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Developers to Face New Challenges in Managing Stormwater in Pa.

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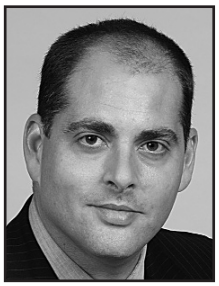
Special to the Legal

On Dec. 30, the Pennsylvania Department of Environmental Protection (DEP) issued in final form its Pennsylvania Stormwater Best Management Practices Manual (BMP Manual). Although the DEP repeatedly states in the BMP Manual that the document is merely guidance and does not have the effect of an adjudication or regulation, the DEP intends for the BMP Manual to apply to all activities that require the DEP approval of a written post-construction stormwater management plan.

Namely, almost all development projects that will result in greater than one acre of earth disturbance in Pennsylvania. This final guidance represents a significant shift in the way that stormwater will need to be managed on development projects. If, as anticipated, the DEP requires strict adherence to the BMP Manual, the planning and implementation of real estate development projects will change dramatically, requiring developers to engage in comprehensive stormwater management planning in the initial stages of a project, and almost certainly increasing the cost of development projects in Pennsylvania.

Until recently, post-construction stormwater management was primarily imposed on real estate development projects through municipal ordinance. The DEP's direct oversight of stormwater associated with real estate development was primarily limited to stormwater impacts associated with construction activities, which the DEP regulated pursuant to its Erosion and Sedimentation Control Program, found at 25 Pa. Code Chapter 102, as well as pursuant to its delegated authorities under the federal Clean Water Act's NPDES permitting program.



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Under this program, stormwater permits are required prior to the commencement of earth disturbance activities of greater than five acres, as well as for earth disturbance projects of between one and five acres that will also have a point-source discharge. In general, coverage under a stormwater general permit is available for projects subject to the permitting requirements, although an individual permit must be obtained for projects located in special protection watersheds, consisting of "high quality" and "exceptional value" watersheds. In many counties, the DEP has delegated authority to review and issue stormwater permits to county conservation districts.

In September 2002, the DEP issued its Comprehensive Stormwater Management Policy, requiring for the first time the submission of post-construction stormwater management plans along with applications for stormwater construction permits. The DEP's stated rationale for requiring such plans was twofold.

First, the policy was designed to further its objective of minimizing adverse impacts of stormwater on groundwater and surface water resources in the commonwealth. Second, the policy attempts to fill the DEP's obligations pursuant to the Pennsylvania Clean Streams Law's antidegradation regulations, contained at 25 Pa. Code Section 93.4a, which require the DEP to protect existing surface water uses, and to maintain and protect the water quality necessary to protect such uses, and maintain and protect the water quality in special protection surface waters. The DEP also states that such plans are required in order to satisfy its delegated responsibilities under the federal NPDES program, although the post-construction stormwater management plans appear to surpass federal requirements.

Although required to be submitted since September 2002, the DEP's issuance of the BMP Manual is anticipated to result in far greater scrutiny of post-construction stormwater management plans. More importantly, the BMP Manual significantly alters the way in which post-construction stormwater will need to be managed on new development projects in Pennsylvania.

Historically, post-construction stormwater management, which until the DEP's issuance of its Comprehensive Stormwater

Policy in 2002 was primarily the responsibility of municipalities, focused on managing flooding from larger storms by controlling the peak rate of runoff released from a site through the use of stormwater detention basins. In addition to slowing the rate of stormwater discharge from a site, these detention basins were also designed to serve as water quality BMPs by allowing sediments in stormwater to settle out before runoff was released.

Controlling the rate of stormwater runoff, however, does not result in any decrease in stormwater volume resulting from a storm event. Because site development almost always results in an increase in impervious surface coverage, post-construction stormwater volume would often be far greater than pre-development stormwater volume.

As noted by the DEP in the new BMP Manual, increased stormwater volume runoff throughout numerous watersheds in Pennsylvania has resulted in significant problems, including increased flooding from storm events, stream water quality degradation, and increased stream channel erosion.

In an effort to address the problems associated with increased stormwater runoff from the developed environment, the DEP's new BMP Manual calls for rigorous post-construction stormwater volume controls for new development projects. For projects on undeveloped sites that will result in greater than one acre of earth disturbance, the BMP Manual recommends that post-construction stormwater volume controls be utilized so that the development project will not result in any increase to the post-development total stormwater volume for runoff generated from all storms less than or equal to the two-year/24-hour storm event (for southeastern Pennsylvania, this translates to a storm generating up to 3.27 inches of rain in 24 hours).

For already developed sites, the volume control guidelines are even more stringent: in comparing pre-construction stormwater volume to post-construction stormwater volume, 20 percent of pre-construction existing impervious area must be considered as if it were a meadow condition. In other words, for redevelopment sites, the post-construction stormwater management must result in a net decrease in the volume of post-construction stormwater generated. In addition to volume controls, the BMP Manual also specifies recommended peak rate and water quality controls for stormwater runoff from developed sites, which are generally consistent with the method in which stormwater rate and quality have historically been managed.

Although the BMP Manual is very specific in identifying the volume of stormwater runoff to be controlled as a result of site development, the BMP Manual provides a menu of BMP alternatives for parties to implement in order to achieve the specified volume controls. Stormwater volume can be controlled in one of three ways: infiltration, or on-site recharge of stormwater; capture and reuse of stormwater (e.g., for irrigation or fire protection purposes); and the use of vegetation systems that provide for "evapotranspiration," pursuant to which surface vegetation, especially trees, "transpires" water to the atmosphere. These methods of volume control would be achieved through the use of a combination of non-structural and structural BMPs. In fact, the BMP Manual provides over 350 pages of guidance and description on the various nonstructural and structural BMPs that can be utilized to achieve the recommended goals, as briefly described below.

NONSTRUCTURAL BMPS

Nonstructural BMPs emphasize the use of site design and planning techniques to manage site stormwater. In essence, nonstructural BMPs are designed to prevent the generation of stormwater in the first instance through the use of "low-impact development" and "conservation design," as opposed to structural BMPs, which act to mitigate stormwater volume generated from site development. Accordingly, the use and implementation of nonstructural BMPs require that stormwater management be fully integrated into the initial stages of the site design and planning process, a stark contrast to the historical timing for designing stormwater controls for development projects, which were often relegated to one of the last steps in the planning process.

Examples of nonstructural BMPs contained in the BMP Manual include: The protection of site areas with normal natural stormwater functions (e.g. wetlands, riparian areas); clustering site development to reduce site disturbance and maximize undisturbed open space; minimizing soil compaction during site development; reducing impervious street areas by narrowing widths and lengths, and by removing curbs and impervious sidewalks; disconnecting roads and driveways from stormwater collection systems; and utilizing street-sweepers.

STRUCTURAL BMPS

The BMP Manual includes more than 250 pages of 21 different structural BMPs that can be used in managing stormwater associated with development projects. The described structural BMPs range from pervious pavement with infiltration beds, to the use of vegetative or green roofs, to the restoration of riparian buffers. On sites where it is difficult, if not impossible, to infiltrate on site net stormwater volume increase (such as highly developed sites, certain brownfield sites, and sinkhole prone areas), the DEP will look for the implementation of capture and reuse BMPs (e.g. cisterns, irrigation and fire suppression systems) as well as evapotranspiration BMPs, such as vegetative roofs and wet ponds.

CONCLUSION

The DEP's new BMP Manual, although not a regulation, represents a dramatic change to the way stormwater will need to be managed at new development projects in Pennsylvania. Through the finalization of its BMP Manual, the DEP has significantly elevated the importance, and likely the cost, of stormwater management planning for development projects in the commonwealth.

No longer will developers be able to relegate stormwater planning and design to the final stages of a development project. Instead, stormwater management will be an essential part of the initial site planning process, nearly as important as evaluating site zoning issues. If, as expected, the DEP seeks to require strict compliance with the BMP Manual, comprehensive stormwater planning and management will no longer be a goal for the real estate development community, but instead a necessity. •