

PLUM AND WALNUT: "A GREEN INTERSECTION"

This keystone project is part of the City's ongoing commitment to reduce urban stormwater runoff and associated pollutants from combined sewer overflows and separate storm sewers. The drainage area contributing to this intersection currently has **76,000 square feet of impervious area**. New porous pavement and bioretention areas (rain gardens) capture approximately **86% of annual stormwater run-off**, which equates to over **1,400,000 gallons per year**. In addition to the project's significant environmental benefits, the new intersection design has provided additional traffic-calming and pedestrian safety benefits, with an **average traffic speed reduction of 5 miles per hour**.



Preconstruction

The green stormwater infrastructure installed at Plum and Walnut includes the following:

- Vegetated curb extensions with subsurface infiltration facilities at 3 corners
- New porous paver patio and parking spaces with subsurface infiltration facilities
- New porous paver angled back-in parking spaces
- 900 gallon cistern in form of public art collects building runoff
- Inlet filter inserts for pretreatment



Patio In Use (June 2013)

Plum and Walnut Street Intersection Improvements Featuring Green Infrastructure



IMAGE: McCormick Taylor



(RIGHT) Aerial View of Project Intersection After Construction

Pollutant	Quantity Captured/Removed Per Year
Stormwater Runoff Capture	1.4 million gallons/year
Total Suspended Solids (TSS)	2400 lbs/year
Total Phosphorus (TP)	50 lbs/year
Total Nitrogen (TN)	120 lbs/year

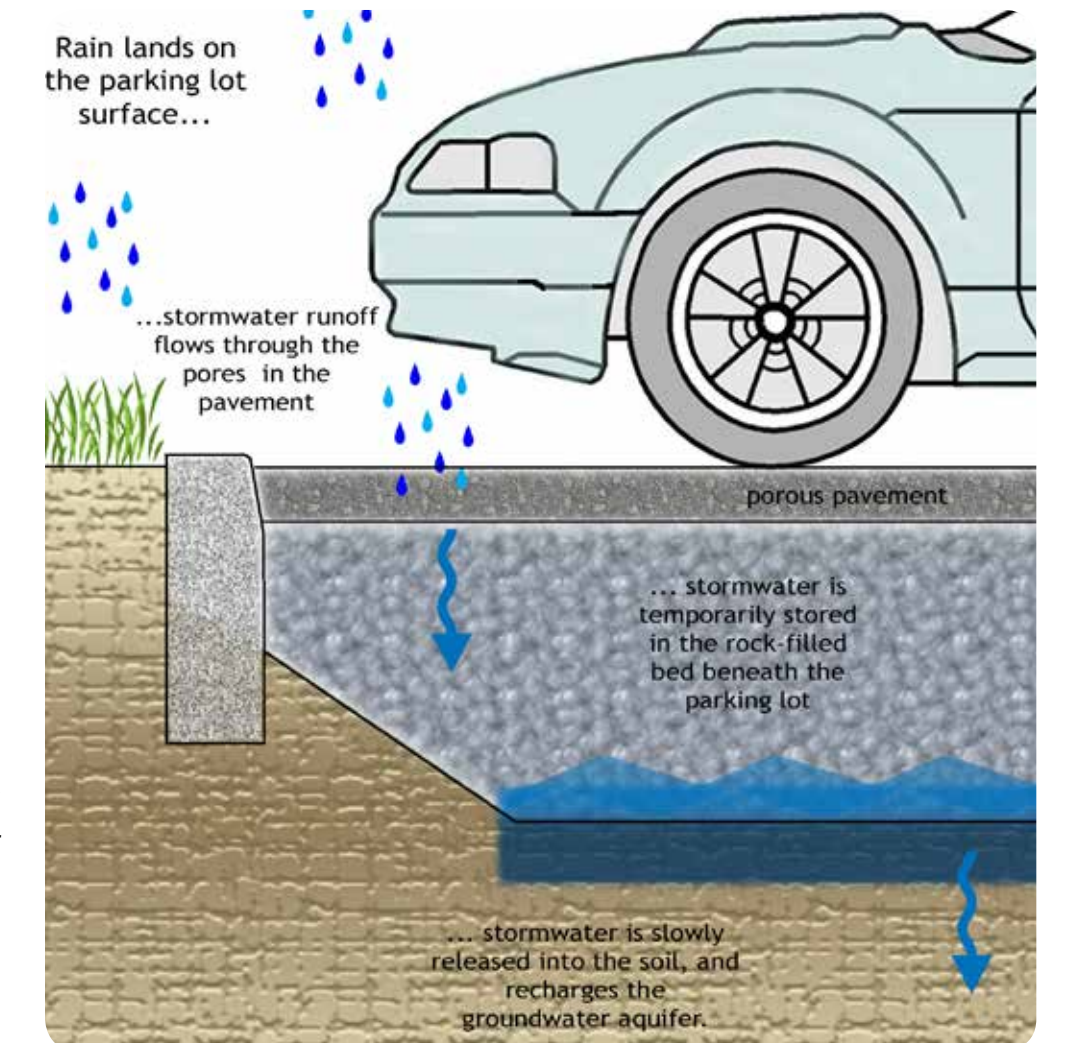
Additional Benefits Include:

- Reduced Need for Water Treatment and Associated Electricity Usage
- Reduced Urban Heat Island Effect
- Increased Traffic-Calming and Pedestrian Safety
- Increased Property Values
- Increased Public Education Opportunities
- Increased Opportunities for Urban Gardening/Farm to Table

Porous Pavers - Patio and Parking Lanes



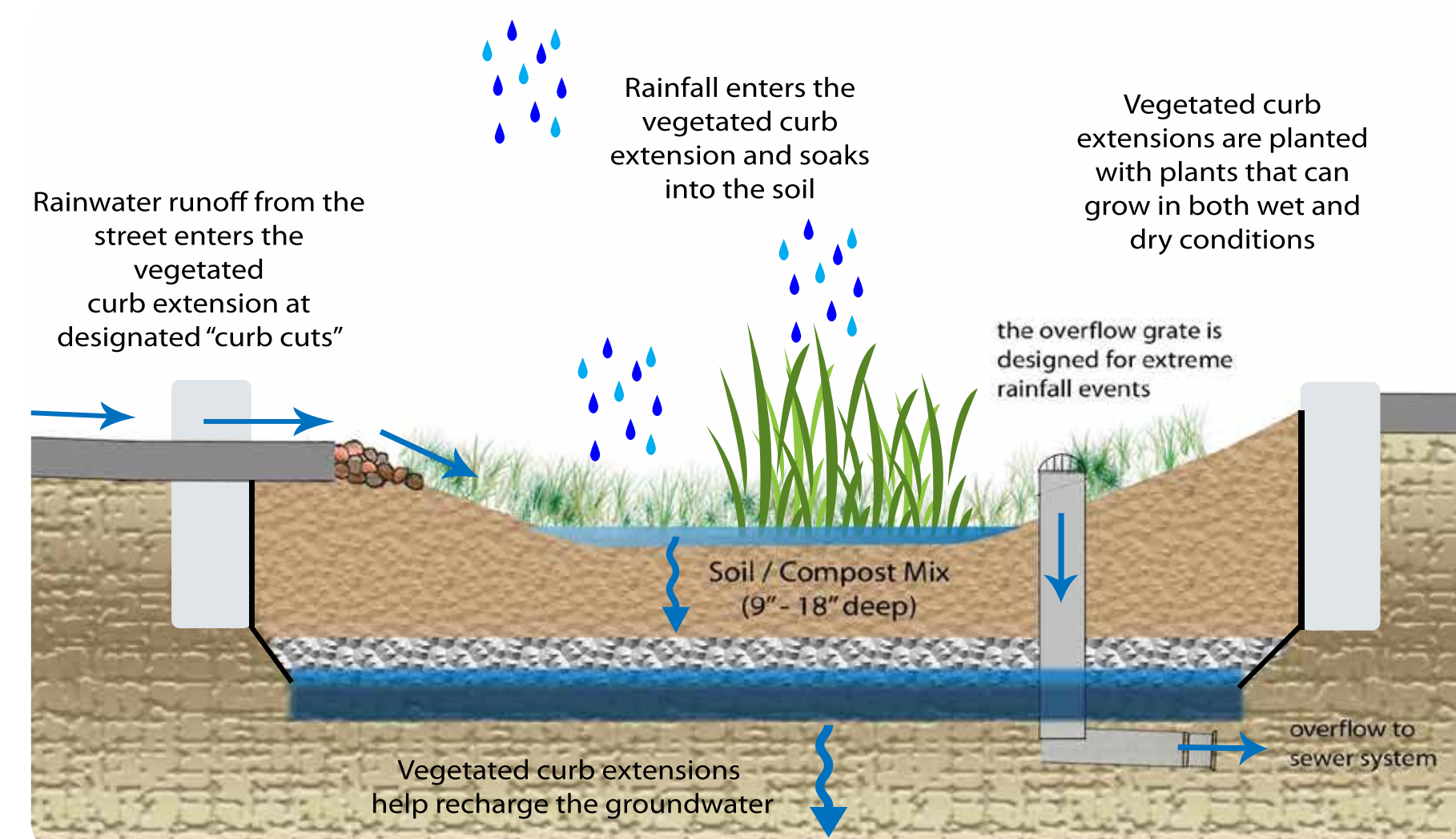
Porous pavement consists of a pervious surface course underlain by an aggregate trench placed on uncompacted subgrade to facilitate stormwater storage and/or infiltration. Porous pavement can be asphalt, concrete, or paver blocks and generally looks similar to regular pavement.



(RIGHT) Porous Pavement with Subsurface Infiltration

Curb Extensions and Rain Gardens

Rain gardens and vegetated curb extensions are designed to capture stormwater runoff from adjacent impervious areas through a process called "bioretention". Water is collected before infiltrating into the groundwater below. Plants help to prevent soil erosion while also increasing evapotranspiration of stormwater.



Bioretention/Rain Gardens

