



Capitol Region Watershed District

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Citizen Advisory Committee Meeting

Thursday November 12, 2009 – 7:00 p.m.

CAC Members Present:

David Arbeit, Bill Barton, Paul Kammueler,
Michael MacDonald, Ted McCaslin, Ole
Olmanson, Shirley A. Reider, Jerry Wagner

Members absent with notice:

Jim Cotner, Judith Monson, Michelle Ulrich,
Brandon Wiarda

Others Present:

CRWD Manager Mike Thienes
Dawn Nelson, CRWD Staff
Melissa Baker, CRWD Staff
Pat Conrad, EOR, Inc.

1. Welcome, Announcements, and Updates

Shirley Reider opened the meeting at 7:00 p.m. with a request for announcements. David Arbeit noted a recently formed citizen community group that has expressed interest in water quality in the Como neighborhood. Mr. MacDonald said CRWD and Parks and Recreation have spoke to the group. It was noted that Janna Caywood is the contact person for the group and she wrote an article that was in both the Bugle and the Monitor. Mr. MacDonald said an individual who was interested in the group, reviewed the 2002 Como Plan and was impressed that everything the District sat out to do was completed except one item.

2. Public Comment – For items not on the Agenda.

3. Approval of Agenda

Ms. Reider asked for additions or changes to the Agenda. There were no additions or changes to the Agenda.

CAC 09-11-01 Motion: *To approve the CAC November 12, 2009 agenda as presented.*

Arbeit/Kammueler

Unanimously approved

4. Approval of the October 14, 2009 CAC Minutes

Ms. Reider asked for additions or changes to the *October 14, 2009 CAC Minutes*. There were no additions or changes to the CAC Minutes.

CAC 09-11-02 Motion: *To approve the CAC October 14, 2009 CAC Minutes as provided.*

Arbeit/MacDonald

Unanimously approved

5. Items for Review and Comment Requested by Board of Managers

Stormwater BMP Performance Assessment and Cost-Benefit Analysis

Melissa Baker, Water Resource Technician provided an overview of the Stormwater BMP Performance Assessment and Cost-Benefit Analysis. Ms. Baker noted that the Committee could follow along with the summary material that was enclosed in their packets. Capitol Region Watershed District in partnership with CRWD cities and others have been designing and implementing stormwater best management practices (BMPs) throughout the watershed district to minimize the impacts of stormwater and improve the water quality of CRWD water resources. CRWD also operates and maintains select BMPs and assesses their effectiveness in stormwater volume reduction and pollutant removal. The Stormwater BMP Performance Assessment and Cost-Benefit Analysis presents actual 2007 and 2008, modeled, and projected performance

results and maintenance data and analysis on select BMPs monitored and/or maintained by CRWD. Results were presented for BMPs constructed as part of the Arlington Pascal Stormwater Improvement Project (APSIP). Staff has completed a performance analysis of the APSIP BMPs using monitoring and modeled data. A cost-benefit analysis of the APSIP BMPs was also completed resulting in volume reduction and pollutant removal costs for those BMPs. Ms. Baker outlined the BMP project area, described the BMPs and drainage areas, and monitoring efforts for this project. From April to November of 2007 and 2008, CRWD collected water quality and quantity data for stormwater BMP structures to determine their effectiveness in reducing pollutant loading and also in reducing the volume of stormwater runoff. The BMPs monitored include: Arlington Hamline Underground Storage Facility (AHUG), Como Park Regional Pond (operational in 2008 only) and 8 underground infiltration trenches. Ms. Baker noted that eight rain gardens were monitored to determine peak water levels during storm events in 2007 and 2008. The rain gardens monitored include: Arlington-McKinley, Asbury North, Asbury South, Frankson-McKinley, Hamline Midway, Pascal Center, Pascal North and Pascal South. Mr. Arbeit said he thought it to be very important to put a value on the volunteer hours that are put in for the District. Ms. Baker said the volunteer hours are included but not a dollar value for the hours.

Ms. Baker outlined the total solids loading calculation, P8 modeling, BMP operation and maintenance, and the cost benefit analysis. Ms. Baker noted that the Arlington Pascal Stormwater Improvement Project had a project capital cost of approximately \$2.7 million, which includes the costs of construction, design, and bond interest. Ms. Baker further described the monitored and modeled APSIP BMP performance results.

APSIP BMP Monitored Performance Results

Ms. Baker said the APSIP BMPs have performed very well. In the 2007 and 2008 monitoring seasons, AHUG was the most efficient of the BMPs. AHUG had 100% volume reduction and total phosphorous (TP) and total suspended solids (TSS) removal efficiencies in both years. In 2007 and 2008, Trench 5 had volume reduction efficiencies of 97% and 99% respectively. Trench 4 had a higher volume reduction efficiency in 2008 (95%) than in 2007 (73%). 2008 was the first year of operation for the Como Park Regional Pond and it performed better than expected. The pond was more efficient at removing TSS (83%) than TP (45%). It also reduced stormwater volume by 27%.

APSIP BMP Modeled Performance Results

In 2007, all APSIP BMPs, except for the Como Park Regional Pond which was not operational, were very efficient at infiltrating stormwater runoff and removing TP and TSS; all had volume reduction and TP and TSS removal efficiencies between 88% and 100%. AHUG had the highest volume reduction and pollutant removal efficiencies of the BMPs. The infiltration trenches had higher removal efficiency for TSS than for volume or for TP.

In 2008, AHUG, the infiltration trenches, and the rain gardens were all very efficient at infiltrating stormwater runoff and removing TP and TSS; all had volume reduction and TP and TSS removal efficiencies between 96% and 100%. The Como Park Regional Pond was efficient at TSS removal (83%) but had moderate TP removal efficiency (45%). The pond was not designed for stormwater infiltration but in its first year of operation the pond had a higher than expected volume reduction removal efficiency of 27%. However, this is not to be expected in subsequent years as debris and sediment accumulation will seal the pond and prevent infiltration.

The 2007 volume reduction and TP and TSS removal efficiencies for AHUG met the projected annual efficiencies. The volume reduction and TP and TSS removal efficiencies for the infiltration and rain gardens were slightly less than the projected efficiencies. In 2008, the APSIP BMPs generally performed better than expected. Volume reduction and TP and TSS removal efficiencies for all APSIP BMPs met or exceeded the projected efficiencies.

The 2007 total APSIP TP load reduction was 46 pounds (lbs) and was below the 2003 APSIP predicted annual TP load reduction of 77 lbs. However, all BMPs were not operational. The 2007 TP load reduction for AHUG exceeded its predicted annual TP load reduction and the 2007 TP load reductions for the underground infiltration trenches and the rain gardens were less than the predicted reduction. The 2008 APSIP TP load reduction of 75 lbs was slightly less than the 2003 predicted project reduction.

The amount of settleable solids captured by pretreatment devices connected to AHUG and the infiltration trenches and settleable solids captured by the BMPs themselves was significant in 2007 and 2008. In 2007, settleable solids captured by the pretreatment units accounted for half (48%) of the total solids load to all APSIP BMPs. In 2008, settleable solids captured by the BMP themselves accounted for 71% of the total solids load to all the BMPs.

APSIP BMP Operation and Maintenance

Ms. Baker said overall, BMP operation and maintenance (O & M) costs and total hours spent maintaining BMPs decreased from 2007 to 2008. The projected O & M costs for AHUG, Como Park Regional Pond, and infiltration trenches are expected to be fairly consistent with 2008 O & M costs. The O & M cost for the rain gardens is expected to decrease in subsequent years.

The volume reduction and pollutant removal costs are directly affected by year-to-year fluctuations in annual operating costs and annual stormwater volume and pollutant reductions by each BMP. BMPs such as the rain gardens have higher volume reduction and TP removal costs than other BMPs. However, the role the rain gardens play in public education and outreach, aesthetics, and wildlife habitat should also be taken into consideration.

In 2007, the infiltration trenches had the lowest volume reduction and total solids removal cost of the APSIP BMPs. AHUG had the lowest TP removal cost. In 2008, the Como Park Regional Pond had the lowest TP and total solids removal and volume reduction costs of the APSIP BMPs. Projected volume reduction and TP and total solids removal costs were generally greater than those in 2007 and less than those in 2008.

Manager Thienes noted that staff presented the Stormwater BMP Performance Assessment and Cost-Benefit Analysis at the Water Resource Conference on Monday, October 26th. Ms. Baker added that she was also invited to present at the Minnesota Erosion Control Association in March. The Committee thanked Melissa for her presentation.

2010 Watershed Management Plan

Ms. Nelson noted that at the September 22nd special board meeting the Managers authorized the start of the formal review process and distribution of the draft 2010 Watershed Management Plan to the required review agencies, CAC, TAC, and the Community Group. The Managers also set the required public hearing for the 2010 Watershed Management Plan for February 3, 2010 at 6pm. Pat Conrad, Emmons Olivier and Resources, Inc. reviewed the plans contents to familiarize the CAC members with the plan. Mr. Conrad explained that a statutory requirement is that all Watershed Districts write a Watershed Management Plan. You must go through a planning process to lay out the framework for District Operations, Projects and Programs which makes the Plan community driven. Mr. Conrad noted that the Plan review process includes a 60 day review period that ends December 24, 2009. CRWD has 30 days to respond to comments which would be no later than January 23, 2010. A Public Hearing is to be held between 30 and 45 days after the end of the formal review period which has been scheduled for February 3, 2010 at a regularly scheduled Board meeting. Which will be followed by another 45 day review period to explain the responses to the comments made in the current review period. The Plan is then submitted to the Board of Water, Soil and Resources for their comments and they have 90 days to review the Plan. And then finally the District will adopt the Plan and begin implementing the Plan. Mr. Conrad described the Plan Components and how each tab or section in the Plan plays a role in the second book that is the Appendices. It was noted that when reviewing this document you can compare the proposed implementation item to the issues and goals they are

addressing. It was also noted that some implementation items address more than one of the issues and are listed multiple times in this document. Mr. Conrad explained that the Implementation Plan is basically a ten year work plan and budget. Bill Barton commented that none of the District boundary maps show anything on the other side of the Mississippi River. Mr. Arbeit added that there should be a context map early on in the Plan. Mr. Arbeit said this is going to be a great document but was wondering if the Plan anticipates funds from other areas. Mr. Conrad said the table to show the CRWD cost-share. It was the consensus of the Committee that the last two sections of the Appendices; the Glossary and the Acronyms should be included in the Plan for easy viewing.

Ms. Nelson said the December CAC meeting will be to discuss the CAC's comments on the draft WMP.

6. Project and Program Updates

No discussion.

7. Board of Managers and CAC Observer Update

Manager Thienes said that recent Board actions included a few permits, grants and authorized the Cooperative Construction and Geotechnical Investigation Agreements for Gottfried Pit Improvements. Special Reports include the same presentation from Melissa Baker and a Watershed Survey results presentation by Ela Raush from Wilder Research which was really good information. Jerry Wagner said he was very impressed with the Wilder Research report and their enthusiasm to work with the District.

8. Discussion - New & Old Issues

The Committee would like for Forrest Kelley to provide a Cleveland Randolph Groundwater Study Update and a future meeting.

9. December 9, 2009 Agenda Overview

Ms. Nelson noted that the purpose of the presentation tonight was to review the Watershed Management Plans contents and familiarize the CAC members with the plan in hope to spark interest and understanding that will yield substantial and thoughtful input to our plan at the December meeting.

10. Adjourn – 8:50

Respectfully submitted,

Dawn Nelson

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