City of Cañon City

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CAÑON CITY STORMWATER PROGRAM

First Quarter 2012
Stormwater Management Program News

ANNOUNCEMENTS:
The City of Cañon City will be installing a crossing with an aluminum box culvert at the north end of the Forked Gulch drainage channel where it meets the Arkansas River on the west side of Centennial Park. Improvements to Sand Creek at the confluence with the Arkansas River are also planned. These projects are in conjunction with the River Walk extension.

The City of Cañon City will be doing drainage improvements in the Dawson Ranch area around Wild Rose Dr. beginning in February. An improved drainage channel with drop structures will be constructed from the west side of Wild Rose to direct runoff to the detention basin on the east side. This will help alleviate flooding and erosion problems.

Past newsletters have addressed the myriad issues and questions concerning stormwater. They have discussed the City of Cañon City's Stormwater Permit from the State of Colorado and the methods used to meet the many requirements it contains. The newsletters have addressed everyday activities that can impact the quality of stormwater runoff and how small changes in those activities can keep pollutants out of runoff. In this issue green infrastructure will be discussed. The following issue will give examples of site-specific and larger scale applications.

What is Green Infrastructure?
Green infrastructure is a set of stormwater management practices that are designed to act like the processes which occur in the natural environment. When rain or snow falls on natural, undisturbed landscapes much of it soaks into the ground or is returned to the atmosphere by plants and evaporation. Precipitation that is not absorbed or evaporated runs off into natural drainages, creeks and rivers. This precipitation recharges our underground water aquifers through infiltration and surface waters by run off. As more and more development occurs this natural balance is disturbed. Impervious surfaces such as streets, parking lots and buildings don't allow the precipitation to be absorbed into the ground. As it runs across the surface of these structures it can pick up pollutants such as oils, grease, pesticides, trash, sediment and animal waste which it then carries to surface waters through traditional storm sewer structures. In the past the main focus of stormwater management was to manage the quantity and flow of runoff – moving it as quickly as possible to surface waters. Today, the focus also includes the quality of the runoff – trying to keep it as clean as possible to prevent contamination of our surface waters which provide drinking water and recreation.

What are the benefits of Green Infrastructure?
Green infrastructure practices can be cost-effective, sustainable and environmentally friendly. They can be applied in different climates and at different scales. Some of the benefits associated with these practices are listed below.

- Decrease of runoff volumes and peak flows by using the natural retention and infiltration properties of vegetation and soil. When the amount of natural ground cover is increased more precipitation is absorbed which can decrease the flow of runoff.
- The rate at which groundwater aquifers are replenished can be improved. According to the EPA almost 40% of the water needed to maintain normal base flow rates in rivers and streams comes from groundwater. By improving the amount of precipitation that reaches groundwater, drinking water supply from rivers can be boosted.
- Absorbing runoff close to its source can decrease the amount of pollutants that are carried to surface waters. Plants and microbes in the soil naturally filter and break down many common pollutants carried by stormwater runoff.

- ∞ Trees and plants have the capability to absorb certain pollutants from the air, including carbon dioxide which improves air quality.
- ∞ Dense concentrations of pavement, buildings and other structures absorb and retain heat. Waste heat from vehicles, factories and air conditioners can be trapped causing "Urban Heat Islands". Increasing urban green space and vegetation can offset these effects and decrease energy demands.
- ∞ Green infrastructure can provide increased recreational areas and wildlife habitat which can have a positive impact on human health and increase land values.

A note about Colorado water regulations: Colorado has very strict water laws which do not allow the use of stormwater management techniques which capture stormwater for reuse. Rain collection barrels and cisterns are not allowed in Colorado unless a residence is on a well with absolutely no access to municipal water. In this case a permit is required from the Colorado Department of Public Health and Environment. All the applications listed above are acceptable under Colorado's water law as they only slow runoff down, allowing it to be treated and absorbed.

For more information about green infrastructure visit the EPA website at http://cfpub.epa.gov/npdes/home.cfm.

Remember: The responsibility for keeping our City's and State's waterways clean for all to enjoy ultimately falls to everyone in the choices they make. Please make wise choices.

Please feel free to direct any concerns or questions to Glenda DeBekker, City of Cañon City Stormwater Program at either grdebekker@canoncity.org or 276-5265. You may also write to The City of Cañon City's Stormwater Program, P.O. Box 1460, Cañon City, CO 81215-1460.

References:

EPA Green Infrastructure website: http://cfpub.epa.gov/npdes/home.cfm.

Green Infrastructure in Arid & Semi-Arid Climates http://www.epa.gov/npdes/pubs/gi_arid_climate_fs.pdf

Rain Gardens A How-To Manual for Homeowners http://learningstore.uwex.edu/assets/pdfs/GWQ037.pdf

When it Gets to the Ground Stormwater Solutions Handbook Environmental Services City of Portland OR http://www.portlandonline.com