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ORDER NO. 178,493

APPROVING THE USE OF PERMEABLE PAVING SYSTEMS

The Department of Public Works (DPW) Bureau of Engineering (BOE) has determined that the use of permeable paving systems, such as pervious concrete, porous asphalt, pavers, and pavers with open joints would be beneficial to the City's management and treatment of storm water runoff.

Based on these findings, the use of permeable paving systems shall comply with the following requirements and criteria. Description of products and materials as well as any test results and reports must be reviewed and approved by DPW/BOE before use.

Installation of permeable paving systems is subject to the following restrictions and recommendations:

Allowable Use

1. Sidewalks, driveways, park lands, shared streets, plazas, pedestrian and bike paths, and publicly owned open parking lots
2. Parking strips and gutters that are not used as traffic lanes or bus stops
3. Alleyway traffic lanes with prior approval from DPW

Not Allowed for Use

1. On traffic lanes on streets classified as arterials or collectors
2. On traffic lanes on streets not classified as arterials or collectors, unless a maintenance agreement is in place.
3. Concrete bus pads
4. Curbs
5. On sloped areas or steep hillsides with slopes greater than 5H:1V
6. In areas with a previous history of soil or shallow groundwater contamination
7. In gas stations, car washes, and automotive repair shops
8. In areas where there is a possibility of chemical spills
9. On streets with a history of combined sewer overflows unless as part of a project aimed at eliminating such overflows.
10. In areas with shallow groundwater or seasonal high groundwater (less than 10 feet) if receiving runoff (see the *San Francisco Stormwater Design Guidelines* for contributing thresholds)
11. Within 20 feet of subsidewalk basements if receiving runoff (see the *San Francisco Stormwater Design Guidelines* for contributing thresholds)
12. Within 50 feet of domestic water wells if receiving runoff (see the *San Francisco Stormwater Design Guidelines* for contributing thresholds)



Subgrade must meet the following criteria and properties:

1. Subgrade must be constructed to support anticipated vehicular and pedestrian loads for the site.
2. Existing subgrade must be able to demonstrate a minimum permeability rate of 0.5 inch per hour. An underdrain may be used in soils with lower infiltration rate in order to obtain the minimum permeability rate with prior approval from the SF Public Utilities Commission (SFPUC) to connect to the City collection system.
3. Project sponsor shall submit test results from a soils boring log to characterize the soil profile and Pilot Infiltration Test (PIT) or double-ring infiltrometer test to characterize permeability. Borings and test pits shall be a minimum of 5 feet in depth for small drainage areas and 8 to 10 feet for larger drainage areas.
4. Project sponsor shall submit soil permeability test results and soil reports to DPW Bureau of Engineering, Structural Section, 30 Van Ness Ave., 5th Floor, Attention Structural Section Manager

Permeable paving products and systems shall comply with the following:

1. Product must have proper strength to withstand H-20 vehicular loads when used in driveways, shared streets, parking lots, parking strips, gutters, and alleyways.
2. Product must have proper strength to withstand pedestrian loads when used in sidewalks, parklands, pedestrian and bike paths, and plazas.
3. Permeable pavement product shall comply with ADA requirements and standards for slip resistance and maximum openings.
4. Project sponsor shall submit product test results and product reports.

Maintenance Requirements

1. Permeable pavement shall be able to be maintained via city standard mechanical sweeping equipment with a vacuum and shall be in an area that is mechanically swept a minimum of two times per year or as needed to maintain the products porosity. If this condition is not met, a signed maintenance agreement with DPW, property owner, and/or developer must be in place prior to any construction.
2. Permeable pavement shall be tested annually to insure proper function.
3. Repairs shall be made with the same permeable paving system materials.

WHEREAS, DPW determined that the use of permeable paving treatments is beneficial to the City of San Francisco, the Director of DPW approves its use as described above for future roadway projects.

APPROVED:

A handwritten signature in black ink, appearing to read 'Edward D. Reiskin'.

Edward D. Reiskin
Director of Public Works