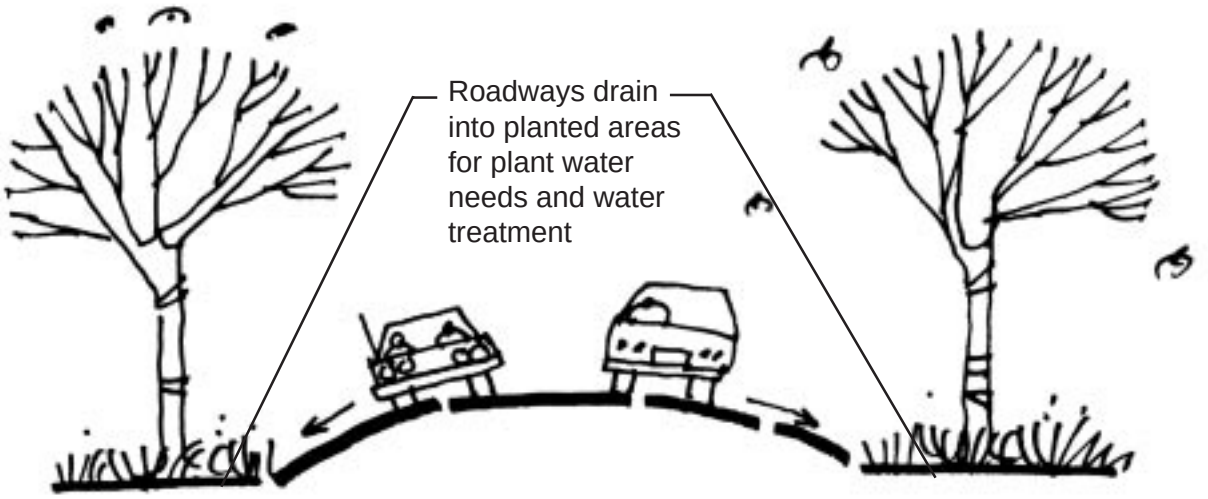
PRIMARY USE: To drain water from the polluted paved areas onto the planted areas to supplement needed moisture and to filter and treat polluted rain runoff.
ADDITIONAL USES: Eliminates the need for concrete curbs and gutters, and below grade storm drains.

REVERSED ELEVATIONS SYSTEM FOR PARKING LOTS & PLANTING AREAS

What is it? The norm for parking lots and planted areas in the landscape is to put the grass and trees above the paved areas and use the barrier curbs that contain the plantings as car stops for parked cars. Water that falls on the planted areas drains onto the paving, usually causing the planted areas to be short on water, necessitating irrigation. The reversed elevations system does the opposite. Parking lots and access roadways are located above planted areas so rainwater will drain into the planted medians and open spaces where it can nourish plants and its pollutants can settle out and be acted upon by microbes on the plants and in the soil.

Purpose

The Reversed Elevations System will treat polluted parking lot runoff, water plants, reduce or eliminate the need for supplemental irrigation, and reduce the volume of rainwater run-off. Construction costs could be significantly reduced through eliminating barrier curbs and and gutters -which can cost $15-20.00 per linear ft ($49-66.00 per linear m) and using car stops of concrete, wood, or recycled plastic. By running parking lot water onto the planted areas below grade piping is eliminated, adding additional savings.



Reversed Elevation Systems for Roadways
Elevation View

Limitations

If the pollution load of the parking lot exceeded the size of the landscape and its ability to process pollution, the landscape could decline and fail. It is suggested that composted mulch or composted shredded bark be part of the planting design, in order to filter water and provide further habitat for microbes. Ponding may occur in poor draining soils.

Materials

Same as for a conventional parking lots. Attention should be given to the soil mixture and internal drainage characteristics when implementing the Reversed Elevations System.

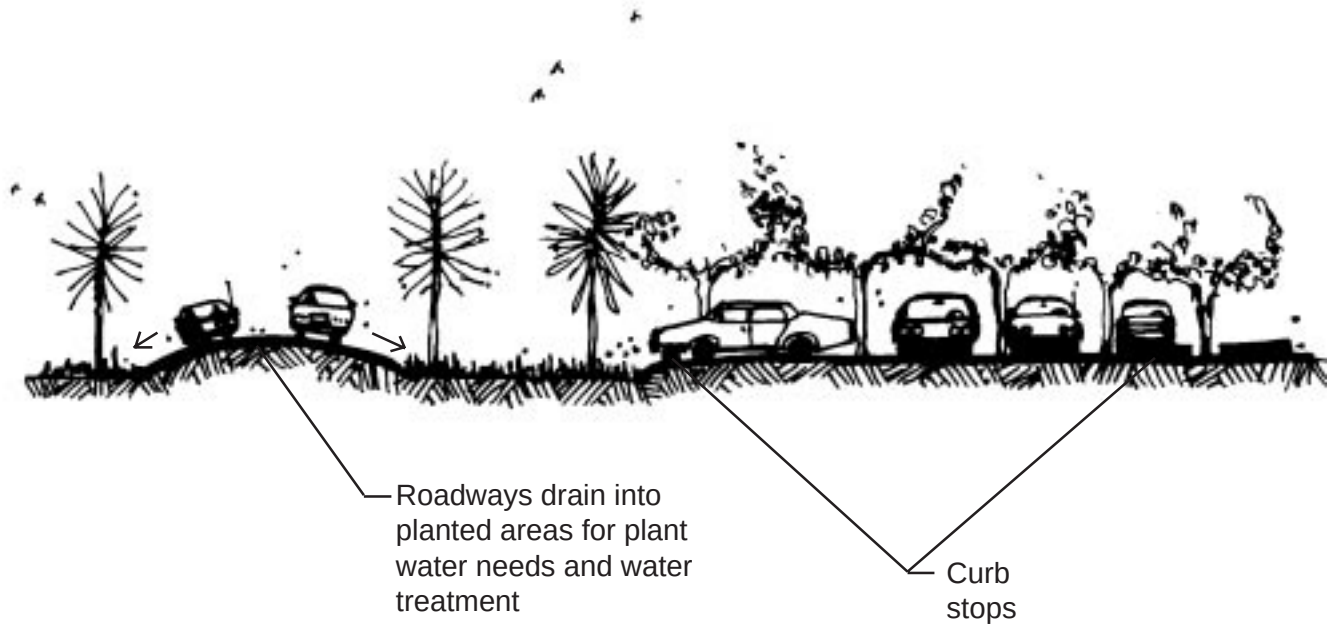
Installation

The grading plan should direct all water through a series of connected planted filters. Subgrade paving material can then be placed on top of the native soil followed by paving material. Grasscrete or permeable paving systems may be used instead of impermeable paving in all parking areas.

Source: Center for Sustainable Design, Landscape Architecture/Biological Engineering Departments; Mississippi State University.

REVERSED ELEVATIONS SYSTEM FOR PARKING LOTS & PLANTING AREAS

Additional Drawings:



Note: Parking lots use curb stops to allow surface water to drain into planted areas for detention, plant water needs and water treatment; therefore the use of expensive and integral concrete curbs and gutters is eliminated.

Reversed Elevation Systems for Roadways and Parking Lots Elevation View

Source: Center for Sustainable Design, Landscape Architecture/Biological Engineering Departments; Mississippi State University.