



CITY OF ARVADA

**STORMWATER UTILITY**

**2005 ANNUAL REPORT**

**TO THE PUBLIC**



**Produced by the City of Arvada Public Works Department**

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### I. INTRODUCTION

The 2005 Annual Report to the Public details the programs for which the Stormwater Utility revenue was used, including program expenditures and subsequent accomplishments. Residents and businesses in Arvada are charged a Stormwater Utility Fee based on the impervious area of each property. Revenues from the Stormwater Utility Fee funds flood control projects, storm system maintenance, and programs required under a federally mandated Stormwater Permit obtained by the City. Any questions concerning this material may be directed to the Stormwater Hotline at 720-898-7810 or send an e-mail to [stormwater@ci.arvada.co.us](mailto:stormwater@ci.arvada.co.us).

### A. ARVADA'S STORMWATER UTILITY FEE

Development of Arvada's Stormwater Utility Fee began in August 2000. A nine-member Stormwater Utility Citizen Task Force, with the assistance of a consultant, reviewed the various stormwater utilities that had been implemented nationally, implementation options, equitability of those options, and cost. Analyzing a random selection of properties, the Task Force concluded and recommended to City Council that Arvada's Stormwater Utility Fee be based upon the amount of impervious area on each property. Impervious area includes surfaces such as rooftops, driveways, and parking lots. This option was the most equitable, consistent, and accurate assessment method.

Beginning in February 2001, a significant public outreach effort began to let residents and businesses know about the proposed Stormwater Utility Fee. Specifically, materials and presentations addressed:

- Needs that the new fee would fund
- Assessment methodology
- Impact of the proposed rate on individual property owners / lessees

After public notification and hearing, the Stormwater Utility Fee was unanimously passed by City Council in June 2001. From a digitized aerial photograph, the impervious area for every property in the City was determined. Beginning in November, 2001, Arvada citizens and businesses received notification of the new Stormwater Utility Fee, including the square foot of impervious area associated with their property and the amount of the bimonthly fee. Those who disagreed with the impervious area determination were able to contact the City and have a field crew measure, and potentially, revise the charge.

Beginning in January 2002, the Stormwater Utility Fee was added to the bimonthly utility rate. For those within the City limits not receiving water and/or wastewater services and, thus, do not receive utility bills from the City of Arvada, a separate bimonthly bill is sent for stormwater.

As new homes and commercial facilities are built, additions are permitted, or demolition occurs, the impervious area is updated and fees are adjusted appropriately. This way, impervious area data is maintained and remains current.



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### **B. STORMWATER UTILITY RATE, REVENUE, AND EXPENDITURES**

In 2005, all properties were charged at the same rate, \$0.00257 per square foot of impervious area per bimonthly bill. The 2005 revenue was \$2.6 million, with the average single-family home paying just over \$4.00 per month, or \$8.00 per bimonthly bill. The total cost for the 2005 Stormwater Permit efforts was \$502,000, with the remainder being applied to flood control projects.

In 2006, the Stormwater Utility rate has been increased to \$0.00281 per square foot of impervious area per bimonthly bill. As in the past, all properties are charged at the same rate. Anticipated revenue for 2006 is expected to be \$2.8 million.

### **C. 2005 ANNUAL REPORT TO THE PUBLIC**

The 2005 Annual Report to the Public is divided into the following three sections:

Flood Control Projects - In 2005, almost \$3.3 million was expended on City flood control projects, with just over \$2 million financed by the Stormwater Utility fee. The City's flood control activities for 2005 are described in Section II of this report.

Stormwater Permit - In 2005, over \$500,000 was expended on the City's Stormwater Program. The activities of the Program were conducted in response to the City's Stormwater Permit, a regulatory mandate under the Clean Water Act that was acquired from the State on March 10, 2003. The City's activities under the permit are described in Section III of this report.

Local and Regional Stormwater Programs - In 2005, over \$43,000 was expended on Local and Regional Stormwater Programs, including the sampling conducted of the City's surface water bodies, pond dredging activities, and mosquito control. These activities are conducted to support and improve the overall health of streams, water bodies and ultimately the health of all Arvada citizens. A summary of these programs is included in Section IV of this report



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### II. FLOOD CONTROL PROJECTS

Flood control projects amounted to almost \$3.3 million in expenditures in 2005. From the purchase of a sedimentation feature in Hayes Lake to construction of the Van Bibber Flood Control Channel, the year experienced a variety of projects.

#### A. MISCELLANEOUS DRAINAGE PROJECTS

##### **Hayes Lake Purchase:**

There was only one minor miscellaneous drainage project that the Stormwater Utility Fee funded in 2005, which was preparing for the purchase of Hayes Lake from the Oberon Water Company.

#### B. MAJOR DRAINAGE PROJECTS

##### **Tennyson Street Outfall Phase 2:**

A 36" storm sewer pipe and associated inlets were installed upstream from the pipe located at West 60<sup>th</sup> Avenue and Tennyson Street as part of Phase 1 of the Tennyson Street Outfall. Phase 2 of the Tennyson Street Outfall extended a pipe north to West 63<sup>rd</sup> Place to intercept the outfall of the detention pond at the Tennyson Park Subdivision as well as other local runoff in this area.

##### **Van Bibber:**

The Van Bibber project expanded the inadequate channel for Van Bibber Creek. Van Bibber Creek is normally a small trickling stream. However, under specific weather conditions, it has wreaked havoc on homes and businesses in the Arvada Plaza and Ralston Square vicinity. The Van Bibber Creek drains a 20-square mile basin that begins in the foothills west of Arvada, ending at its confluence with Ralston Creek near Brooks Drive and Garrison Street (just west of North Jeffco Park and Recreation District's indoor soccer facility). Once or twice each decade, storm flows exceed the drainage capacity of the Creek, which actually flows underground across the Arvada Plaza at W. 58<sup>th</sup> Avenue and Garrison Street before dumping into Ralston Creek. Manhole covers in the area have been known to blow off and businesses have had to open front and rear doors to allow floodwater to pass through their buildings.

The Van Bibber project will solve this problem in Arvada's "Triangle" area, subject for years to constraints in leading and revitalization as well as exorbitant flood insurance rates.

Construction of the Van Bibber Drainage Improvement began in January 2004. Construction is about 83% complete, scheduled for completion in late spring, 2006. The first area of construction activity involves installation of a two-cell concrete





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box culvert across W. 58<sup>th</sup> Ave. west of Independence Street. Each cell is 8.5 feet tall and 14.5 feet wide. To accommodate its construction, traffic on W. 58<sup>th</sup> Ave. between Independence Street and Kipling Street is being routed onto a temporary paved detour on the former Jefferson County shop site across from King Soopers and K-Mart. Businesses in the area remain open but access points may be different locations; customers are encouraged to follow directional signs or call the business ahead of time for directions. After the detour has been removed and traffic returned to normal traffic patterns, a grass-lined channel will be constructed across the former shop site.

The second area of construction activity is at the western end of the Harold Lutz Sports Complex, where construction of a grass-lined channel continues. The new Miller Street entrance to the complex opened in 2005 to facilitate easy access to the east ball fields.

In 2002, the City received \$7 million in Federal dollars earmarked for the project to supplement the \$5 million set aside by the City of Arvada and the Urban Drainage and Flood Control District. When completed, the project will remove from the stigma of the 100-year flood plain from over 40 homes and businesses.

### **Arvada Channel:**

This construction project is an implementation of a portion of the Urban Drainage & Flood Control District Master Drainage Plan for the Columbine Basin. The construction consists of 12' x 6' concrete box culverts from 4 Acre Lake to Yarrow Street. The box culverts have been previously installed both upstream and downstream of this reach and provide capacity for a 5-year storm in an area that is under-served by storm sewer.

### **Garrison Street Bridge:**

The City began planning to replace the Garrison Street Bridge just north of the North Jeffco Park and recreation District Indoor Soccer Field. Construction is slated sometime in the next 5 years.



### III. STORMWATER PERMIT

According to the United States Environmental Protection Agency, nearly 40% of surveyed water bodies do not meet standards, due, in a large part, to polluted stormwater run-off. To address this concern, the EPA in 1990 required large municipalities, such as Denver and Aurora, to apply for and operate under a Phase I Stormwater Permit as outlined in the Clean Water Act. Starting in 2003, cities with populations between 50,000 and 100,000 people (based on the 1990 census) and densely populated unincorporated areas throughout the nation are required to apply for and operate under a Phase II Stormwater Permit. The Phase I and Phase II Stormwater Permits' provisions are designed to clean up stormwater runoff into area waterways by implementing the programs outlined in the following pages.

Arvada worked closely with the Colorado Department of Public Health and Environment (the State oversight agency), Urban Drainage and Flood Control District, and 30 counties, cities, and districts in describing the regulatory expectations under the Permit. The City also worked with a small group of ten northern Colorado jurisdictions in fine tuning the Permit requirements and developing language for the Stormwater Permit Application.

The City submitted the Stormwater Permit Application to the Colorado Department of Public Health and Environment before the March 10, 2003 deadline. Arvada's Stormwater Permit Application can be viewed on the City's website at <http://www.ci.arvada.co.us> and type in keyword "stormwater" then click on the link, "Stormwater Management Plan."

The Permit commits Arvada to developing or continuing programs in the following areas:

1. Public Outreach / Education
2. Public Participation / Involvement
3. Construction Site Erosion Control
4. Illicit Discharge Detection and Elimination
5. Long-Term Maintenance of Stormwater Best Management Practices
6. Pollution Prevention and Good Housekeeping of Municipal Operations

The Apex Center, under North Jeffco Park and Recreation District, was designated by the State as needing a Stormwater Permit because of the number of people each day that it serves. For the purposes of leveraging resources, the City of Arvada's Stormwater Permit includes this facility. Essentially, the City's permit includes all land within the City except school sites.

The following pages summarizes Arvada's 2005 activities that satisfy permit requirements for each of the Minimum Control Measures, followed by a summary of activities anticipated for 2006.



## A. PUBLIC EDUCATION AND OUTREACH

### 1.0 General Summary

The City of Arvada conducts public outreach to educate and engage our residents and members of the business community in understanding how their actions affect stormwater, and consequently, water quality in our streams.

In 2005, the City of Arvada expended \$43,500 in satisfying the Public Education and Outreach goals of the Stormwater Program. Below is a summary of the programs conducted in 2005.

### 2.0 Summary of Programs

#### 2.1 Storm Drain Marking

Stormwater flows into openings in the curb called storm drains, which lead to Arvada's creeks. It is important for area residents to learn not to put waste in gutters or down the storm drains as the waste pollutes our streams.

On January 30<sup>th</sup>, 2005, 344 "Stormwater Awareness" door hangers were distributed with text in English and Spanish as part of the Stormwater Public Education Program.

On October 21<sup>st</sup>, 2005, 70 "Drains to Creek" markers were installed on Brooks Drive and the surrounding area. Brooks Drive is adjacent to Ralston Creek in a neighborhood that experiences fairly heavy traffic. Therefore, four City of Arvada staff placed the storm drain markers this year instead of school-age children.



*Storm Drain Medallion*

#### 2.2 Adopt-a-Street / Park / Trail



Streets and Parks in Arvada may be adopted, which requires that trash and debris be picked up and disposed of properly two to four times a year. The Adopt-a-Street Program had 3 routes adopted in 2005 covering 2.2 miles. 35 routes have been adopted to date and 17 routes are in need of adoption. To adopt, please call Tara Kratzer at 720-898-7803. The Adopt-a-Trail Program had 8 schools participate in adopting a trail for a day where students plant trees along their adopted route. Call Tom Griffiths at 720-898-7416 for more information.



### 2.3 Fillup-A-Can Day/Keep Arvada Beautiful Day

Fillup A. Can, the human-sized green trash can has been introduced to the City this year. Fillup would like all of us to dispose of trash in trash cans and never throw trash down on the ground in parks, neighborhoods, parking lots, or streets. You will



see more of Fillup A. Can throughout the City in the future, spreading his message to "Keep Arvada Beautiful." On Saturday, May 7, 2005, volunteers participated in the City's yearly clean-up program as well as enjoyed fun-filled activities provided by staff from all departments of the city. For several years, individuals, service groups, and clubs have joined together to clean up sections of trails, streets, parks and creek beds in honor of Earth Day and in an effort to Keep Arvada Beautiful.

This year, the Environmental Services Division wanted to return the focus of the event to the importance of caring for our environment and reminding folks about the benefits we all receive as residents in Arvada. Assigned trash pick-up routes were set up in advance and given to groups based on size and abilities. The City loaned orange safety vests to each group of volunteers and provided trash bags and information about environmental issues. Lunch was provided to volunteers in Memorial Park, located north of City Hall between 11:30am and 1:00pm. The City distributed brochures to those attending the picnic on a variety of topics, including watershed protection, water conservation, the Rooney Road Recycling Center for safe disposal of household hazardous chemical and electronic waste, composting, and picking up after your pet. The Clear Creek Optimist Club cooked hamburgers and hot dogs at the picnic. Various City employees and elected officials served food for the participants.



Please call Helen Norris at 720-898-7762 to volunteer for future Earth Day activities or for more information on adopting a route for trash pick-up.

### 2.4 Majestic View Nature Center/Two Ponds National Wildlife Refuge

**Gateway District Cub Scout Camp:** Stormwater Coordinator, Sandra McDonald and Karen Baltz, Majestic View Nature Center Director, participated in the Gateway District Cub Scout Camp at Prospect Park in Wheat Ridge, Colorado. Presentations involved talking about the water cycle, looking at watersheds, an Enviroscape model demonstration and a game. Presentations were made to 85 children and 20 adults on Tuesday, June 14<sup>th</sup> and 104 children and 26 adults on Wednesday, June 15<sup>th</sup>.



**Harvest Festival:** On September 10<sup>th</sup>, Fillup A. Can was featured on a Harvest Festival Parade float that was created with a local Cub Scout Pack in cooperation with the Majestic View Nature Center. Nature Center Volunteers and Cub Scout Pack #167 from Peck Elementary School accompanied the big green trash can in the parade, spreading the message to Harvest Festival spectators to “Keep Arvada Beautiful”. During the Festival, Friday September 9<sup>th</sup> through Sunday, September 11<sup>th</sup>, the Stormwater Division shared a booth with the Majestic View Nature Center, next to the Two Ponds Wildlife Refuge. Brochures and other informational materials were distributed to the public.



**Nonpoint Source Display:** A nonpoint source display was constructed and installed at the Majestic View Nature Center in 2005, spreading a message to Nature Center visitors that waterways can become polluted through an urban environment and Arvada citizens can protect our streams.



**Xeriscape Garden Seminars:** The Majestic View Nature Center and Utilities Department presented four Free Xeriscape Garden Seminars at the Center in April and May, 2005. Experts presented programs on the fundamentals and care of xeriscape gardening, prairie grasses, xeriscaping with native plants as well as tips on attracting butterflies to your xeriscape garden.

## 2.5 City of Arvada Website

The City's website was reconstructed in 2005 to be more user-friendly for the community to access and use. Additions to the City's Stormwater Website include Get Involved, Games, Fillup A. Can Around Town, Teacher's Pages, and Links to Cool Kid Websites and Teacher Websites.

## 2.6 Recycling

**Rooney Road Recycling Center:** The City provides \$37,590 annually in funding for the Rooney Road Recycling Center so that residents have a low cost means of properly disposing household hazardous chemicals. The Center also provides yard waste recycling. In 2005, Stormwater Coordinator, Sandra McDonald, continues to serve on the Board of the Rooney Road Recycling Center.

Brochures describing the Rooney Road Recycling Center and the services it provides were distributed at City presentations, Fillup A. Can Day, the Harvest Festival Booth, through direct mailing, and as a follow-up to illicit discharges.



**Grass Leaf Recycling Program:** In 2005, the City provided a free grass and leaf yard waste drop-off center from April through October at 6161 Old Wadsworth Blvd. Arvada citizens could drop off their yard waste from 4:00pm on Friday afternoons through the weekend until 9:00 Monday mornings during that time period. The City's free yard waste recycling program was made possible through Waste Connections, a local contractor.

**2005 Recycling Guide:** The City compiled a recycling guide, complete with a list of waste products and Arvada businesses who accept various items such as: glass bottles, aluminum cans, paint, used motor oil, yard waste and other miscellaneous items. Recycling guides may be obtained from the Utilities desk on the 2<sup>nd</sup> floor of City Hall or by calling 720-898-7800.

## 2.7 Annual Stormwater Utility Report

This report is available on the City's website and is sent to individuals upon request.

## 2.8 Outreach to Civic Organizations

In 2005, the City of Arvada Stormwater and Parks Divisions as well as North Jeffco Parks and Recreation District worked with Eagle Scouts to install pet waste bag dispensers at the following parks: Meadows at Westwoods, Westwoods Park, Quaker Acres Park, Lake Arbor Park, Davis Lane Park, the new off-leash dog park, Danny Kendrick West Park and the O'Kane Property open space south of the Apex Center. Copies of a door hanger, developed by a high school student, were distributed to residents near Davis Lane Park with a clear graphic and text message why it is important to pick up after pets.

- At the May 7, 2005, Arvada Pride Day Cleanup, commercial businesses donated \$210 in food and gift certificates used for food and drinks for those participating in cleanup events. The Clear Creek Optimist Club cooked hamburgers and hot dogs for all who participated in trash cleanup.
- Civic Organizations make up a large percentage of the participation in the Adopt-A-Street / Park / Trail and Pride Day Programs.
- In 2004, the City of Arvada received a grant from the Sunrise Rotary Club for an interactive Nonpoint Source Pollution Display for Majestic View Nature Center that was constructed and put on display in 2005.





## 2.9 Distribute Brochures and Information

Distributed "What Can I do To Protect Our Waterways?" and "Clear Choices for Clean Water: Managing Your Household Wastes" to the public.

In 2005, the City of Arvada published articles in the **Arvada Report**, a City newsletter that is delivered to every household, apartment and business in the City, approximately 52,000 copies each edition, six times a year. The articles published in 2005 included the following:

- An article entitled "Keep Arvada Beautiful Day, Open House Combine" was published in the April and May Edition of the Arvada Report. The article introduces Fillup A. Can and encourages groups to sign up to pick up trash along an assigned route in honor of Earth Day.
- Published article in the October/November 2005 Edition: "Storm Drains Lead to Creeks" educating Arvada citizens about pollutants and trash that are carried with stormwater through City gutters and storm sewers and deposited in creeks and in our parks. The article lists things that Arvada residents and businesses can do about trash that collects on our streets.
- Published article in the December 2005/January 2006 Edition: "Keeping Arvada Clean is Everyone's Responsibility: City Crews heavily Impacted by Excess Trash and Debris" educating Arvada citizens about the cost of City labor for the Parks and Streets divisions to clean up and remove trash.

A Stormwater Program message is included in **Arvada's Drinking Water Quality Report** that is distributed in the Arvada Report to families and businesses each year and posted on the City's website.

In May and June, Fillup A. Can was featured in a utility bill insert that was distributed to over 30,000 customers. The insert highlighted "litter-known" facts, why litter is a problem and what contributes to litter.

Three brochures, "Managing Your Household Waste", "Caring for your Lawn and Garden", and "Managing your Construction Site", were published in 2004 in conjunction with the Urban Drainage and Flood Control Agency. The City distributed the brochures in 2005 to City businesses, construction companies, at public events and following illicit discharges. The 2003 Stormwater Newsletter containing the following articles: "Arvada Launches Pet Waste Program", "Lawn Waste with Fertilizers and Pesticides Impact Local Waterways," "Arvada Implements New Door Hanger", and "Stormwater Utility" was distributed at the City Open House in 2005.

The City shares its educational resources with the Apex Center for distribution to its patrons. It is hoped that through an iterative and cohesive public education and outreach program, a larger population will be exposed to information on nonpoint source pollution.



## 2.10 Presentations

March 3<sup>rd</sup>, 2005: Sandra McDonald spoke about clean water in our communities at the Cub Scout Roundtable, a monthly meeting of Cub Scout Leaders, at Faith Christian Academy. Participants were there to hear ideas about activities and games for their Packs to do for that month's theme "Waterways of the USA." The following Cub Scout Presentations resulted from the introduction:

- April 14<sup>th</sup>, 2005: Hackberry Hill, Pack 510.
- April 19<sup>th</sup>, 2005: Campbell Elementary, Pack 505.
- April 27<sup>th</sup>, 2005: LDS Church on Quail, Pack #103.

June 14<sup>th</sup> and 15<sup>th</sup>, 2005: Presentations were made by Stormwater Coordinator, Sandra McDonald and Karen Baltz, Director of the Majestic View Nature Center, at the Gateway District Cub Scout Summer Camp at Prospect Park in Wheat Ridge. 85 children and 20 adults on the 14<sup>th</sup> and 104 children and 26 adults on the 15<sup>th</sup> saw an Enviroscope demonstration, played a game and participated in demonstrations on the water cycle and a look at watersheds in Colorado.

December 15, 2005: A presentation was made by Sandra McDonald to the City of Arvada Employee Committee explaining to the City the six basic programs of the Stormwater Permit, describing the City's watershed, describing problems with urban environments and their impacts on the City's watershed and listing ways that City employees can protect water quality.

## 2.11 Surveys

2005 Citizen Survey: 2700 households were surveyed, 942 surveys were returned. The following information was gained:

- 75% of the citizens replied that they recycled used paper, cans or bottles.
- When rating 13 community characteristics, drinking water was rated second and cleanliness/attractiveness was rated third.
- The leading source of City information used by the respondents was the Arvada Report.

## 2.12 Pet Waste Program

The City of Arvada currently has an Ordinance that can levy fines from \$25 up to \$999 against persons who fail to pick up after their pet in public areas. Signs are posted at most parks that inform residents to clean up after their pet.





Arvada's Stormwater Program continued the Pet Waste Program in 2005 by:

- Distributing brochures to the public, including "What Can I Do to Protect Our Waterways?" and "Clear Choices for Clean Water: Managing Your Household Wastes".
- The nonpoint source display at the Majestic View Nature Center highlights how waterways can become polluted through an urban environment, such as leaving pet waste, and suggests how we can protect our streams.
- In 2005, the City of Arvada Stormwater and Parks Divisions as well as North Jeffco Parks and Recreation District worked with various Eagle Scouts to install pet waste bag dispensers at the following parks: Meadows at Westwoods, Westwoods Park, Quaker Acres Park, Lake Arbor Park, Davis Lane Park, the new off-leash dog park, Danny Kendrick West Park and the O'Kane Property open space south of the Apex Center. Copies of a door hanger developed by high school student, Scott Lockwood, were distributed to residents near Davis Lane Park with a clear graphic and text message why it is important to pick up after pets.
- Refill pet waste bags in three City parks: Memorial Park, Majestic View Park and Lady Bug Park.



Allendale Dispenser

### **2.13 Leverage Existing Educational Resources**

When possible, the City will work with other governments, organizations, and non-profits to leverage educational resources developed by others.

- In 2004, Arvada ordered booklets with five other governmental entities entitled, "Stormwater Pollution Prevention: Best Management Practices Guidebook". The program continued to distribute the booklets in 2005.
- Arvada continued to work with the Northern Colorado Alliance of Stormwater Coordinators, a group of ten governments operating under a Phase II Stormwater Permit.
- The City obtained After the Storm, a 22 minute television special co-produced by The Weather Channel and the EPA. The program provides a way for citizens to learn more about the threats facing our Nation's waters from polluted runoff. The video shows the connection between weather and watersheds and the importance of watershed protection.



- The Solutions to Water Pollution video aired 29 times on KATV between April 12 and May 3<sup>rd</sup>, 2005. Professor Water aired in May, 2005.

### 3.0 Summary of Activities during the Next Reporting Cycle

The Stormwater Program must continue its Public Education and Outreach efforts on existing programs as outlined above. In addition, the following Public Education and Outreach goals were established in the Permit for 2006:

<b>December 1, 2006</b>	<ul style="list-style-type: none"><li>• Fifty brochures/newsletters distributed to public and businesses.</li><li>• Document number of Pet Waste Program bags refilled.</li><li>• Write a Stormwater article for the Arvada Report, which is published every other month with over 50,000 copies distributed.</li><li>• Conduct one storm drain marking activity.</li></ul>
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## B. PUBLIC PARTICIPATION AND INVOLVEMENT

### 1.0 General Summary

The City of Arvada must comply with applicable State and local public notice requirements using an effective mechanism for reaching the public. The other programs described below were funded under Public Education. A total of \$160 was expended in 2005.

### 2.0 Summary of Programs

#### 2.1 Local Public Notice Requirements

The City of Arvada published its legal notices on a Publication Board at City Hall and in the Legal Section of the local newspaper.

#### 2.2 Fillup A. Can

The Arvada City Council recognized Fillup A. Can on December 19<sup>th</sup>, 2005 as the City's official Stormwater mascot. City Council recognized Stormwater Coordinator, Sandra McDonald; Steve Milke from the Print Shop; and Kathy Mullen of the Utilities Department for their tireless efforts and creative implementation shown in creating this easily recognizable City mascot with a simple but important message: "Fillup A. Can, Keep Arvada Beautiful!"

Fillup was designed completely in-house and has been copyrighted by the City. The talented staff of the Arvada Center built a life-sized mascot costume. Fillup and his message are now featured through utility bill inserts, buttons, can coolers, coloring books, live appearances, signs, and more. The program has been so successful that other communities are using Fillup in their own programs.

Fillup A. Can appeared, in costume, at "Keep Arvada Beautiful" Day and Open House on May 7<sup>th</sup>, 2005 and rode on a float designed by City staff, members of the Majestic View Nature Center and Cub Scout Pack #167 at the Arvada Harvest Festival Parade on September 10<sup>th</sup>, 2005.

Fillup A. Can was featured on a PowerPoint Presentation displayed at the front desk of the Apex Center with his message to Keep Arvada Beautiful by picking up trash.





City of Arvada Stormwater Coordinator, Sandra McDonald, presented Fillup A. Can at the Best Practices Symposium at the Denver Botanic Gardens on November 4<sup>th</sup>, 2005. The event was sponsored through the UCD Political Science Department and co-convened by the Center for New Directions in Politics and Public Policy Advisory Board, the Colorado Municipal League, the Colorado City and County Management Association and Metro Mayors Caucus.

### **2.3 Ask Arvada**

The City of Arvada provides several different methods for residents to submit comments or questions. This Program is called "Arvada Info2Go." Residents can call the main City number and listen to prerecorded information or leave a voicemail. Over the Internet, residents might submit an e-mail, or some residents may prefer to visit City Hall and fill out a comment card. The system is designed to coordinate all these sources of information and communication avenues, with the website containing the same information as the prerecorded telephone information, and as the response to a comment card or question. The address for "Arvada Info2Go" is: [http://www.tele-works.com/htbin/webware/default.asp?agency=arvada\\_city](http://www.tele-works.com/htbin/webware/default.asp?agency=arvada_city)

### **3.0 Summary of Activities during the Next Reporting Cycle**

The Stormwater Program will continue its Public Participation and Involvement efforts on existing programs as outlined above. Because the current program is fully compliant, no new activities were targeted for 2006.



## City of Arvada

### C. ILLICIT DISCHARGE DETECTION AND ELIMINATION

#### 1.0 General Summary

Under the Illicit Discharge Detection and Elimination (IDDE) Program, the City of Arvada must develop procedures to protect receiving water quality from pollutant levels that degrade and threaten aquatic life, wildlife, and human health. The IDDE Program attempts to reduce intermittent, storm-driven pollution carried into the storm sewers and illicit discharges that occur during dry weather.

In 2005, the City of Arvada expended \$120,000 on the IDDE Program in labor, contract support, and supplies. The City of Arvada IDDE Program efforts included inspection of stream outfalls, determination of sources and toxicity of pollutant discharges to gutters or drains, funding cleanup of spills where the responsible party could not be determined, disposal of abandoned materials, and mapping the City's stormwater infrastructure.

#### 2.0 Summary of Programs

Below is a list of programs conducted to satisfy the permit requirements for Illicit Discharge Detection and Elimination. Storm Drain Marking, the Arvada Website, and the Rooney Road Recycling Center are programs that fit under this program, but are already described under the Public Education and Outreach, Section II.A. so are not described here.

##### 2.1 Develop a Stormwater Control Ordinance

In 1992, the City of Arvada developed an ordinance that prohibits any discharges into the storm sewer system except stormwater and other specified exceptions.

##### 2.2 Develop the Storm Sewer System Map

The City of Arvada conducted detailed reconnaissance of outfalls that discharge to State waters. In Arvada, State waters include: Van Bibber Creek, Leyden Creek, Little Dry Creek, and Ralston Creek. The City's Engineering Division has mapped stormwater conveyances, which include inlets, manholes, and outfalls. Field investigators met with City engineers to begin the process of reconciling field notes with the current Computer Aided Drafting (CAD) files.

Over 82% of the outfalls in the system have now been mapped and located accurately in the CAD files. These files will be updated with future outfall inspections.



## City of Arvada

### 2.3 Develop a Plan to Detect and Address Discharges

The Illicit Discharge Detection and Elimination Plan was produced in 2004. This plan discusses how the City will minimize illicit discharges and respond to illicit discharges when they occur.

**Illicit Discharges:** In 2005<sup>1</sup>, the City responded to 56 complaints of illicit discharge: 27 complaints were handled by the Stormwater program while Code Enforcement responded to 29 complaints. Complaints included:

- 2 antifreeze
- 27 oil, gas, hydraulic fluid
- 10 trash
- 1 grease
- 4 cleaners
- 1 cement
- 4 paint fertilizer
- 1 grass
- 1 sediment
- 1 marking dye
- 1 RV cleanout
- 3 Unknown

Most discharges or spills were handled immediately. All citizen-initiated calls were investigated and recorded on a complaint form. Responsible parties were required to clean up the spill and public education was provided. If the responsible party could not be identified after investigation of the incident, the City was responsible for the cleanup.

**Enforcement Actions:** Six Enforcement Actions were taken in response to the following illicit discharges:

- An Arvada resident was cleaning out an RV waste tank into the gutter.
- An Arvada resident washed out an old engine block into the gutter.
- A restaurant washed out trash containers outside.
- A restaurant dumped used grease into a storm drain.
- A construction company washed out paint buckets into an irrigation ditch.
- A tire company washed out bays into the storm drain.

Resolution was acquired in all cases, legal action was not necessary to pursue.

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<sup>1</sup> This list does not include the hazardous materials response conducted by the Arvada Fire Protection District.



## City of Arvada

### 2.4 Minimizing Illicit Discharges

The City must minimize illicit discharges to the maximum extent practicable. Arvada plans to implement the following management practices:

**Dry Weather Screenings:** The City conducted 191 dry weather screenings of the City's outfalls in 2005. The outfalls discharge stormwater from the City's storm sewer system into Arvada's creeks and ponds. Six of the outfalls detected a problem: one had sheen, three had color issues, two had floatables (trash), one had foam and two had scum.

**Stormwater Hotline:** The Stormwater Hotline may be reached at the following number:

**720-898-7810**

This number has been in effect for four years to answer questions about the Stormwater Utility and to record complaints or spills. After hours, if the caller deems it an emergency, the call is routed to Police Dispatch.

In 2005, there were 11 calls to the Hot Line: 7 water quality issues, 1 vender, 2 did not leave a message and 1 concerning the stormwater utility fee on their water bill.

### 2.5 Pollution Prevention Training

Training on pollution prevention and illicit discharge detection was provided to 117 City employees. There were many people required to attend due to this being the first year of this type of training. Employees were trained on each City facility's Runoff Control Plan and they watched a video pertaining to best management practices on the job. Good housekeeping practices were defined and recognizing illicit discharges was discussed. Employees embarked on a tour of a facility to discuss examples of good housekeeping practices as well as scenarios on spill prevention and cleanup. The Apex Center was provided with spill kits and 15 North Jeffco Parks and Recreation employees were trained.

### 3.0 **Summary of Activities during the Next Reporting Cycle**

The Stormwater Program must continue its Illicit Discharge Detection and Elimination efforts on existing programs as outlined above. In addition, the following Illicit Discharge Detection and Elimination goals were established in the Permit for 2006:



City of Arvada

<p><b>January 1, 2006 to December 1, 2006</b></p>	<p><u>2006 reporting cycle goals</u></p> <ul style="list-style-type: none"><li>• Document the percent of Storm Sewer System Map complete.</li><li>• Document the number of calls received on the Hot Line.</li><li>• Document the number of dry weather inspections performed.</li><li>• Document the number of illicit discharges detected and eliminated.</li><li>• Document the number of staff trained on the IDDE Plan.</li><li>• Document the number of Compliance and Enforcement Actions.</li></ul>
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## D. CONSTRUCTION SITE EROSION CONTROL

### 1.0 General Summary

Under the Construction Site Erosion Control Program, the City of Arvada must reduce pollutants in stormwater runoff to the City's waterways from construction activities that result in land disturbance or construction activity that is part of a larger common plan of development or sale. Construction sites that would disturb one acre or more are required to obtain a building permit from the City. Construction activities that disturb less than one acre are also subject to City Stormwater program requirements.

In 2005, the City of Arvada expended almost \$46,000 conducting the construction site erosion and sediment control inspection program and follow-up enforcement.

### 2.0 Summary of Programs

#### 2.1 Erosion and Sediment Control Ordinance

The City of Arvada enforced the Erosion and Sediment Control Ordinance that requires owners and operators to "undertake all reasonable efforts to prevent, mitigate, and control accelerated erosion resulting or arising from such earth disturbing activities."

#### 2.2 Plan Review Process

The City of Arvada reviewed development plans of proposed industrial, commercial, multiple single-family-lot residential, and multi-family residential projects. The Erosion Control Plan was also reviewed as a part of the overall plan review process. In 2005, the City's Engineering Division reviewed 17 Minor Subdivision Plats, 4 Final Plats, 14 Site Plans, and 9 Final Development Plans for the City.

#### 2.3 Construction Site Inspection and Enforcement Program

The City of Arvada conducted 769 construction site runoff control inspections of more than 63 construction sites throughout 2005. A form was used on-site to document the results of inspections performed. An Access database called SILTs allows for electronic tracking of inspection findings and scheduling of future inspections.



Failure to stabilize the soil and maintain BMPs, like the silt fence in this picture, will result in a finding on an inspection.



Enforcements in 2005 included 7 Warning Letters sent, 3 Notices of Violation, 1 Follow-up to a Notice of Violation and 2 Notice of Completion to Violation Remedy letters issued. The City discontinued issuing building permits at two construction sites in 2005 due to sediment and erosion control noncompliance.

***Definition of Best Management Practices (BMPs):*** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practice to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

## **2.4. Construction Site Materials Handling – Spill Prevention**

Areas of fueling, concrete washout, and stockpiles were all part of routine inspections. Notes were added to an inspection report if problems were found.

## **2.5 Training and Education for Construction Site Owners and Operators**

The City of Arvada, in cooperation with area Cities and Counties, provided informational sessions to owners, operators, and contractors, including the following:

- The City promotes the “CDOT Erosion Control Supervisor Stormwater Management during Construction Training Program.”
- Kathy Mullen of City of Arvada Utilities attended the CDOT training at the Adams County Fairgrounds on January 11<sup>th</sup>, 2005. She is now conducting erosion control inspections for the Arvada Stormwater Program.
- Two employees attended the 5<sup>th</sup> Annual Stormwater Exposition at the Douglas County Fairgrounds on May 4<sup>th</sup>, 2005.

When a workshop or training is advertised, the City places copies of flyers on the Building and Planning Department’s counter so visitors, which include construction site developers and contractors, may be made aware of the event. The following events were advertised on the City’s front counters:

- CDOT Sediment and Erosion Control Training, Adams County Fairgrounds, January 11<sup>th</sup>, 2005.
- 5<sup>th</sup> Annual Stormwater Exposition, Douglas County Fairgrounds, May 4<sup>th</sup>, 2005.



# City of Arvada

- Stormwater Compliance Workshop: Custom and Small Builders, August 4<sup>th</sup>, 2005.
- Stormwater Management during Construction, Town of castle Rock, September 1<sup>st</sup>, 2005.
- Supervisor’s guide to Stormwater: Stormwater Compliance Workshop, HBA, November 8<sup>th</sup>, 2005.
- Stormwater Inspector Certification, Jehn Engineering.

The City has reproduced a version of the “Clear Choices for Clean Water” brochure series entitled, Managing Your Construction Site. Copies of the brochure have been placed on the City’s front counters.

Internal construction site erosion control training was conducted for the City of Arvada Engineering Inspectors on May 2<sup>nd</sup>, 2005.

The City attempts to provide information to construction site managers about the expectations of the City’s sediment and erosion control program by communicating potential problems with BMPs by fax, e-mail or mailings of letters, inspection reports and/or pictures sent to on-site management.

## 2.6 Response to Public Concerns

Arvada City residents may call the Stormwater Hotline to report construction site violations at **720-898-7810**.

The City received 19 complaints pertaining to construction sites in Arvada in 2005: 2 calls were to the Stormwater Hot Line, 6 complaints were received through the Engineering Division, and 11 calls were received directly by the Stormwater Program. Complaints were documented and followed up.

## 3.0 Summary of Activities during the Next Reporting Cycle

The Stormwater Program must continue its Construction Site Erosion Control efforts on existing programs as outlined above. In addition, the following Construction Site Erosion Control goals were established in the Permit for 2006:

<p><b>January 1, 2006 to December 1, 2006</b></p>	<p><u>2006 Goals:</u></p> <ul style="list-style-type: none"> <li>• Document the number of construction site inspections performed.</li> <li>• Document the number of compliance and enforcement actions taken.</li> <li>• Document the number of staff inspectors, site owners/operators/landscapers trained.</li> <li>• Document the number of resident calls to the Hot Line.</li> </ul>
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**F. POLLUTION PREVENTION / GOOD HOUSEKEEPING  
FOR MUNICIPAL OPERATIONS**

**1.0 General Summary**

The City of Arvada must develop a municipal operation's Pollution Prevention / Good Housekeeping Program by drafting guidance and procedures in the form of Runoff Control Plans. Arvada's stormwater management programs will initiate discussions and training with City staff about how their work impacts stormwater quality. Contractors for the City must be trained so that they are aware of the impact their operations have on stormwater quality as well.

In 2005, the Stormwater program expended \$287,000 in labor, contract and supply costs for Pollution Prevention / Good Housekeeping. Major efforts included street sweeping, storm drain maintenance, and minor drainage projects.

**2.0 Summary of Programs**

**2.1 SPCC Plans Maintenance**

Every five years, the City must update the SPCC Plans for City facilities. Training must be provided to the facility staff whose responsibility it is to provide proper management of oil products on what is contained in the SPCC Plan. In 2005, staff implemented the SPCC Plan training program.

**2.2 Storm Sewer Maintenance**

In 2005, the Wastewater Division focused on an emphasis on surveillance of the City's storm sewer infrastructure through inspections and TV monitoring. Storm sewer maintenance and responses to complaints were conducted as-needed. Wastewater responded to 4 storm sewer calls in 2005. According to the Wastewater Division's Annual report, staff jetted 7,905 feet of line and cleaned 55 inlets in 2005. The Wastewater Division implemented an inlet inspection program and inspected 1,592 inlets. 267 grease and sand traps were identified and inspected at City restaurants and businesses. A grease trap inspection program will be developed in 2006.

The Streets Section maintains the surface stormwater infrastructure, such as gutters and inlets. They conduct routine cleaning of catchbasins and drop inlets, and may need to clean areas during rain storms to assure proper drainage occurs.

**2.3 Conduct Street Sweeping**

The City of Arvada was swept several times in 2005. The Apex Center, which is covered under the City's Permit, conducted sweeping of the parking lot twice in 2005.



## 2.4 Trash Removal and Clean Up

The Stormwater Division published an article in the December 2005/January 2006 Arvada Report recognizing City crews for their efforts in trash removal. The City spent hundreds of thousands of dollars on labor, equipment, dumpsters, trash barrels and trash bags by the Parks Division in 2005. The Streets Division crews picked up trash from City right-of-ways and medians. In the summer months, Streets employs four temporary workers and a permanent employee to remove trash and debris in advance of mowing tractors so that the trash does not cause damage to the mowers. Street sweepers remove enormous amounts of trash. Numerous truck loads of construction material, appliances, and other large items are removed throughout the year after being left in the City's right-of-ways. Drainage crews pick up trash and debris from creeks during regular drainage maintenance operations. The Stormwater Division appreciates the effort the City crews are making to keep our waterways free of trash and other pollutants. Fillup A. Can continues to encourage Arvada residents to help pick up trash, so crews may have more time to devote to other City projects.

## 2.4 Development of Runoff Control Plans

The City of Arvada evaluated and inventoried all municipal facilities that require a Runoff Control Plan. Runoff Control Plans are designed to help reduce any impacts to stormwater from City operations. Training on pollution prevention and illicit discharge detection was provided to 117 City employees, including:

- 10 from West Woods Golf Course
- 5 from Lake Arbor Golf Course
- 6 from the Arvada Center for the Arts and Humanities
- 4 from the water treatment plants
- 19 from wastewater and stormwater maintenance
- 43 from the Indiana Service Center
- 5 from Utilities, City Hall
- 14 from Wadsworth City Shops
- 10 from Parks
- The Facilities Manager

North Jeffco Parks and Recreation:

- Apex Center: 15 employees were trained, spill kits were provided.

2005 was the first year of pollution prevention training, therefore many City employees were required to attend. Employees were trained on Runoff Control Plans and they watched a video to learn about good housekeeping practices at municipal operations and how to spot illicit discharges. A discussion about illicit discharge definitions and examples were given after the video. In 1999, a Pollution Prevention Evaluation was conducted at the Indiana Shops municipal facility in cooperation with the Colorado Department of Public Health and Environment. The 2005 training helps staff to think about pollution prevention and how their actions might affect water quality.



## 2.5 Pollution Prevention Evaluation

The City evaluated methods to reduce the need for environmentally hazardous substances, controlled and managed spent chemicals in the City's operations, and investigated methods to reduce waste to the maximum extent practicable.

The following City facilities / operations were evaluated for pollution prevention methods:

1. In 2005, the Stormwater Program began to research methods to reduce silt input to Arvada's waterways from water line breaks. Further research will be conducted in 2006 and procedures will be evaluated.
2. In 2005, contracts for public improvements were evaluated for spill prevention and construction site erosion control requirements to make sure that City projects, such as sewer and water main replacement, remain compliant with the City's stormwater permit.
3. The City's two golf courses, Lake Arbor and Westwoods, were evaluated in 2004 for pollution prevention and runoff control while updating the Spill Prevention Control and Countermeasures Plans and developing the Runoff Control Plans for the two facilities. In 2005, training was held at both golf courses and evaluation and improvement at the golf courses includes:
  - Spill prevention
  - Runoff control
  - Improved mower washout facilities
  - Stormwater segregation in ponds
  - Stream bank stabilization
4. Arvada Parks will be evaluated in 2006.
5. The City's street sanding activities use a *salt/sand* mixture for approximately two-thirds of the City and straight *salt* is used for the remainder. The City uses salt to allow for a more rapid clean-up following a snow storm, reducing the impact to air quality and meeting the Regional Air Quality Council's goal of a 30% reduction in the amount of sand applied to the City's streets, compared to the 1990 application rate.

A monitoring program was established by the Stormwater Division to determine what effect the *salt* mixture had on Ralston Creek versus the *salt/sand* mixture. 36 samples were taken from three sites from 12 storm events in 2005. The data shows that the sampling location representative of the *salt/sand* mixture had a slightly higher concentration of chloride compared to the area that had *salt* plus the upstream flows, which had runoff from the salt/sand mixture. The monitoring program will be continued.



### 3.0 Summary of Activities during the Next Reporting Cycle

The Stormwater Program must continue its Pollution Prevention/Good Housekeeping for Municipal Operations efforts on existing programs as outlined above. In addition, the following Pollution Prevention/Good Housekeeping for Municipal Operations goals established in the permit for 2006 are:

<p><b>January 1, 2006 to December 31, 2006</b></p>	<p><u>2006 Goals:</u></p> <ul style="list-style-type: none"><li>▪ Document the number of City staff trained of Runoff Control Plans.</li><li>▪ Document City facilities with a Pollution prevention Evaluation conducted.</li><li>▪ Document the number of procedures reviewed and modified to address good housekeeping.</li><li>▪ Document the number of City contracts evaluated for spill prevention requirements.</li><li>▪ Document the number of parks/golf courses evaluated for grounds keeping.</li></ul>
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## City of Arvada

### III. LOCAL AND REGIONAL STORMWATER PROGRAMS

The following programs are conducted to promote healthy environments in our streams and to promote the health of our citizens. These programs are not specifically required under the Stormwater Permit with the State, nor are they flood control projects. They are stormwater related activities and are funded through the Stormwater Utility. These programs include Stream Standards, Pond Dredging, and Mosquito Control.

#### A. STREAM STANDARDS

The City of Arvada must be active in regulatory compliance with stream standards in the City's State classified streams. State classified streams include Ralston Creek, Van Bibber Creek, Leyden Creek, and Little Dry Creek. The City maintains an active role in stream monitoring and State rulemaking activities by working collectively with surrounding jurisdictions to protect water quality. Activities conducted under this effort include the following:

- Monitoring and sampling the City's creeks.
- Monitoring and sampling the three major canals that navigate through the City.
- Monitoring and sampling Clear Creek (one of the City's drinking water sources) with neighboring cities.
- Attending the Colorado Water Quality Control Commission meetings and commenting on potential rulemaking.
- The City actively participates in coordinated efforts with the Northern Colorado Alliance, a coalition with other metro cities in enhancing stream water quality.
- Member of the Upper Clear Creek Watershed / Standley Lake Agreement.

#### **Ralston Creek Total Maximum Daily Loads**

On October 12, 2005, the State issued a Notice of Public Rulemaking Hearing, which is scheduled for February 13, 2006 before the Water Quality Control Commission that will deliberate over arguments for or against Colorado's newest Monitoring and Evaluation List. The proposed list includes the segment of "Ralston Creek and tributaries below Arvada Reservoir", which does not meet water quality standards for E. coli. E. coli are bacterium that originates from warm blooded animal waste.



## City of Arvada

A Total Maximum Daily Load (TMDL) is a thorough study of pollutant loading into a stream from various sources and a determination of how much the stream can withstand before it goes out of compliance with a water quality standard. Once Ralston Creek is listed, it may be a year before the State actually writes the TMDL for Ralston Creek. In that time, the City will negotiate on the amount of sampling that will take place and the timeframe for that sampling, when the results of sampling must be reported, and finally, when a plan to mitigate those areas that may exceed the standard must be submitted.

We have predicted that there are three major sources of E. coli:

- Wildlife and domestic animals near waterways: Arvada's natural environment contains abundant wildlife, which adds E. coli to the stream. Domestic animals are also sources of E. coli.
- Canal diversions: Frequently, there are diversions from any of the three dirt-lined canals carry water from Clear Creek into Ralston Creek.
- The City's Municipal Separate Storm Sewer System (MS4): The City's storm sewer picks up a multitude of contaminants before discharging into Ralston Creek.

Mitigation of discharges that exceed the standard will first require that the City identify E. coli sources specific to that discharge. Mitigation may then require removal of pollutant sources, sanitizing storm sewer pipes, public education, or whatever is approved by the State in a Mitigation Plan.

In 2005, the City expended \$19,850 in Stream Standards efforts in labor, supplies, and laboratory costs.

### **B. POND DREDGING**

There was only one minor miscellaneous drainage project that the Stormwater Utility Fee funded in 2005, which was preparing for the purchase of Hayes Lake from the Oberon Water Company. Hayes Lake will then be dredged.



## City of Arvada

### C. MOSQUITO CONTROL

In 2005, the Program expended over \$23,000 in labor and materials to implement mosquito control and West Nile Virus prevention programs for the treatment of standing water, testing for increases in mosquito populations, and responding to public concerns.

Jefferson County contracted OtterTail Environmental, Inc. to operate an integrated mosquito management program in 2005 for Jefferson County. The Jefferson County and its City entities work together with Ottertail to protect public health from the effects of West Nile Virus. Jefferson County wanted to prioritize mosquito habitats by determining which sites had the highest potential for mosquito breeding, then monitor and treat those sites when vector larvae were present. They wanted to monitor adult mosquito populations to provide an early warning system for the occurrence and severity of West Nile Virus activity. Finally, they wanted to limit the effect on the environment from pesticide application and be as cost-effective as possible.

Colorado led the country in West Nile Virus cases in 2003 and ranked third highest in the nation in 2004. In 2005, Colorado ranked eighth reporting 101 West Nile Virus human cases and 2 deaths. In Jefferson County, 6 cases were reported to Jefferson County Department of Public Health and Environment, there were no deaths, and no horses, birds or pools of mosquitoes tested positive in the county, although testing was frequent and widespread.

The Stormwater Utility funded this effort for the City because most areas that required treatment were areas that retained stormwater.

In May, 2005, a utility bill insert featured an article entitled "You and West Nile Virus". The article listed ways Arvada residents may protect themselves from West Nile Virus. The same article appeared in the April/May issue of the Arvada Report.