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ENVIRONMENTAL PROTECTION
OFFICE OF LEGAL AFFAIRS

Notice of Receipt of Petition for Rulemaking
Stormwater Management rules, N.J.A.C. 7:8-1.6, 4.6, 5.2, 5.3
Request to amend Green Infrastructure requirements
Petitioner: NAIOP New Jersey

Take notice that on March 1, 2022, the Department of Environmental Protection (Department) received a petition for rulemaking from NAIOP New Jersey (petitioner). Petitioner indicates that they represent the interests of the commercial and industrial real estate community in New Jersey with 830 members. The petitioner requests that the Department amend the Stormwater Management rules, N.J.A.C. 7:8. Particularly, petitioner asserts that green infrastructure (GI) requirements contained in the Stormwater Management rules need amendment to, among other things, address unintended consequences of the requirements. Specifically, petitioner requests that the Department amend N.J.A.C. 7:8-1.6, Applicability to major development, N.J.A.C. 7:8-4.6, Variance from the design and performance standards for stormwater management measures, N.J.A.C. 7:8-5.2, Stormwater management measures for major development, and N.J.A.C. 7:8-5.3, Green infrastructure standards. Petitioner additionally requests amendment of provisions within the Stormwater Green Infrastructure BMP manual.

The Petition

Liners/Alternative Approval

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The regulations, at N.J.A.C. 7:8-5.2(g), require “alternative BMP approval” for the use of liners below stormwater features. The petitioner indicates such liners are often required for environmentally contaminated sites and sites with groundwater/stormwater feature separation issues. Petitioner asserts that Department response to requests under this subsection has been inconsistent, with costly actions such as importing fill and raising sites suggested, which not only require a lot of resources, but may pose other challenges for development (steeper driveways, ADA compliance, seepage through retaining structures and slopes, etc.).

To address the asserted issues, petitioner requests that the rules be amended to provide:

- If a site is contaminated and stormwater features are required to have liners in accordance with the requirements of the Site Remediation Program, a liner should not be a trigger for an alternate BMP approval. The Department should instead simply request calculations and details to ensure that the liner, underdrain, and liner-cover system have been properly designed to resist buoyancy.
- As long as the site meets its groundwater recharge requirement, the use of liners and underdrains on water quality and quantity basins where the minimum groundwater separation cannot be met should not be a trigger for an alternate BMP approval.

Basin Size Cap Based on Contributing Drainage Area

Petitioner asserts that the 2.5 acre limit on basin watersheds at N.J.A.C. 7:8-5.3(b) creates a GI compliance hurdle for large warehouse/distribution facilities. While the 2.5- acre limit is intended to result in multiple basins scattered throughout a site, creating a more natural

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distribution of recharge areas, large warehouse/distribution facilities have expansive roof and loading areas that cannot be reasonably divided to create a scattered distribution of basins. To comply with the GI rules, the basins are clustered in groups along the perimeter of the site, creating the effect (from a recharge perspective) of one large basin. Since the rules require the basins to be hydraulically independent, adjacent basins are separated by side walls and each basin has its own outfall structure and outlet pipes. Each cluster of basins requires far more earthwork and material than a single basin and does not have a better distribution of recharge than a single basin. Since the 2.5-acre watershed limit is not practical for large warehouse/distribution facilities, petitioner asserts that the limit should be increased.

On industrial sites, such as large warehouses, distribution centers, e-commerce centers, the petitioner requests that the rules be modified to provide that the size of stormwater basins will be controlled not by the contributing drainage area, but rather by an approved “loading ratio.” This change would eliminate the 2.5-acre drainage area cap found at N.J.A.C. 7:8-5.3(b). Petitioner asserts that this is a far more workable method and achieves the same goal. This change would also eliminate the need for additional material needed to construct berms around numerous smaller basins. Petitioner indicates that it understands that the City of Philadelphia uses a 16:1 loading ratio of impervious coverage to basin size, which doubles the limit and is more reasonable.

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Separation of Stormwater Features

The regulations, at N.J.A.C. 7:8-5.3, require that basins be broken down into smaller features, but do not specify a minimum horizontal separation distance between those features.

The Petitioner indicates that the Department has frequently commented on applications that small-scale green infrastructure features are too close together and need to be spread further apart on the site. Petitioner asserts that the absence of a standard with regard to a separation requirement is problematic.

To address this concern, petitioner requests that the rules be clarified to allow that:

- A mounding analysis, showing no impacts to proximate features, may be provided as justification for the separation of features; in no case shall features be closer than 10 ft to one another, as measured from the top of the feature.
- Large-scale (quantity only) BMPs may overlap with small-scale green infrastructure features, provided any applicable recharge and water quality requirements of small-scale green infrastructure features and the above separation requirement is met. An overlap of small-scale and large-scale features would allow for a more natural method to manage runoff from a site (close to the source), reduce the reliance on control structures and piped conveyance between management features, and still meet the intent of the GI requirements.

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Testing for Groundwater Recharge Soil Classifications

Petitioner asserts that the prescribed testing requirements for groundwater recharge calculations and seasonal high groundwater determination found in the New Jersey Stormwater Best Management Practices (BMP) Manual referenced at N.J.A.C. 7:8-5.7 present challenges, including:

- The timing of when the testing can be done (January to April). If testing is performed outside of that window, the applicant is reliant on finding mottling (soil staining indicative of soils that are frequently inundated) as evidence of seasonally high groundwater. This can delay a project's design for months to align with a limited window, which has challenging weather and puts a strain on availability of resources to perform and oversee the field testing.
- The groundwater recharge calculation is based on the published soil data from the Web Soil Survey (website). Field testing often finds that infiltration rates in supposedly highly permeable soil types (Hydrologic Soil Groups (HSG) A and B soils) do not meet the minimum requirement for recharge design (0.5 inch/hr for design from a minimum field measurement of 1 inch/hr).

The regulations only allow an adjustment of the HSG in the recharge calculation if the field measurement is found to be 0.2 inch/hr or less, leaving soils that have a field infiltration rate of between 0.2 inch/hr and 1 inch/hr in a no-man's land of "not good enough for recharge,

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not poorly-infiltrating enough to reclassify the soil to be HSG D/non-infiltrating.” In this case, the Department has suggested that a solution to meet the recharge requirement is to excavate the non-draining soils from below the proposed recharge features on a site and replace them with well-draining sand. Aside from the cost to source, import and place this sand, and excavate and place the non-draining soil elsewhere on site or truck it offsite, this solution essentially creates a bathtub of permeable sand surrounded by naturally impermeable soils. This is not a desirable result. The rules allow for additional field testing to reclassify the HSG of a soil group, but the amount of additional testing can easily be several times greater than the testing required for recharge design. Petitioner asserts that a significant amount of site-specific testing is required to disprove the accuracy of a soil survey/HSG mapping, which was done at a very high/regional level and with generalized soil characteristics that are not site specific.

The amount of testing, coupled with the highly variable nature of soils, often results in multiple rounds of testing with mixed results. Some sites with sandy-silt materials have had infiltration tests performed 10 to 20 feet apart, at the same elevation in the same strata of material, result in a passing test (>1 inch/hr) and a failed pre-soak attempt. Further, there is no reliable method to perform a ‘deep’ infiltration test (that is, next to a road) without a multi-benched test pit and/or support of excavation. The cased borehole test is suggested however the field results need to be on the order of 75 inch/hr to get a minimum design rate (0.5 inch/hr) and be considered passing.

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The petitioner asserts that the requirements described above cause significant uncertainty, expense, and delays to the orderly design and permitting of a project. To address this, petitioner requests that the rules be amended to allow that:

- Geotechnical engineers may provide a professional recommendation on the depth to seasonal groundwater if/when tests are performed outside of the January-April window and no mottling is found.
- Infiltration tests less than 1 inch/hr in the field should be eligible for use in reclassifying a soil's HSG value for purposes of recharge calculations or a lower design infiltration rate should be permitted (less than 0.5 inch/hr) and "no-man's land" between a passing infiltration rate and the rate to reclassify the HSG eliminated.
- Upon completion of infiltration tests that fail, the geotechnical engineer may provide a professional recommendation that based on this information and additional tests performed, the soils within the site or a portion of the site are sufficiently homogenous in nature to conclude that further infiltration tests in the soils would result in similar (failing) results and the HSG may be re-classified.

Exempt Projects

Petitioner asserts that the list of exempted projects included in N.J.A.C. 7:8-1.6(b) is narrow and should be expanded to include sites with approved regional stormwater management systems, even if site plan approval is still required for individual sites. In the past, municipalities encouraged developers to construct regional stormwater basins that accommodated multiple

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properties and future development. The GI rules do not allow this infrastructure to be used for newly approved projects, because it does not comply with new GI regulations. Department rule changes without reasonable exemptions discourages long-term planning and infrastructure investment by developers.

Waivers/Variations

N.J.A.C. 7:8-4.6 contains provisions for waivers/variances from GI rules, but requires offsite mitigation. The mitigation must be performed in accordance with a municipal mitigation plan and must offset any deficits created by the granting of the waiver/variance. A warranted waiver/variance would not be permitted if the municipality does not have a mitigation plan or does not have a plan with a project that has benefit that is consistent with the deficit associated with the waiver/variance. This is very subjective and creates the burden of a second set of required approvals and permits. The requirement of mitigation should be eliminated. Petitioner additionally asserts that this rule is inconsistent with land use law which allows municipalities to grant hardship variances without mitigation.

Small Scale Bioretention Systems – GI BMP Manual

Chapter 9.7 of the GI BMP manual requires soil at the bottom of bioretention basins to have 85-95 percent sand (with no more than 25 percent of the sand as fine or very fine sand), no more than 15 percent silt and clay (with no more than two to five percent clay) and an organic content of three to seven percent. This requirement is so specific that few sites will be able to

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use onsite soil. Large projects will need to import hundreds of truckloads of mined and enhanced soil to meet this requirement. The environmental impact of importing mined and altered soil from offsite locations will likely greatly outweigh the use of onsite soil that deviates from the specifications. These soil specifications should be waived when onsite soil is used.

General

Petitioner asserts that the Department did not fully assess the overall environment impacts of complying with the current GI rules. GI systems require significantly more materials (plastic pipes, concrete headwalls, outlets, and manholes, etc.), earthwork, and testing than traditional stormwater management systems. The soil testing requires multiple mobilizations of large diesel-powered drill rigs and extensive field and laboratory testing. The basin construction requires extensive earthwork by diesel-powered equipment that can go on for months. Most sites require special basin bottom soil that is imported from other locations. The material is mined and processed off-site. Hundreds of truckloads are often required. The entire process generates significant amounts of dust and diesel exhaust that can travel miles. Significant amounts of energy and materials are expended. It is very possible that the GI impacts to air quality alone outweigh any stormwater quality benefits. It is asserted that this is particularly impactful since everyone benefits from cleaner air to breathe, but most people are not directly impacted by lower stormwater quality.

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This notice and the full text of the petition filed in this matter are available on the Department's website at <http://www.nj.gov/dep/rules/petition.html>.

In accordance with N.J.A.C. 1:30-4.2, the Department will subsequently mail to the petitioner and file with the Office of Administrative Law a notice of action on the petition.