

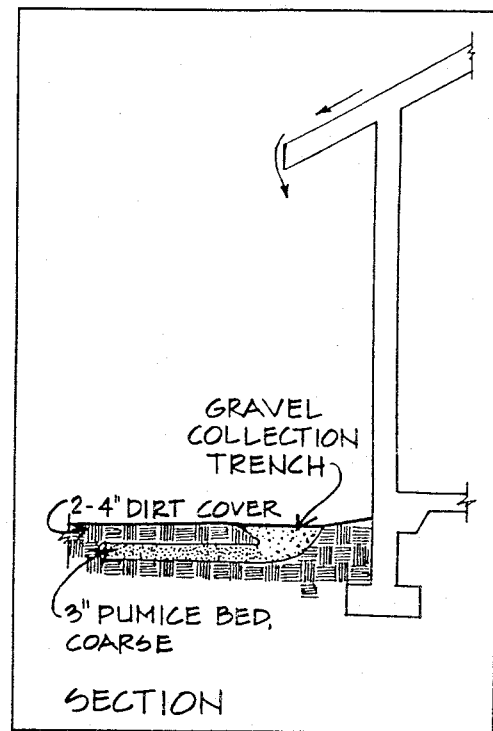
Harvesting Water

If the desired use for roof water is in the home or on selected gardens, it is best caught and stored in cisterns or tanks. However, roof water can also be caught in a French drain as it falls from the roof and distributed to local plantings against the building. French drain systems, with or without pumice wicks, can be adapted to both pitched roofs and roofs with canales.

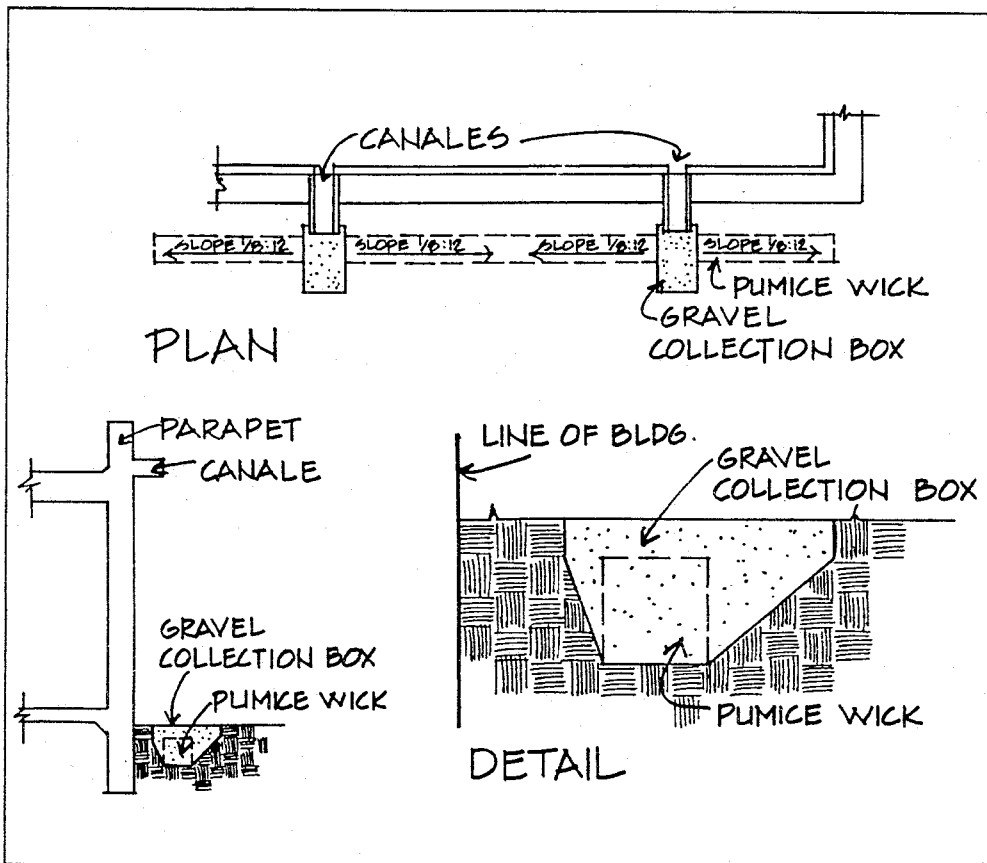
The simplest and least expensive way to harvest water off a driveway is to grade an on-contour drive to slope toward a swale on the downward edge. The swale can then be planted. If the drive is off contour, it can be graded to slope toward a bar ditch running alongside. Rock diverters can direct water into on-contour swales running from the ditch.

French drains with pumice wick options can also be used to harvest runoff from driveways and paths and direct it to plantings.

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... from Roofs

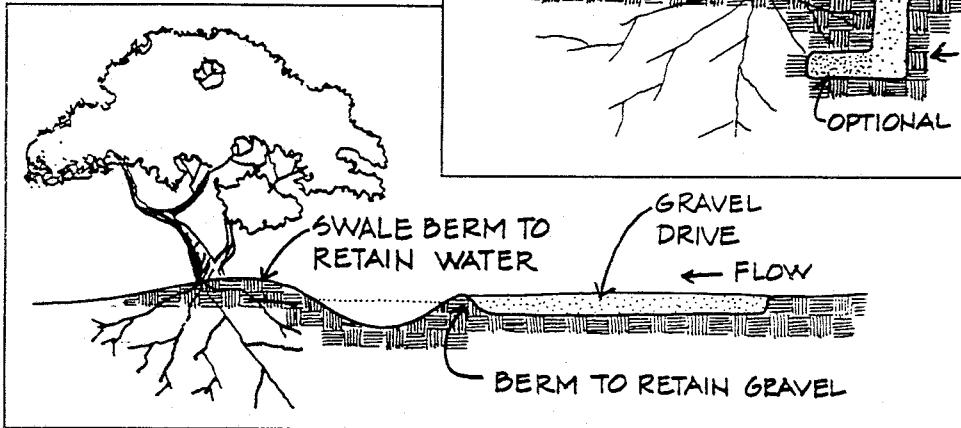
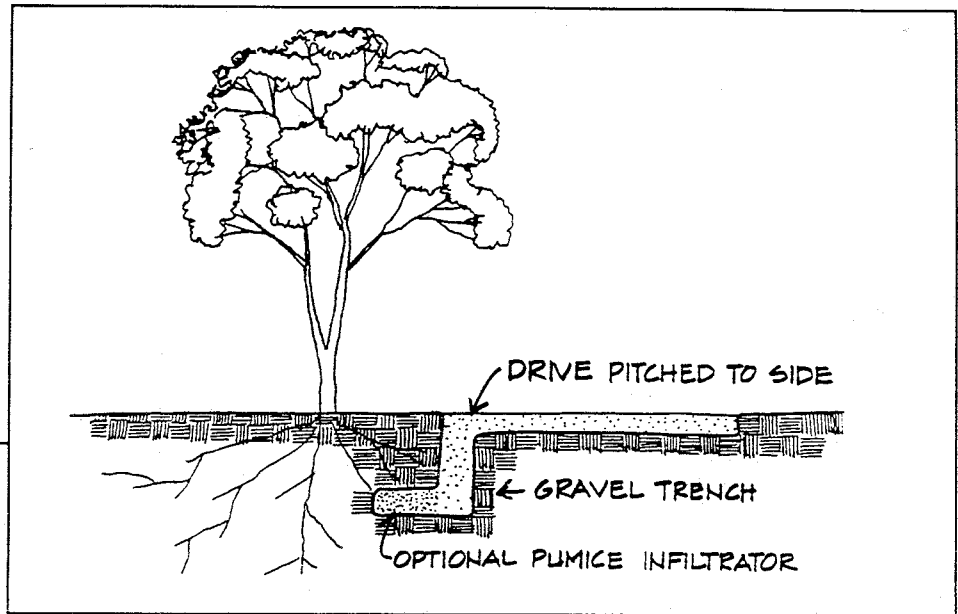


Above: A variation on the French drain for pitched roofs (illustrated on pg. 1) uses a pumice bed to provide subsurface irrigation below the drain.

Left: Another variation uses gravel filled boxes connected by pumice wicks to harvest and distribute water from canales, or roof canals.

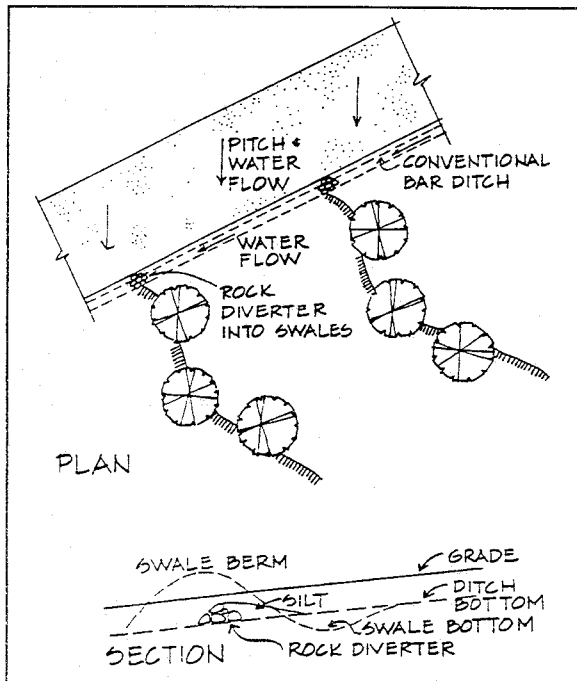
Derk Loeks directs Loeks Education Design Associates and Palo Verde Environmental Design in Santa Fe, New Mexico. He serves on the Board of Directors of Permaculture Drylands Institute.

Right: French drains, with pumice wick option, can be used to harvest water flowing off driveways. Plantings next to the drive use the infiltrated water.

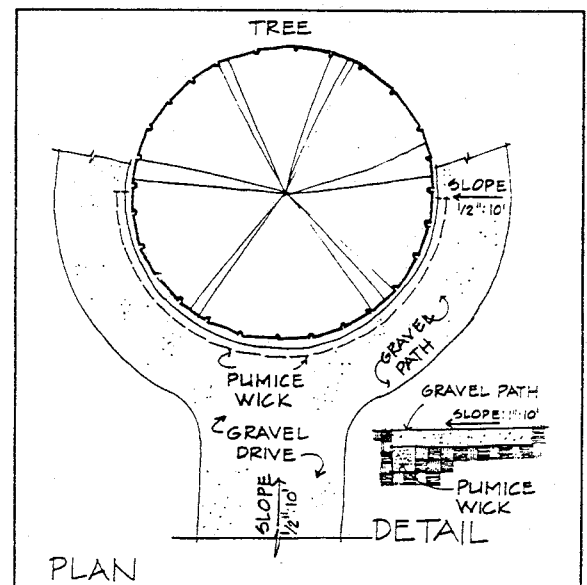


Left: A swale running along the downslope side of an on-contour drive harvests and infiltrates water running off the driveway. The drive can be paved or unpaved.

... from Drives and Paths



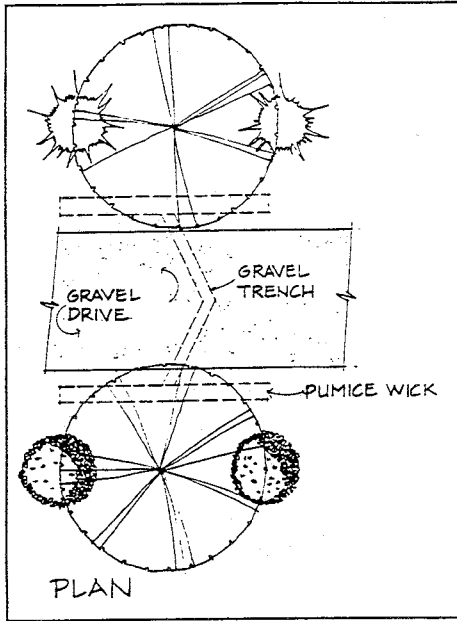
Left: Water harvested from an off-contour road runs into a bar ditch. Rock diverters direct water into on-contour swales, where it infiltrates.



Right: Pumice wicks can also be used to infiltrated runoff from pathways.

Illustrations: Silvia Rayces.

Water Harvesting in Driveways

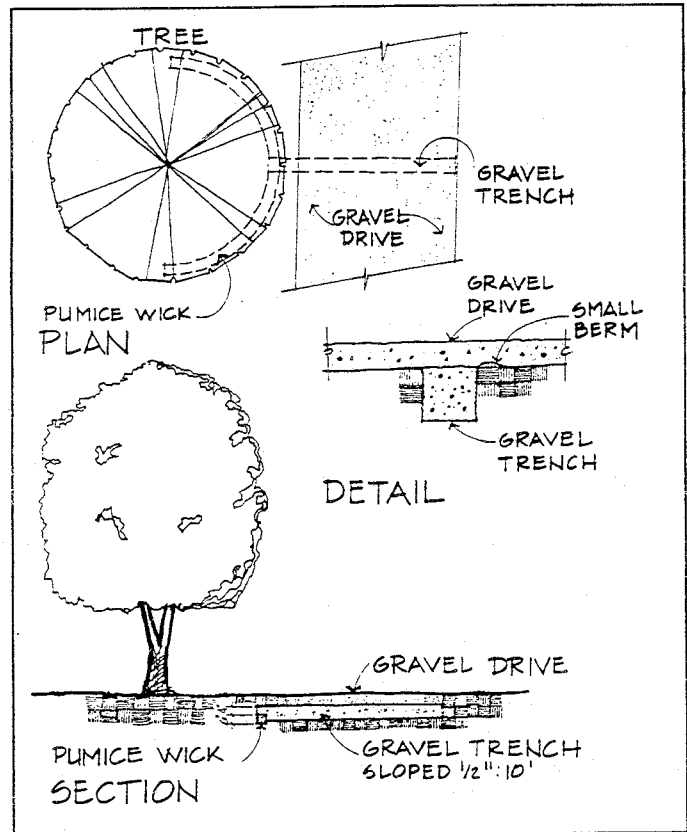


French drains inside driveways direct water to pumice wicks which feed nearby plantings. On asphalt drives, drains can be installed by opening up the asphalt and trenching.

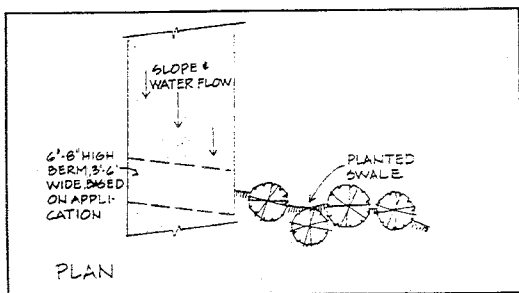
Swales and drains can also be built *into* driveways, and can serve a second function as a speed inhibitor. [For retrofit "swaling" of parking lots using French drains, see PDJ #5, pp. 6-7]

Siltification is a potential problem with French drains built into driveways. A good gravel surface should be installed for at least 6 feet upslope from the drain to prevent silt buildup. Otherwise, the drain will need to be cleaned out periodically. An alternative construction method for the trench uses culvert which has been cut open on top and filled with gravel. However, these are more expensive and difficult to clean should they silt up.

To prevent wheel spinout on top of the drain, a good compacting gravel should be used.



Approximately 80% of rainfall in drylands is lost due to runoff. We can stop this waste of a precious resource in our cities by harvesting water from roofs, parking areas, driveways and walkways, as well as open land. Passive water harvesting structures are an integral part of sound design for new construction and can be retrofitted into existing urban construction. ♦



Swales with broad, flat berms (to reduce wear by cars) can be installed as a "speed bump" on off-contour asphalt driveways. They can fall slightly into an overland on-contour swale which is planted.