural and local streets and at the intersection of rural and local streets with minor collector streets and at the intersection of minor collector streets with major collector streets where the street of the lower classification is to be officially designated and signed as a stop street. In such case, the dished gutter shall cross only the street of the lower classification. At the intersections of primary and secondary arterial streets and major collector streets,  
  
sufficient catch basins, at the discretion of the reviewing agency, shall be installed at each street intersection to avoid gutter overflow and at low points in the street grade, and dished gutters shall not be permitted.~~
- ~~9. Manhole spacing shall increase with pipe size. The maximum spacing shall be five hundred (500) feet for fifteen (15) to eighteen (18) inches; six hundred (600) feet for twenty one (21) to thirty six (36) inches; and seven hundred (700) feet for forty two (42) inches and greater.~~

#### ~~H. Construction Standards for Pipe.~~

- ~~1. Materials used in the construction of storm sewers shall be constructed of reinforced concrete, ductile iron, corrugated aluminum or corrugated steel unless site and other conditions dictate otherwise. Reinforced concrete pipe shall be used unless the applicant can demonstrate that the use of other materials will be more beneficial due to the proposed installation. Cost will not be a consideration in this analysis. Specifications referred to, such as American Standards Association, American Society for Testing and Materials, American Water Works Association, etc., should be the latest revision.~~
- ~~2. Reinforced Concrete Pipe.
  - ~~a. Circular reinforced concrete pipe and fittings shall meet the requirements of ASTM C-76.~~
  - ~~b. Elliptical reinforced concrete pipe shall meet the requirements of ASTM C-507.~~
  - ~~c. Joint design and joint material for circular pipe shall conform to ASTM C-443.~~
  - ~~d. Joints for elliptical pipe shall be bell and spigot or tongue and groove, sealed with butyl, rubber tape or external sealing bands conforming to~~~~

ASTM C-877.

- e. ~~All pipe shall be Class III unless a stronger pipe (i.e., higher class) is indicated to be necessary.~~
  - f. ~~The minimum depth of cover over the concrete pipe shall be as designated by the American Concrete Pipe Association.~~
3. ~~Ductile Iron Pipe. Ductile iron pipe shall be centrifugally cast in metal or sand-lined molds to ANSI A 21.51-1976 (AWWA C151-76). The joints shall conform to AWWA C111. Pipe shall be furnished with flanges where connections to flange fittings are required. Pipe should be Class 50 (minimum). The outside of the pipe should be coated with a uniform thickness of hot-applied coal tar coating and the inside line cement in accordance with AWWA C104. Ductile iron pipe shall be installed with Class C ordinary bedding.~~
4. ~~Corrugated Aluminum Pipe. Within the public right of way and where severe topographic conditions or the desire to minimize the destruction of trees and vegetation exist, corrugated aluminum pipe, pipe arch or helical corrugated pipe may be used. The material shall comply with the Standard Specifications for Corrugated Aluminum Alloy Culvert and Under Drain AASHTO destination M196 or the Standard Specification for Aluminum Alloy Helical Pipe AASHTO Designation M-211. The minimum thickness of the aluminum pipe to be used shall be:~~
- a. ~~Less than twenty four (24) inch diameter or equivalent, seventy five thousandths (0.075) inch (14 gauge).~~
  - b. ~~Twenty four inch diameter and less than forty eight inch diameter or equivalent, one hundred five thousandths (0.105) inch (12 gauge).~~
  - c. ~~Forty eight inch but less than seventy two inch diameter or equivalent, one hundred thirty five thousandths (0.135) inch (10 gauge).~~
  - d. ~~Seventy two inch diameter or equivalent and larger, one hundred sixty four thousandths (0.164) inch (8 gauge).~~
5. ~~Corrugated Steel Pipe. Corrugated steel pipe may be used in place of corrugated aluminum and shall meet the requirements of AASHTO Specification M36. Coupling bands and special sections shall also conform to AASHTO M-36. All corrugated steel pipe shall be bituminous coated in accordance with AASHTO M-190 Type A minimum.~~
6. ~~Pipe bedding shall be provided as specified in Design and Construction of Sanitary and Storm Sewers, ASCE Manuals and Reports on Engineering Practice Number 37, prepared by A Joint Committee of the Society of Civil Engineers and the Water Pollution Control Federation, New York, 1969.~~
- I. ~~Construction Standards for Inlets, Catch Basins and Manholes. Inlets, catch basins and manholes shall be designed in accordance with State Highway Department Standard Plans and Specifications. Frames shall be Campbell Foundry Company Pattern Number 2541, 2548, with eight inch curb face, and 3432, 3440, for Type E inlets, or approved equal. All grates shall be bicycle grates.~~
- 1. ~~Manholes and catch basins shall be precast concrete, brick or concrete block, coated with two (2) coats of portland cement mortar.~~
  - 2. ~~If precast manhole barrels and cones are used, they shall conform to ASTM Specification C-473 with round rubber gasketed joints, conforming to ASTM Specification C-923. Maximum absorption shall be eight percent (8%) in accordance with ASTM Specification C-478, Method A.~~
  - 3. ~~If precast manholes are utilized, the top riser section shall terminate less than one (1) foot below the finished grade and the manhole cover shall be flush with the finished grade.~~
  - 4. ~~Manhole frames and covers shall be of cast iron conforming to ASTM~~

~~Specification A-48 Class 30 and be suitable for H-20 loading capacity. All manhole covers in rights-of-way or in remote areas shall be provided with a locking device. The letters "Year 20 \_\_\_\_" and the words "STORM SEWER" shall be cast integrally in the cover.~~

~~J.—Detention Facilities.~~

- ~~1.—Development shall use the best available technology to accommodate stormwater management by natural drainage strategies as indicated in subsection D of this section.~~
- ~~2.—Detention and all other stormwater management facilities shall conform to the standards under the New Jersey Stormwater Management Act, N.J.S.A. 40:55D-93 et seq.~~
- ~~3.—Where detention facilities are deemed necessary, they shall accommodate site runoff generated from two year, ten year and one hundred year storms considered individually, unless the detention basin is classified as a dam, in which case the facility must also comply with the Dam Safety Standards, N.J.A.C. 7:20. These "design storms" shall be defined as either a twenty-four-hour storm using the rainfall distribution recommended by the United States Soil Conservation Service (such as United States Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release Number 55) or as the estimated maximum rainfall for the estimated time of concentration of runoff at the site when using a design method such as the modified rational method. Runoff greater than that occurring from the one hundred-year, twenty-four-hour storm will be passed over an emergency spillway.~~

~~Detention will be provided such that, after development, the peak rate of flow from the site will not exceed that by similar storms prior to development.~~

- ~~4.—In calculating the site runoff to be accommodated by a detention facility, the method to be used is a tabular hydrograph method as presented in TR Number 55 (SCS method), as supplemented and amended. The pre-developed lands in the site shall be assumed to be in good condition, if the lands are woods, or with conservation treatment, if the land is cultivated, regardless of conditions existing at the time of concentration.~~
- ~~5.—Detention facilities shall be located as far horizontally from surface water and as far vertically from groundwater as is practicable. A complete soils report for the detention basins and surrounding areas shall be submitted. The report should address the effect groundwater will have on the construction and maintenance of the detention basins.~~
- ~~6.—Only one-half (1/2) of the area devoted to detention or retention facilities shall be considered non-impervious surfaces in calculating the maximum percentages as set forth in other sections of this chapter. The area devoted shall be the area encompassed by the depth of water to the emergency spillway, plus one (1) foot.~~
- ~~7.—The top of the excavation or the toe of the outside slope shall be set back twenty-five (25) feet from adjoining nonresidential property lines and fifty (50) feet from an adjoining property line of a lot on which there is a residential use. The edge of the design high water for the detention basins shall be set back one hundred (100) feet existing or proposed dwelling units.~~
- ~~8.—The top of the excavation or the toe of the outside slope shall be set back fifty (50) feet from the edge of the pavement from adjoining roads and shall be set back twenty five (25) feet from the adjoining right-of-way line for any right-of-way dedicated for use as a public road.~~
- ~~9.—Dry Detention Basins. The following design standards shall apply to all dry detention basins:
  - ~~a.—The maximum embankment side slopes shall have the ratio of one (1)~~~~

vertical to three (3) horizontal.

b. ~~Basin bottom shall meet the following specifications:~~

~~(1) Traverse slope (to low flow channel); minimum two percent (2%);~~

~~(2) Low flow channel if sodded: minimum slope two percent (2%);~~

~~(3) Low flow channel if concrete; slope not less than one percent (1%);~~

~~(4) Riprap low flow channel will not be accepted.~~

c. ~~An area ten (10) feet wide with a maximum slope of two percent (2%) shall be constructed at the top of the bank surrounding the basin.~~

d. ~~Vegetation stabilization cover shall be provided throughout the basin and landscaping shall be provided on the perimeter of the basin as approved by the Board's landscape architect.~~

e. ~~The basin floor shall lie a minimum of two (2) feet above the seasonal high groundwater table.~~

~~10. Wet detention/retention basins are discouraged. Wet basins may be permitted only if no other above ground stormwater management facility is feasible.~~

~~11. Underground detention/retention basins are discouraged. Underground detention/retention basins may be permitted only if no other above ground stormwater management facility is feasible.~~

#### ~~K. Protecting Water Quality.~~

~~1. In addition to addressing water quantity generated by development, a stormwater management system shall also enhance the water quality of stormwater runoff.~~

~~2. In order to enhance water quality of stormwater runoff, stormwater management shall provide for the control of a water quality design storm. The water quality design storm shall be defined as the one year frequency SCS Type III twenty-four hour storm or a one and twenty five hundredths inch two hour rainfall.~~

~~3. The water quality design storm shall be controlled by best management practices. These include but are not limited to the following:~~

~~a. In dry detention basins, provisions shall be made to ensure that the runoff from the water quality design storm is retained such that not more than ninety percent (90%) will be evacuated prior to thirty six (36) hours for all nonresidential projects or eighteen (18) hours for all residential project. The retention time shall be considered a brim drawdown storage. The retention time shall be reduced in any case which would require an outlet size diameter of three (3) inches or less. Therefore, three inch diameter orifices shall be the minimum allowed. The depth of the water quality storm should not exceed two (2) feet in depth.~~

~~b. In permanent ponds or wet basins, the water quality requirements of this section shall be satisfied where the volume of permanent water is at least three (3) times the volume of runoff produced by the water quality design storm.~~

#### ~~L. Principal Outlets Quantity Control.~~

~~1. All principal outlet structures shall be concrete block or reinforced concrete. All construction joints are to be watertight. The outlet structure can consist of a riser, culvert pipe and/or weir outlet and must be accessible from the buffer area/access road when the basin is operational at full design flow for the 100-year design storm event. To minimize the chance of clogging and to facilitate cleaning, outlet openings, other than subsection K3a above, shall be at least six (6) inches in diameter. Similarly, riser pipes, if utilized, shall be at least eight (8) inches in diameter. All pipe joints are to be watertight, reinforced concrete pipe. In addition, trash racks and/or antivortex devices may be required where deemed~~

necessary by the City. Outlet control structures should be protected by maintenance free trash racks. Trash racks should be designed to be on an incline with a clear opening area large enough so that debris buildup does not impede the area of the opening it protects. The trash rack should be a hinged rack and should avoid moving parts. It should be able to be opened to gain access for cleaning the outlet pipe, and should be made of a noncorrosive material (stainless steel or aluminum).

2. Eight inch thick antiseep collars are to be installed along outlet pipes. Such collars shall be constructed of reinforced concrete with minimum Number 5 bars, each way, and two (2) inches of cover.
3. Where applicable, a concrete cradle shall be provided for outlet pipes.
4. Suitable lining shall be placed upstream and downstream of principal outlets as necessary to prevent scour and erosion. Such lining shall conform to the criteria contained in Standards for Soil Erosion and Sediment Control in New Jersey, published by the New Jersey State Soil Conservation Committee.
5. All outlet facilities shall be designed to prevent the potential hazard of a child's or an adult's either being carried into the opening or being held against the outlet by the pressure of the flowing stream waters, even during a one hundred year storm.
6. Safe outlet structure design can encompass either outlet risers, gratings, trash racks or other means that, in the opinion of the Planning or Zoning Board, provide the desired level of safety.
7. Outlet structures should be designed to facilitate outlet operation and maintenance as the water level rises and to permit clearing either during or after a storm. Structural support members, steps, rungs or ladders should be provided to allow easy escape opportunities for a child or an adult without having these support members, ladders, etc., impede the clearing of trash from the outlet structure or the upward movement of trash from the outlet structure or the upward movement of trash as the water level rises.
8. The use of thin metal plates for trash rack bars, hand hold supports, sharp crested weirs or orifices are prohibited because of the potential for accidents. Wire mesh fabric is similarly prohibited due to its poor suitability for trash clearance.
9. Any outlet protective facility should have lockable hinged connections providing adequate access to thoroughly clean the area enclosed by the structure and to facilitate removal of accumulated debris and sediment around the outlet structure.
10. The outlet protective structure should have negligible influence upon the hydraulic performance of the outlet structure.
11. All outlet structures shall be structurally sound and shall be designed to withstand, without failure or permanent deformation, all structural loads, hydrostatic, dynamic or otherwise, which impact upon it during the design life of the installation. They shall be maintenance free to the maximum extent possible.
12. The detention/retention basin side slope walls shall be graded to slopes no greater than three (3) horizontal to one (1) vertical for a distance no less than twenty five (25) feet on all sides of the outlet structure.
13. Other means of attaining the same outlet safety condition, such as inaccessible outlet locations, weirs, cascades, etc., will be considered as approvable if the same goals were attained.
14. Existing basins and outlet structures shall be revised by the respective responsible owners to comply with the above defined goals within one (1) year of the enactment of this amendment.

M. Principal Outlets Quality Control.

1. Based upon the requirement limiting the size of the outlet to a minimum of six (6)

~~inches in diameter, water quality control shall be maintained by providing an amount of storage equal to the total amount of runoff which will be produced by the one year frequency SCS Type III twenty four hour storm or a one and twenty five hundredths inch, two hour rainfall at the bottom of the proposed detention basin along with a minimum three inch diameter outlet.~~

- ~~2. The invert(s) of the principal outlet(s) used to control the larger storms for flood control purposes should be set at the elevation of the water surface elevation required to produce the water quality storage volume. Therefore, the principal outlets would be utilized for storms in excess of the one and twenty five hundredths inch, two hour event which, in turn, would be completely controlled by the lower three (3) inch outlet. If the above requirements would result in a pipe smaller than three (3) inches in diameter, the period of retention shall be waived so that three (3) inches will be the minimum pipe size used. It should be remembered that, in all cases, the basin should be considered initially empty (i.e., the storage provided for the quality requirements and the discharge capacity of its outlet should be utilized during the routing of the larger flood control storms).~~

~~N. Emergency Spillways.~~

- ~~1. Vegetated emergency spillways shall have side slopes not exceeding three (3) horizontal to one (1) vertical.~~
- ~~2. Emergency spillways not excavated from noncompacted soil shall be suitably lined and shall comply with criteria contained in Standards for Soil Erosion and Sediment Control.~~
- ~~3. Maximum velocities in emergency spillways shall be checked based on the velocity of the peak flow in the spillway resulting from the routed emergency spillway hydrograph. Where maximum velocities exceed those contained in Standards for Soil Erosion and Sediment Control in New Jersey, suitable lining shall be provided.~~

~~O. Dams and Embankments.~~

- ~~1. The minimum top widths of all dams and embankments are listed below. These values have been adopted from the Standards for Soil and Sediment Control in New Jersey, published by the New Jersey State Soil Conservation Committee.~~

~~MINIMUM TOP WIDTHS FOR DAMS & EMBANKMENTS~~

<del>Height (feet)</del>	<del>Top Width (feet)</del>
<del>0-15</del>	<del>10</del>
<del>15-20</del>	<del>12</del>
<del>20-25</del>	<del>14</del>

- ~~2. The design top elevation of all dams and embankments after all settlement has taken place shall be equal to or greater than the maximum water surface elevation in the basin resulting from the routed freeboard hydrograph. Therefore, the design height of the dam or embankment, defined as the vertical distance from the top down to the bottom of the deepest cut, shall be increased by the amount needed to ensure the design top elevation will be maintained following all settlement. This increase shall not be less than five percent (5%). Where necessary, the Engineer shall require consolidation tests of the undisturbed foundation soil to more accurately determine the necessary increase.~~
- ~~3. Maximum side slopes for all dams and embankments are three (3) horizontal to one (1) vertical.~~
- ~~4. All earth fill shall be free from brush, roots and other organic material subject to decomposition.~~
- ~~5. Cutoff trenches are to be excavated along the dam or embankment center line to impervious subsoil or bedrock.~~
- ~~6. Safety ledges shall be constructed on the side slopes of all detention basins~~



~~having a permanent pool of water. The ledges shall be four (4) to six (6) feet in width and located approximately two and one-half (2-1/2) to three (3) feet below and one (1) to one and one-half (1-1/2) feet above the permanent water surface.~~

- ~~7. The fill material in all earth dams and embankments shall be compacted to at least ninety five percent (95%) of the maximum density obtained from compaction tests performed by the appropriate method in ASTM D698.~~
  - ~~8. The top of bank for facilities constructed in cut and the toe of slope for facilities constructed in fill shall be located no closer than ten (10) feet to an existing or proposed property line.~~
  - ~~9. Detention basins shall be sodded, attractively buffered and landscaped and designed as  
to minimize propagation of insects, particularly mosquitoes. All landscaping and buffering shall be approved by the City.~~
- ~~P. Detention Facilities in Flood Hazard Areas. There will be no detention basins in the floodway except for those on stream and shall comply with all applicable regulations under the Flood Hazard Control Act, N.J.S.A. 58:16A-50 et seq., and the New Jersey Stormwater Management Act, N.J.S.A. 40:55D-93 et seq.~~
- ~~Q. Detention facilities in freshwater wetlands. Detention basins located in freshwater wetlands may be allowed only in accordance with the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq. and any rules adopted pursuant thereto.~~
- ~~R. Detention Facilities; Maintenance and Repair.~~
- ~~1. Responsibility for operation and maintenance of detention facilities, including periodic removal and disposal of accumulated particulate material and debris, shall remain with the owner or owners of the property with permanent arrangements that it shall pass to any successive owner, unless assumed by a government agency. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each project the property owner, governmental agency or other legally established entity to be permanently responsible for maintenance, hereinafter in this section referred to as the "responsible person."~~
  - ~~2. Prior to granting final approval to any project subject to review under this section, the applicant shall enter into an agreement with the municipality (or County) to ensure the continued operation and maintenance of the detention facility. This agreement shall be in a form satisfactory to Corporation Counsel and may include, but may not necessarily be limited to, personal guaranties, deed restrictions, covenants and bonds. In cases where property is subdivided and sold separately, a homeowners, association or similar permanent entity should be established as the responsible entity, absent an agreement by a governmental agency to assume responsibility.
    - ~~a. An applicant seeking approval for construction of a detention facility shall provide the funds necessary to permanently maintain the facility. The amount necessary to permanently maintain the facility shall be calculated by the Planning Board Engineer based upon current estimates for maintenance with an annual increase of four percent (4%). The Planning Board Engineer shall also assume that the investment will yield a return equal to the ninety day certificate of deposit interest rate paid by the City fiduciary institution or its successor on the date the calculation is made.~~
    - ~~b. The form of security for the maintenance of the facility shall be approved by Corporation Counsel.~~~~
  - ~~3. In the event that the detention facility becomes a danger to public safety or public health or if it is in need of maintenance, the municipality shall so notify in writing the responsible person. From that notice, the responsible person shall have fourteen (14) days to effect such maintenance and repair of the facility in a manner that is approved~~

by the City Engineer or his designee. If the responsible person fails or refuses to perform such maintenance and repair, the municipality may proceed to do so and shall bid the cost thereof to the responsible person.

~~S. Division of Coastal Resources.~~

- ~~1. All projects containing stream encroachments within the flood hazard area and one hundred year floodplain, at locations having a drainage area of over fifty (50) acres and all projects of special concern, as defined in N.J.A.C. 7:13-5, are subject to the approval of NJDEP, Division of Coastal Resources.~~
- ~~2. All projects containing a drainage area over fifty (50) acres must establish the one hundred year floodplain zone in accordance with N.J.A.C. 7:13-1.8.~~

~~T. The approval of any map of land delineating streets by the Planning Board of the City of Plainfield shall be in no way construed as an acceptance of any street indicated thereon.~~

~~U. For both major and minor subdivisions, blocks and lots shall be graded to secure proper drainage away from buildings and to prevent the collection of storm water in pools.~~

~~V. For both major and minor subdivisions, land subject to periodic or occasional flooding (floodplain areas) shall not be plotted for residential occupancy nor for any other purpose which may endanger life or property or aggravate the flood hazard. Such land within a plat shall be considered for open spaces or other similar uses.~~

~~W. Where a minor or major subdivision is traversed by a watercourse, surface or underground drainage way or drainage system, channel or stream, there shall be provided and dedicated a drainage right of way easement to the City conforming substantially with the lines of such watercourse and of such further width or construction, or both, as will be adequate to accommodate expected stormwater runoff, fifteen (15) feet beyond the bank top on at least one (1) side for access to the drainage right of way and, in any event, meeting any minimum widths and locations shown on the adopted official map or master plan. Such easement dedication shall be expressed on the plat as follows: "Drainage and utility right of way easement granted to the City of Plainfield." No relocation, construction or reconstruction shall take place within the area of the easement, nor shall any structures be located within such area, nor shall any action be taken which may alter or impair the effectiveness of present or future drainage facilities or cause soil erosion without prior approving authority or City Council approval.~~

~~X. Prohibitions on the Discharge of Storm Drainage and Groundwater.~~

- ~~1. Stormwater, groundwater, rainwater, street drainage, subsurface drainage or yard drainage shall not be discharged through direct or indirect connections of a sump pump, cellar drain or any other means of conveyance into a community sanitary sewer owned or operated by the Plainfield City Sewer Utility or any sewerage authority.<sup>†</sup>~~
- ~~2. Any person who is convicted of violating any provision of this section shall be fined not~~

~~†. Editor's Note: The Municipal Utilities Authority was dissolved by Ord. No. MC 2022-21 and a Sewer Utility and Solid Waste Utility were created by Ord. No. MC 2022-22.~~

City of Plainfield, NJ

~~§ 17:12-1 \_\_\_\_\_ §  
17:12-2.2~~

~~less than fifty (\$50.00) dollars for a first offense and not less than one hundred (\$100.00) dollars for each subsequent offense.~~

~~§ 17:12-2. Stormwater management for major development.~~

~~§ 17:12-2.1. Scope and purpose. [Added 4-12-2021 by Ord. No. MC 2021-14]~~

- ~~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 section is to establish minimum stormwater management requirements and controls for "major development," as defined in § 17:12-2.2.~~
- ~~C. Applicability.~~
- ~~1. This section shall be applicable to the following major developments:
    - ~~a. Nonresidential 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 section shall also be applicable to all major developments undertaken by the City of Plainfield.~~
- ~~D. Compatibility with Other Permit and Ordinance Requirements. Development approvals issued pursuant to this section are to be considered an integral part of development approvals 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 section shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This section 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 section imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.~~

**§ 17:12-2.2. Definitions. [Added 4-12-2021 by Ord. No. MC 2021-14]**

~~For the purpose of this section, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this section 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.~~

~~CAFRA CENTERS, CORES OR NODES—Those areas with boundaries incorporated by reference or revised by the Department in accordance with N.J.A.C. 7:7-13.16.~~

~~CAFRA PLANNING MAP—The map used by the Department to identify the location of Coastal Planning Areas, CAFRA centers, CAFRA cores, and CAFRA nodes. The CAFRA Planning Map is available on the Department's Geographic Information System (GIS).~~

~~COMMUNITY BASIN—An infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond, established in accordance with N.J.A.C. 7:8-4.2(c)14, that is designed and constructed in accordance with the New Jersey Stormwater Best Management Practices Manual, or an alternate design, approved in accordance with N.J.A.C. 7:8-5.2(g), for an infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond and that complies with the requirements of this section.~~

~~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 County Commissioners to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:~~

~~A.—A county planning agency; or~~

~~B.—A 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 Department of Environmental Protection.~~

~~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.~~

~~DESIGNATED CENTER—A State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.~~

~~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.~~

~~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.~~

~~EMPOWERMENT NEIGHBORHOODS—Neighborhoods designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A. 55:19-69.~~

~~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:

- A. ~~Treating stormwater runoff through infiltration into subsoil;~~
- B. ~~Treating stormwater runoff through filtration by vegetation or soil; or~~
- C. ~~Storing stormwater runoff for reuse.~~

~~HUC 14 or HYDROLOGICAL UNIT CODE 14—An area within which water drains to a particular receiving surface water body, also known as a sub-watershed, 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 covered with a layer of material so that it is highly resistant to infiltration by water.~~

~~INFILTRATION—The process by which water seeps into the soil from precipitation.~~

~~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.~~

~~MAJOR DEVELOPMENT—An individual "development," as well as multiple developments that individually or collectively result in:~~

- A. ~~The disturbance of one or more acres of land since February 2, 2004;~~
- B. ~~The creation of 10,000 square feet or more of regulated impervious surface since February 2, 2004;~~
- C. ~~The creation of 10,000 square feet or more of regulated motor vehicle surface since March 2, 2021;~~
- D. ~~A combination of B and C above that totals an area of 10,000 square feet or more. The same surface shall not be counted twice when determining if the combination area equals 10,000 square feet or more.~~

~~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 meet any one or more of paragraphs A, B, C or D above. 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.~~

~~NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES (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 section. 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 section. Alternative stormwater~~

~~management measures, removal rates, or calculation methods may be utilized, subject to any limitations specified in this section, provided the design engineer demonstrates to the municipality, in accordance with § 17:12-2.4F and N.J.A.C. 7:8-5.2(g), that the proposed measure and its design will contribute to achievement of the design and performance standards established by this section.~~

~~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.~~

~~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. Section 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.~~

~~RECHARGE—The amount of water from precipitation that infiltrates into the ground and is not evapotranspired.~~

~~REGULATED IMPERVIOUS SURFACE—Any of the following, alone or in combination:~~

~~A.—A net increase of impervious surface;~~

~~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);~~

~~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 water;~~

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

~~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—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 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 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.~~

~~STROMWATER RUNOFF—Water flow on the surface of the ground or in storm sewers, resulting from precipitation.~~

~~TIDAL FLOOD HAZARD AREA—A flood hazard area in which the flood elevation resulting from the two-, 10-, or 100-year storm, as applicable, is governed by tidal flooding from the Atlantic Ocean. Flooding in a tidal flood hazard area may be contributed to, or influenced by, stormwater runoff from inland areas, but the depth of flooding generated by the tidal rise and fall of the Atlantic Ocean is greater than flooding from any fluvial sources. In some situations, depending upon the extent of the storm surge from a particular storm event, a flood hazard area may be tidal in the 100-year storm, but fluvial in more frequent storm events.~~

~~URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD—A neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.~~

~~URBAN ENTERPRISE ZONES—A zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. seq.~~

~~URBAN REDEVELOPMENT AREA—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 two-, 10-, or 100-year 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, ford (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.~~

**§ 17:12-2.3. General Standards. [Added 4-12-2021 by Ord. No. MC 2021-14]**

~~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 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.~~
- ~~B. The standards in this section apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development 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 stormwater management requirements within this section, as they relate to "major development" supersede other design requirements stipulated in the City Code, including but not limited to the following sections:~~
- ~~1. Chapter 17, Article XI, Site Plan and Subdivision Design and Performance Standards.~~
  - ~~2. Chapter 17, Article XII, Stormwater Management.~~
    - ~~a. Section 17:12-1, A-F (Runoff Volume Calculations).~~
    - ~~b. Section 17:12-1, J (Detention Facilities).~~
    - ~~c. Section 17:12-1, K (Protecting Water Quality).~~
    - ~~d. Section 17:12-1, R (Detention Facilities Maintenance and Repair).~~

**~~§ 17:12-2.4. Stormwater Management Requirements for Major Development. [Added 4-12-2021 by Ord. No. MC 2021-14]~~**

- ~~A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § 17:12-2.10.~~
- ~~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 muhlenbergi* (bog turtle).~~
- ~~C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of § 17:12-2.4P, Q and 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 § 17:12-2.4O, P, Q and 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 § 17:12-2.4O, P, Q and R to the maximum extent practicable;~~
  3. ~~The applicant demonstrates that, in order to meet the requirements of § 17:12-2.4O, P, Q and 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 § 17:12-2.4D3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of § 17:12-2.4O, P, Q and 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 § 17:12-2.4O, P, Q and 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. Upon amendments of the New Jersey Stormwater Best Management Practices to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers 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).~~
- F. ~~Where the BMP tables in the NJ Stormwater Management Rule are different due to updates or amendments with the tables in this section 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**

<del>Best Management Practice</del>	<del>Stormwater Runoff Quality TSS Removal Rate (percent)</del>	<del>Stormwater Runoff Quantity</del>	<del>Groundwater Recharge</del>	<del>Minimum Separation from Seasonal High Water Table (feet)</del>
<del>Cistern</del>	<del>0</del>	<del>Yes</del>	<del>No</del>	<del>-</del>
<del>Dry Well<sup>(a)</sup></del>	<del>0</del>	<del>No</del>	<del>Yes</del>	<del>2</del>
<del>Grass Swale</del>	<del>50 or less</del>	<del>No</del>	<del>No</del>	<del>2<sup>(e)</sup> - 1<sup>(f)</sup></del>
<del>Green Roof</del>	<del>0</del>	<del>Yes</del>	<del>No</del>	<del>-</del>
<del>Manufactured Treatment Device<sup>(a)(g)</sup></del>	<del>50 or 80</del>	<del>No</del>	<del>No</del>	<del>Dependent upon the device</del>
<del>Pervious Paving System<sup>(a)</sup></del>	<del>80</del>	<del>Yes</del>	<del>Yes<sup>(b)</sup> No<sup>(e)</sup></del>	<del>2<sup>(b)</sup> - 1<sup>(e)</sup></del>
<del>Small-Scale Bioretention Basin<sup>(a)</sup></del>	<del>80 or 90</del>	<del>Yes</del>	<del>Yes<sup>(b)</sup> No<sup>(e)</sup></del>	<del>2<sup>(b)</sup> - 1<sup>(e)</sup></del>
<del>Small-Scale Infiltration Basin<sup>(a)</sup></del>	<del>80</del>	<del>Yes</del>	<del>Yes</del>	<del>2</del>
<del>Small Scale Sand Filter</del>	<del>80</del>	<del>Yes</del>	<del>Yes</del>	<del>2</del>

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

<del>Best Management Practice</del>	<del>Stormwater Runoff Quality TSS Removal Rate (percent)</del>	<del>Stormwater Runoff Quantity</del>	<del>Groundwater Recharge</del>	<del>Minimum Separation from Seasonal High Water Table (feet)</del>
<del>Vegetative Filter Strip</del>	<del>60-80</del>	<del>No</del>	<del>No</del>	<del>-</del>

~~(Notes corresponding to annotations <sup>(a)</sup> through <sup>(g)</sup> are found below 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)~~

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

~~(Notes corresponding to annotations <sup>(b)</sup> through <sup>(d)</sup> are found below 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~~

<del>Best Management Practice</del>	<del>Stormwater Runoff Quality TSS Removal Rate (percent)</del>	<del>Stormwater Runoff Quantity</del>	<del>Groundwater Recharge</del>	<del>Minimum Separation from Seasonal High Water Table (feet)</del>
<del>Blue Roof</del>	<del>0</del>	<del>Yes</del>	<del>No</del>	<del>N/A</del>
<del>Extended Detention Basin</del>	<del>40-60</del>	<del>Yes</del>	<del>No</del>	<del>1</del>
<del>Manufactured Treatment Device <sup>(h)</sup></del>	<del>50 or 80</del>	<del>No</del>	<del>No</del>	<del>Dependent upon the device</del>
<del>Sand Filter <sup>(e)</sup></del>	<del>80</del>	<del>Yes</del>	<del>No</del>	<del>1</del>
<del>Subsurface Gravel Wetland</del>	<del>90</del>	<del>No</del>	<del>No</del>	<del>1</del>
<del>Wet Pond</del>	<del>50-90</del>	<del>Yes</del>	<del>No</del>	<del>N/A</del>

~~Notes to Tables 1, 2, and 3:~~

- ~~(a) — Subject to the applicable contributory drainage area limitation specified at § 17:12-2.402;~~
- ~~(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% 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 2%;~~
- ~~(f) — Designed with a slope of equal to or greater than 2%;~~
- ~~(g) — Manufactured treatment devices that meet the definition of green infrastructure at § 17:12-2.2;~~
- ~~(h) — Manufactured treatment devices that do not meet the definition of green infrastructure at § 17:12-2.2.~~

~~G. — 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 municipality. 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 Department in accordance with~~

~~§ 17:12-2.6B. Alternative stormwater management measures may be used to satisfy the requirements at § 17:12-2.4O only if the measures meet the definition of green infrastructure at § 17:12-2.2. Alternative stormwater management measures that function in a similar manner to a BMP listed at § 17:12-2.4O2 are subject to the contributory drainage area limitation specified at § 17:12-2.4O2 for that similarly functioning BMP. Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner to any BMP listed at § 17:12-2.4O2 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. 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 § 17:12-2.4D is granted from § 17:12-2.4O.~~

~~H. — 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 highwater 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 critical areas; wetlands; flood-prone areas; slopes; depth to seasonal highwater table; soil type, permeability, and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone);~~
- ~~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 requirements of § 17:12-2.8C;~~

- ~~3. Stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. 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 § 17:12-2.8; and~~
  - ~~5. The size of the orifice at the intake to the outlet from the stormwater management BMP shall be a minimum of two and one-half inches in diameter.~~
- ~~J. Manufactured treatment devices may be used to meet the requirements of this subchapter, 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 § 17:12-2.2 may be used only under the circumstances described at § 17:12-2.4O4;~~
- ~~K. Any application for a new agricultural development that meets the definition of major development at § 17:12-2.2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at § 17:12-2.4O, P, Q and 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, 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. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 17:12-2.4P, Q and 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. Any stormwater management measure authorized under the municipal stormwater management plan or ordinance shall be reflected in a deed notice recorded in the County Clerk's office. A form of deed notice shall be submitted to the municipality 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 § 17:12-2.4O, P, Q and R and shall identify the location 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 § 17:12-2.10B5. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality. 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 municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.~~
- ~~N. A stormwater management measure approved under the municipal stormwater management plan or ordinance may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to § 17:12-2.4 of~~

~~this section 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 municipality for approval and subsequently recorded with the County Clerk's office and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with § 17:12-2.4M above. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality in accordance with § 17:12-2.4M above.~~

~~Q. 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 § 17:12-2.4P and Q, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at § 17:12-2.4F and/or an alternative stormwater management measure approved in accordance with § 17:12-2.4G. 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 § 17:12-2.4R, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with § 17:12-2.4G.~~
- ~~4. If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with § 17:12-2.4D 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 § 17:12-2.4G may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 17:12-2.4P, Q and R.~~

~~For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right of way or easement held or~~

ADOPTED BY THE MUNICIPAL COUNCIL


September 9, 2024



Abubakar Jalloh, R.M.C.  
Municipal Clerk

**CLERK'S CERTIFICATION**

I, Abubakar Jalloh, City Clerk of the City of Plainfield do hereby certify that the foregoing is a true copy of a resolution duly adopted by the Plainfield City Council.

  
 Abubakar Jalloh, R.M.C.  
 Municipal Clerk

✓ Vote Record - Ordinance MC 2024-48						
			Yes/Aye	No/Nay	Abstain	Absent
<input checked="" type="checkbox"/> Adopted	Richard Wyatt	Voter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Adopted as Amended	Charles McRae	Voter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Defeated	Steve Hockaday	Voter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Tabled	Terri Briggs Jones	Voter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Repealed	Robert Graham	Voter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Failed	Julienne Cherry	Seconder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Vetoed	Darcella Sessomes	Mover	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Consensus						