

Rock Lititz Floodplain Restoration

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Problem:

The proposed site for the Rock Lititz campus – a 96-acre farm located in Lancaster County, Pennsylvania – was plagued with frequent flooding. The Santa Domingo Creek, a tributary to Lititz Run that flowed through the property, had become severely impaired due to historical land use. The stream channel had been re-routed to accommodate farming operations, and the deposition of legacy sediment on the valley floor smothered the aquifer and increased flooding downstream. Years of streambank erosion and streambed degradation allowed this polluted, nutrient-rich sediment to travel downstream and negatively impact local water quality.

Solution:

Rock Lititz Properties contracted with LandStudies, Inc. to implement a 17-acre floodplain restoration plan. The headwaters of the Santo Domingo Creek were restored by removing legacy sediment from the valley bottom. This increased the overall floodwater storage potential of the area, reducing flooding and the need for traditional stormwater basins on developable land. The floodplain restoration also allowed for significant groundwater recharge potential in a Critical Aquifer Recharge Area (CARA). Streambank stabilization reduced erosion, and the restored floodplain, with its diversity of native vegetation, now promotes infiltration, reduces downstream flooding, and improves local water quality.



Photo of floodplain restoration during construction.



Photo of the functioning floodplain restoration after a storm event.

Photo credit: LandStudies

Key Project Facts

Project Location: Lititz, PA

Type of Project: Floodplain restoration

Scale: 3,136 linear feet of stream restored; 17 acres of native ecosystem restoration and improved bio-diversity; 996,117 cubic feet of recharge volume

Pollutants Removed: 1,007 lbs/yr nitrogen; 155 lbs/yr phosphorus; 124 tons/yr sediment

Cost: \$771,100.55 (Design & Permitting: \$168,100.55; Construction: \$603,000)

Funding Sources: Privately funded by the developer, Rock Lititz Properties

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What is Polluted Runoff?

The growth of our cities has resulted in too many paved surfaces, which prevent rain water from being absorbed by the ground. Instead, the water runs off streets and buildings, collecting trash and dangerous chemicals on its way. This contaminated water overflows into our streams and rivers, creating public health hazards and toxic waters.

Stormwater projects create safe paths for polluted runoff to be captured and filtered before it reaches our waterways. They keep communities healthy and the environment clean.

When communities and their local governments work together to solve big problems like stormwater runoff, that's a story worth telling!