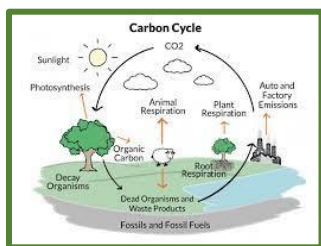


Virtual Tour

Bioswale, Sometimes Called Micro-basin

Bioswales are a water conservation practice used here in the Discovery Garden to demonstrate how to collect surface water run-off. Bioswales act to filter, slow, and disperse rainwater while also building soil and plant health. Helping to prevent soil erosion, they deliver water directly to the roots of plants and trees. Also known as micro-basins or rain gardens, they channel and convey stormwater away from the storm sewer to a planted area while also removing debris from the water.

Between the sidewalk and the street on Chipeta Avenue, we have installed a bioswale and have plans to install more. The idea is to dig a shallow basin adjacent to a city street and make cuts in the curb to allow water from a rainfall or snowfall to flow from the street into the bioswale. This collected water is used to directly irrigate the trees and plants in the bioswale while also increasing soil moisture. Deeply saturated soil makes more soil moisture available to plants during times of drought. Wood mulch and leaves are placed on top of the soil as a protective layer to reduce evaporation and to provide an organic layer of natural decomposition which invites soil microbes. The microbes in the soil break down the organic matter as food and what is left behind in the process is the black gold called compost. This compost provides nutrition back to the plants, completing the Carbon Cycle.



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As the Mesa Conservation District working with the Discovery Garden, we want to conserve and preserve our precious water resources. By capturing water falling from the sky, we rely less on irrigation to grow the beautiful tree canopy that we all enjoy in our downtown Grand Junction area. Tree canopies not only provide shade and beauty to cool and soften our urban environment, but also provide vibrant and critical habitat for all sorts of life that are integral to healthy living spaces, particularly by expanding habitat that attracts animals, birds, insects, and pollinators of all sorts. When we plant food-producing plants in the spaces below the canopy we can reduce our dependency on food grown and transported thousands of miles away from its final destination.



This picture shows the bioswale on Chipeta Avenue in March of 2020, right after a rainfall. The basin had not been planted yet, but the cut in the curb had been made and was diverting water from the street to the basin.



The same micro-basin, once it was prepared for plants. We have installed to drip irrigate to water if necessary.



Newly planted bioswale in the spring of 2020. Thanks to the City of Grand Junction for providing the trees.



This illustration shows a cross section of what the bioswale looks like once planted and the trees and plants have grown in.

Bioswale Video Resources

<https://www.grownyc.org/openspace/green-infrastructure-toolkit/bioswales>

<https://www.youtube.com/watch?v=w8Je8DGgGp4>

https://www.youtube.com/watch?v=MLo6Gnpkg_0&t=190s

<https://www1.nyc.gov/site/ddc/resources/features/2017/08/bioswales.page>

Bioswale Website Resources

<https://hixon.yale.edu/practice/bioswales>

<https://www.epa.gov/green-infrastructure>

<https://wincoil.us/departments/highway-department/highway-programs-information/stormwater-management/best-practices-resources/bioswale/>

<https://uri.yale.edu/programs/green-infrastructure>

Resources in MCPLD collection:

Replenish: the virtuous cycle of water and prosperity

Urban storm water management