

Master Planning Program Notes

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Planning Projects

Ten planning projects were completed in 2003; 12 projects are in progress; and we hope to begin six new planning projects in 2004. It is clear that the planning activities continue to be strong as the cities and counties continue to expand urban areas and begin to address the water quality issues mandated by the stormwater discharge permit program of the Federal Government as administered by the State.

We now have a total of over 120 completed watershed-level major drainageway and outfall system plans in our inventory. Some of these studies are updates of master plans completed many years ago. When completed, the master plans serve as a roadmap for how to deal with major drainageways as the lands develop and redevelop, and as a guide for the District's programs.

One unique feature in three of the master planning projects was the development of project web pages. To help reach the affected public, web sites were developed for the Cherry Creek Corridor – Reservoir to Scott Road, Denver High Line Canal and Little Dry Creek, and the Rocky Mountain Ditch master planning projects. The use of these web pages by the public was mixed and the District will evaluate whether the use of web sites is an effective way of reaching the affected public for future projects. We suspect that the more controversial or visible projects will benefit from web sites, while lesser projects will not. It will be up to the project sponsors to decide if any specific project should have one.

Urban Storm Drainage Criteria Manual

We no longer publish in printed form updates to the Urban Storm Drainage Criteria Manual (USDCM) and remind all owners and holders of this manual that all revisions and updates are posted on our web page. Updates for Volumes 1 and 2 are under www.udfcd.org/usdcm/vol1&2.htm for

STATUS OF PLANNING PROJECTS

Project	Sponsor(s)	Consultant	Status
Oak Gulch & Stroth Ranch	Parker & Douglas Co.	Knight Piésold	Completed in 03
Applewood OSP	Jefferson Co.	Kiowa	Completed in 03
Horse Creek OSP	Adams County & Aurora	Knight Piésold	Completed in 03
NE Sheridan OSP	City of Sheridan	Moser Assoc.	Completed in 03
Plum Creek OSP - FHAD	Douglas Co.	WRC	Completed in 03
RMA 815 & Adj. Areas (Prairie Gateway OSP)	Commerce City, Adams Co.	Love & Assoc.	Completed in 03
Rocky Mountain Ditch	Denver	HDR	Completed in 03
Todd Creek & DFA0052	Adams Co. & Thornton	Kiowa	Completed in 03
Unnamed Tributary to W. Toll Gate Creek	Arapahoe Co., ECCV & Aurora	Kiowa	Completed in 03
Upper Piney Cr. & Tribs	Aurora	Olsson Assoc	Completed in 03
Cherry Creek MDP u/s of Cherry Cr. Reservoir	Parker, Douglas Co., Arapahoe Co., Centennial	URS	99% Complete
Broomfield & Vicinity MP Update	Broomfield & Westminster	Kiowa	95% Complete
Denver High Line Canal Marcy G. to Mississippi Av	Denver Water & WMD, Greenwood Village, S. Suburban Park & Rec. Dist., Littleton, Cherry Hills Village, Arapahoe Co.	WRC	90% Complete
Second Creek (Lower) MP Update	Adams Co., Brighton & Commerce City	Kiowa	75% Complete
Four Mile Canyon & Wonderland Cr. Updates	Boulder.	Love & Associates	65% Complete
Fairmount Area OSP	Jefferson Co., Golden	Moser Assoc.	60% Complete
Kinney Creek & Fonder Draw	Douglas Co.	WRC	50% Complete
Lower Brantner Gulch	Adams County, Thornton	Love & Assoc.	50% Complete
Third Creek (Lower) MP Updates	Adams Co., Commerce City, Brighton	Kiowa	25% Complete
Massey Draw & SJCD (S)	Jefferson Co., Arapahoe Co.	n/a	Mapping Complete
Yankee Doodle OSP	Arvada	n/a	Begin Mapping
Rock Creek in Superior	Superior	n/a	Begin mapping
Big Dry Cr. (AdCo) North Tributaries Update	Thornton, Adams Co., Broomfield	n/a	Start in 04
Lemon and Scott Gulch OSP	Douglas Co.	n/a	Start in 04
Murphy Creek Update	Aurora	n/a	Start in 04
Toll Gate Creek Hydrology	Aurora	n/a	Start in 04
Upper Goldsmith W.Q.	Arapahoe Co. Greenwood Village, Centennial	n/a	Start in 04
Upper North Marston Lake	Denver, Denver Water, Jefferson Co.	n/a	Start in 04

free downloads of the revised pages in Adobe PDF format. Although there were no updates to the Manual in 2003, everyone should keep checking our web page www.udfcd.org for revisions and corrections to USDCM.

Volume 3 of the USDCM is no longer available in printed form. It is now available for free download from www.udfcd.org/usdcm/vol3.htm. You can choose to download the entire document or download the latest revision of any single chapter.

Several of the spreadsheets that assist with the calculations and design of facilities recommended in the manual, along with a few AutoCAD™ details were updated and/or added to our list of tools available for downloading. There is no charge for any of the documents, software or spreadsheets that are made available to the public on our web page.

District Software

We now have a very stable beta test version of *UDSWM* software (FSA GUI with SWMM 2000) available for downloading. This version provides a graphical user interface for the *UDSWM* and is designed to import old input files for this software. In addition, we hope to have the entire *UDSWM* and *CUHP* packages rewritten in VB.NET in 2003 as a combined software package that will be windows compliant and network capable. In time we hope to integrate the *CUHP* and *UDSWM* into a single package with a continuous simulation option.

In addition, *UDPOND* and *NeoUDSEWER*, both coded in Visual Basic are also available for downloading free of charge. Both have been totally rewritten by John-Michael O'Brian with the help and guidance of John O'Brian and Prof. James C.Y. Guo.

At this time we are working at developing a graphical interface for the preparation of inputs for the current *UDSWM* package.

BMPs in Semi-Arid Regions

In April of 2003, the District was a co-sponsor along with CASFM of a one-day seminar on the experience with BMPs in Colorado and semi-arid climates. It was chaired by Jonathan Jones and its organizing committee had representatives from public and private sectors of the stormwater management profession. The attendance by 240 participants from municipalities, federal and state governments, consultants and other organizations made this seminar a great success. The proceedings for this event are available from:

<http://udfcd.org/conferences/conferences.htm>

Douglas and Arapahoe Counties Criteria Manual Update Project

The District is helping to fund and otherwise assist with the preparation of updated stormwater criteria manuals for Douglas and Arapahoe Counties and the City of Centennial. The effort began in 2003 and is expected to be completed in 2004. All three manuals will base their technical recommendations on the District's *Urban Storm Drainage Criteria Manual*. However, each will have specific requirements for development/redevelopment projects within their jurisdictions and will add details and aesthetic features that the District's *Manual* does not have.

Denver is preparing a BMP Implementation Manual

Under the leadership of Terry Baus of Denver's Wastewater Management Division, Denver has contracted with Wright Water Engineers, Inc. and its sub-contractors to develop a BMP implementation guidance document. All departments of the City are participating in this effort and the District has also been invited to be a member of the project's advisory committee. This promises to result in a thoroughly rich document that will offer an array of options of how to make BMPs work in an ultra-urban infill and redevelopment areas as well as land development projects with more elbowroom.

In addition, many issues specific to Denver and similar cities across the United States will be addressed to one degree or another. For example, two issues of importance are: (1) what may be feasible to retrofit on a regional or sub-watershed basis versus on-site BMPs, and (2) aesthetics of stormwater management facilities within an urban setting. We look forward to continuing our participation in this project and towards the final product that will be produced to guide us in the selection, design and site integration of BMPs into the urban landscape.

Reporting on District's BMPs Testing

Since early 1990s the District has been testing several BMPs at the Lakewood Public Works Maintenance facility. We were hoping to report on the results in

this issue, however the drought and an epidemic of equipment problems required us to extend field testing for one more year. Look for a report on the results of this testing effort on our website to appear by mid- to late-2004. A summary of the findings will be presented in the next annual issue of *Flood Hazard News*.

Ben Urbonas Receives ASCE 2003 State-of-the-Art Civil Engineering Award.

The American Society of Civil Engineers presented an award to Ben Urbonas of our staff, along with Jonathan Jones of Wright Water Engineers, Inc. and Eric Strecker, P.E. of GeoSyntec for the development of the National BMP Database. The three were the Co-Principal Investigators for this ASCE project funded by the U.S. Environmental Protection Agency. The database can be accessed through its own web site at <http://www.bmpdatabase.org>.

This database provided the first compilation of scientifically defensible data about stormwater Best Management Practices (BMPs) performance throughout the United States and countries outside the USA. Currently it has data from approximately 200 structural and non-structural BMP test sites and more are being added as data become available. Along with the data for water quality, it contains information on local precipitation and climatic conditions when the data were taken, peak flow and storm volumes recorded at the test site and a plethora of detailed design information about each BMP's structural installation or non-structural practice. The combination of all this information provides engineers, scientists and other professionals with scientifically defensible data to develop relationships between various BMPs, their design and performance.