

## 2013 CASFM Stormwater Quality Field Trip

The annual CASFM Stormwater Quality Field Trip was held on June 12<sup>th</sup> and consisted of a wide variety of rain gardens and sand filters. The seven stops included both urban and rural installations, some just a couple years old and some with a couple decades of service. The fifty-five attendees toured sand filters that were vegetated and a couple that were bare. The group discussed design and construction considerations as well as lessons learned with members of the design team. The tour consisted of the following sites:

### 21<sup>st</sup> and Iris St. Rain Gardens

UDFCD partnered with the City of Lakewood and the Urban Watershed Research Institute to construct two rain gardens at this location. The project, completed in April 2011, satisfied multiple objectives including providing stormwater quality treatment, field testing of UDFCD's new rain garden growing media, and fixing a nuisance drainage problem. The rain garden is located within the street right-of-way. UDFCD monitors water quality of the influent and effluent as well as runoff flow and volume. The rain gardens are fully vegetated with the seed mix recommended in the USDCM Volume 3 and assorted plantings.



Rain Gardens in Lakewood Right-of Way at 21<sup>st</sup> Avenue and Iris Street (Monitoring equipment shown in the foreground.)

### Morse Park Rain Garden

The bus stopped briefly to look at the site of a proposed rain garden to be constructed in 2013 by the City of Lakewood to replace an existing concrete-lined pond. The rain garden will treat parking lot, street, and park runoff from a 15 acre watershed area. Unique aspects of this retrofit water quality project include forebays able to be cleaned using street sweepers, a planting mix containing sandy loam topsoil, and varied depth zones within the rain garden with plantings tailored to each zone.



The vegetated sand filter at Belmar Park blends into the landscape leaving the outlet structure as the only recognizable feature of this BMP.



### Belmar Park vegetated sand filters

This 10 year old water quality basin was designed per USDCM sand filter criteria, however, a 6-inch top layer of sandy loam was added and the basin was seeded. It treats stormwater from a tributary that's in excess of 6 areas. The City reports that maintenance to date has consisted of debris removal.



### Carson Nature Center (South Platte Park)

The vegetated sand filter at the Carson Nature Center has been in operation for over 20 years. It treats runoff from a parking lot. The group also viewed a project on the South Platte at this location.

Rain garden at the entrance to the Douglas County Sheriffs' Substation

### Douglas County Sheriffs' Substation

This site includes a sand filter and two rain gardens constructed with different media. A combination of sand and peat was used as well as the current USDCM – Volume 3 media—a combination of compost having a high shredded paper content and sand.

### Park Ave Housing Project

This Denver Housing Authority (DHA) project included rain gardens in an urban setting.

### Highland Bridge Lofts Rain Garden

Another rain garden in an urban setting—with a deck bisecting the garden, this design is a great example of making the facility an amenity.



Rain garden at Highland Bridge Lofts



Rain Garden at the Park Ave. DHA site