

know where  
it goes

take simple  
steps to reduce  
STORMWATER POLLUTION

# Trench Drains for Sloping Driveways

## Design

Most permeable pavement options are not recommended on a slope of  $\leq 5\%$ . If the driveway is on a slope of 5% or greater, a slotted channel drain may be a good option. Slotted channel drains, or trench drains, are slot inlets that catch rainwater sheet flow from impervious paved driveways and move



Trench drain placed at the foot of a driveway that slopes toward the street. The stormwater is moved into rock area at left where it can infiltrate. Image courtesy of Basile Management Practices.



Trench drain placed at the foot of a driveway that slopes toward the home. The drain moves stormwater into garden at left. Image courtesy of Basile Management Practices, [bmptahoe.com](http://bmptahoe.com).

it below ground to infiltrate. These designs incorporate a drain pipe that moves the stormwater to a vegetated infiltration area a safe distance from the house or road. Generally, sediment traps separate the drain pipe from the infiltration area. Removable grates or gravel<sup>1</sup> run the length of the inlet. The channel for the inlet must be cut out of the existing impervious driveway at the foot of the slope. If the driveway slopes towards the street then managing the stormwater properly to prevent erosion and flooding is critical for public safety. If the driveway slopes towards the home then the installation of a trench drain will reduce the risk of flooding into the foundation or basement.

## Maintenance and Cost

Maintenance for trench drains includes regular inspection and, if necessary, removal of debris and sediment.<sup>2</sup> Grates are designed to be lifted out and sediment removed. Gravel can be shovelled out and rinsed. The cost with installation starts at \$150 and ranges higher based on complexity of design. Without regular maintenance, trench drain cleanout can cost \$300-\$600 depending on size and design (Dennis Diffley Drain Services, Warwick RI).

## Sources

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- (2017). Driveway Cross (or Drain With Metal Grate). City of Los Angeles Stormwater Program. Web.
- "4.3 Stormwater Collection and Conveyance." TRPA BMP Handbook. Tahoe Regional Planning Agency. May 2014.

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