Stormwater NPDES Compliance for Land Development Projects

Frequently Asked Questions

Questions About Applicability

Q: Is synthetic turf considered pervious or impervious?

A: Synthetic turf is typically installed with a deep sand base atop compacted native soil. Synthetic turf can be considered pervious if:

- There is no underdrain or the discharge of the underdrain is a minimum three inches above the flat bottom of the sand base and highly permeable subbase materials are used (e.g., pea gravel, crushed rock, among others) on top of leveled and compacted native soils.

These requirements sometimes conflict with vendor specifications and/or the vendor's willingness to guarantee the installation.

Q: Is gravel considered pervious or impervious?

A: Resurfacing by upgrading from dirt to gravel is considered an impervious surface.

Q: Must runoff from a swimming pool deck be treated?

A: Yes, runoff from an impervious swimming pool deck must be treated. However, if the deck is sloped to drain into the pool, and the pool overflow is routed to the sanitary sewer, then the entire pool and deck area may be considered a self-retaining area.

Q: Are solar panels suspended above an existing parking lot a Regulated Project? Are solar panels suspended above existing landscape a Regulated Project?

A: Solar panels built above an existing parking lot are not a Regulated Project. However, the *Guidebook* encourages the examination of opportunities to route drainage from the panels to treatment. GI credits could apply toward Permittee retrofit assignments per Provision C.3.j.ii.(2)(d). Solar panels suspended above existing landscape are not a Regulated Project if runoff from the panels is dispersed on to the landscape.

Q: Can stormwater NPDES compliance be achieved by installing a Green Roof? Are Green Roofs practical?

A: Green roofs are considered self-retaining areas (see *Guidebook* p. 32). Many green roofs have been installed in the Bay Area, although they are not widespread. Reasons may include initial cost and insurability.

Questions About Design

Q: Can bioretention facilities be built over existing utilities such as water mains, sanitary sewers, and storm drains?

A: Any potential utility conflicts need to be coordinated with respective cities and impacted utility agencies for confirmation of agencies' separation requirements.

Q: Can bioretention facilities be built adjacent to existing parking lots, sidewalks, or streets?

A: Yes. The gravel and soil in bioretention facilities provide little, if any, resistance to lateral movement. Therefore, the soils supporting the adjacent roadway must be protected against lateral movement toward the facility—typically by a retaining wall. The retaining wall design

should minimize intrusion of the footing into the infiltration area. Bioretention facilities are designed to infiltrate treated runoff into the underlying soil. Sometimes a vertical impermeable cutoff wall is sufficient to protect the adjacent roadway. A qualified engineer should make a project-specific assessment.

Q: Are plants required in bioretention facilities?

A: Yes, plants are required. Plant roots help sustain key characteristics of the engineered soil, including permeability, moisture retention, and biological activity.

General Questions

Q: Is buildup of toxic contaminants in bioretention facilities a concern? How frequently must bioretention facility soils be replaced?

A: Most pollutants in urban runoff are bound to fine soil particles. Bioretention facilities intercept these fine particles, which settle and adhere to particles in the sand/compost mix. This immobilizes the pollutants and effectively prevents their movement out of the facility. Pollutant concentrations in bioretention soils are generally lower than the concentrations found in storm drain sediments. Somewhat elevated pollutant concentrations can be found in muddy soil deposits (often mixed with decaying vegetation) near bioretention facility inlets; these deposits can be removed and disposed of during routine maintenance. The volume and absorptive capacity of the soil in bioretention facilities is designed to ensure that the facilities perform well over decades. There is no need to anticipate removal or replacement of bioretention soils unless the facility is damaged by a catastrophic spill.