



CITY OF ARVADA

STORMWATER UTILITY
2004 ANNUAL REPORT
TO THE PUBLIC



Produced by the City of Arvada Public Works Department

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I. INTRODUCTION

The 2004 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

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. Because impervious area increases runoff, assessing each property's impervious area and applying a consistent rate throughout the City was deemed 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:

- The needs that the new fee would fund.
- The assessment methodology.
- The 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 re-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.



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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.

B. STORMWATER UTILITY RATE, REVENUE, AND EXPENDITURES

In 2004, all properties were charged at the same rate of \$0.00257 per square foot of impervious area per bimonthly bill. The 2004 revenue was approximately \$2.2 million, with the average single-family home paying \$3.58 per month, or \$7.16 per bimonthly bill.

In 2005, the Stormwater Utility rate will stay the same at \$0.00257 per square foot of impervious area per bimonthly bill. As in the past, all properties are charged at the same rate. Anticipated revenue for 2005 is expected to be approximately \$2.3 million.

C. 2004 ANNUAL REPORT TO THE PUBLIC

The 2004 Annual Report to the Public is divided into the following three sections:

Flood Control Projects - In 2004, approximately \$4 million was expended on City flood control projects, with almost \$1.9 million financed by the Stormwater Utility fee. The City's flood control activities for 2004 are described in Section II of this report.

Stormwater Permit - In 2004, approximately \$340,000 was expended on the City's Stormwater Program 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 2004, over \$54,000 was expended on Local and Regional Stormwater Programs. A summary of these programs is included in Section IV of this report, 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.



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II. FLOOD CONTROL PROJECTS

There are two categories of flood control projects: miscellaneous drainage projects and major drainage projects. Miscellaneous drainage projects are minor in cost and construction complexity, these may be conducted by City crews or by private contractors. Major drainage projects generally require extensive planning, are conducted by a contractor so bid documents must be prepared. These projects generally eliminate major drainage problem and are highly costly to complete.

A. MISCELLANEOUS DRAINAGE PROJECTS

The Stormwater Utility Fee funded over \$300,000 in miscellaneous drainage projects in 2004. Below is a list of projects completed:

McIntyre Court – from 6436 to 6460: Piping was installed to collect neighborhood sump drain discharge water as well as irrigation water runoff that was constantly flowing down the gutter and divert it to the storm sewer system.

66th Avenue and Miller Street: Additional piping and storm sewer inlets were installed to accept stormwater in order to alleviate localized flooding and accumulating water.

Oak Street – 70th Avenue to 70th Place: An existing open stormwater runoff ditch was piped to help prevent erosion adjacent to Oak Street and also allow for a paved bicycle lane to be added adjacent to the street.

Independence Street at Ridge Road: An existing deteriorated 6” pipe and storm sewer inlet was replaced with a new 8” plastic pipe and inlet across Independence Street.

West 56th Avenue – east of Gray Street: The remainder of the 56th Avenue storm sewer outfall was piped which completely eliminated open roadside ditches for storm sewer flow along 56th Avenue in this area.

Yank Way and Alkire Court: A crossspan that was too deep and caused vehicles to bottom out was removed and replaced with an upstream inlet on the adjacent storm sewer pipe at this location.

Lake Arbor Channel: Two severely deteriorated sections of this open concrete channel near West 80th Avenue and Chase Drive were removed and replaced with new concrete.

Little Dry Creek at Ward Road and Wright Street: Two areas of rip rap were grouted to prevent displacement of the rip rap in this area.



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West 68th Avenue at Tabor Street: Storm sewer piping was extended to intercept the storm sewer outfall of the Woodhaven subdivision to eliminate constant gutter flow running down Tabor Street causing icing and moss problems.

Yankee Doodle Park: The existing drain gate and headwall adjacent to the pond at this location was removed and replaced with a more substantial headwall and gate that was easier to operate and better capable of withstanding the wave action in the lake.

Hayes Lake Dredging: Negotiations continued to purchase this property from the Oberon Water company. A title commitment for the property was obtained mid year.

B. MAJOR DRAINAGE PROJECTS

In 2004, \$3.7 million in major flood control projects were contracted, with the Stormwater Utility Fee funding over \$1.6 million of the total. The City bonded for the additional revenue needed to fund the largest flood control projects. Below is a list of projects completed, or, as in the case of the Van Bibber project, initiated in 2004:

Tennyson Street Outfall Phase 2: A 36" storm sewer pipe and associated inlets were installed upstream from the pipe installed as part of Phase 1 of the Tennyson Street outfall at West 60th Avenue and Tennyson Street. The pipe was extended to West 63rd Place to intercept flows from the detention pond at the Tennyson Park Subdivision as well as drainage from the surrounding areas. Project totaling just under \$172,000.

Kipling Street Outfall: The Kipling Street Outfall project started in early December 2003. The project involved the installation of approximately 2,600 linear feet of 42" and 36" reinforced concrete storm sewer main that conveys stormwater from the area of Kipling Street and West 72nd Avenue to Hayes Lake. The new pipe runs south from 72nd Avenue along Kipling Street to West 70th Avenue. It parallels the Union Pacific Railroad Tracks to West 69th Avenue where it heads east and outfalls into Hayes Lake. Completed in 2004. Project totaling almost \$312,000.

Van Bibber Flood Control Project: Van Bibber Creek drains a 20-square mile basin that begins in the foothills west of Arvada, ending at its confluence with Ralston Creek. The Creek is normally a small trickling stream. Once or twice each decade, storm flows exceed the drainage capacity of the Creek, which actually flows underground across the Arvada Plaza at West 58th Avenue and Garrison Street before dumping into Ralston Creek. The project to expand the inadequate channel for Van Bibber Creek began in 2002, with the help of \$7.0 million in Federal dollars were earmarked for the project to supplement the \$5.0 million set aside by the City of Arvada and the Urban Drainage and Flood Control District. The project includes an open channel along the south side of West 58th Avenue beginning at Oak Street, through the Lutz Sports Complex, under Kipling Parkway, across the old Jefferson County shops site (currently a field on the south side of W. 58th Avenue and west of Independence Street), into two box culverts (each 8.5' x 14.5'), and then northeasterly underground, discharging into Ralston Creek upstream of Garrison Street. This project totaling close to \$3.2 million.



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III. STORMWATER PERMIT

According to the United States Environmental Protection Agency (EPA), nearly 40% of surveyed water bodies do not meet standards, due, in a large part, to polluted stormwater runoff. 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 by implementing the programs outlined in the following pages.

The City submitted the Stormwater Permit Application to the Colorado Department of Public Health and Environment before the March 10, 2003 deadline. Negotiations resulted in a final permit application approval by the State of Colorado on June 9, 2004. Arvada's Stormwater Permit Application can be viewed on the City's website at www.ci.arvada.co.us and typing the 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 urbanized areas within the City limits with the exception of Jefferson County school sites.

The following pages summarize Arvada's 2004 activities that satisfy permit requirements for each of the Minimum Control Measures, followed by a summary of activities anticipated for 2005.



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 the quality of stormwater runoff, and consequently, water quality in our streams.

In 2004, the City of Arvada expended \$19,000 in satisfying the Public Education and Outreach goals of the Stormwater Program. Below is a summary of the programs conducted in 2004.

2.0 Summary of Programs

2.1 Storm Drain Marking

Storm drains are the openings in the curb into which stormwater flows. Residents must understand that putting waste down the storm drains or gutters pollutes our streams.

The City of Arvada sponsored an Eagle Scout Project that involved marking storm drains within the City with a “No Dumping, Drains to Creek” medallion. Then Scouts leave “No Dumping - Drains to Creek” educational doorhangers at neighborhood homes describing how stormwater carries pollution to our streams. The City provides maps, medallions, epoxy and a video for the volunteers.

On July 10, 2004, 47 medallions were affixed to storm drain curbs, and 600 doorhangers were distributed on a three-mile stretch in north Arvada.



Arvada's 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 in 2004 had 32 routes, with 7 new routes adopted adding 6.4 miles. The Adopt-a-Trail Program has had 8 schools participate in adopting a trail for a day where students also planted trees along their adopted route.



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2.3 Arvada Pride Day

On May 1, 2004, 412 people participated in Arvada Pride Day. Litter was picked up from 17 trails, 22 streets and 8 parks. Participants were treated to a picnic for their efforts. The Clear Creek Optimist Club volunteered to cook hamburgers and hot dogs at the picnic. City employees and elected officials served food for the participants and a drawing was held where 105 prizes that were donated by local commercial businesses were given to participants.



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 chemicals and electronic waste, composting, and picking up after your pet.

2.4 Majestic View Nature Center and Two Ponds National Wildlife Refuge

Community outreach activities were conducted by the Majestic View Nature Center volunteers that helped get the word out about nonpoint source pollution, including:

- From September 9 through 12, 2004, the Majestic View Nature Center and the Stormwater Program shared a booth at the Harvest Festival in Arvada, where over 2,052 people were contacted. A big draw to the booth was the animal skins and mounts used by the Center to educate children about the animals living in and around Arvada.
- The Majestic View Nature Center also participated in the Two Ponds National Wildlife Refuge Open House during Open Trails Week. Trails Day encourages residents to get out and enjoy the many parks and trails that the City has to offer. Most trails include streams and wild life viewing.

2.5 City of Arvada Website

Updated the City's Stormwater Website to provide access to documents such as:

- Citizen Response Saves Creek from Hazardous Materials
- What You Can Do To Protect Our Environment
- Final Stormwater Permit Application
- 2003 Stormwater Utility Annual Report to the Public
- Stormwater Utility Frequently Asked Questions



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2.6 Rooney Road Recycling Center

City of Arvada Stormwater Coordinator began serving on the Board of the Rooney Road Recycling Center in 2004. Arvada has served as a Board member since the Center was founded in 1993. The City provides \$37,590 annually in funding for the Center so that residents have a low cost means of properly disposing household chemicals. In addition to providing a place to dispose household chemicals, the Center provides recycling services to residents without charge. The Stormwater Program distributed brochures describing the Rooney Road Recycling Center and the services it provides during presentations at the Harvest Festival Booth, through direct mailing, and as a follow-up to illicit discharges.

2.7 Annual Stormwater Utility Report

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

2.8 Outreach to Civic Organizations

- Civic Organizations make up a large percentage of the participation in the Adopt-A-Street / Park / Trail and Pride Day Programs.
- Optimist Clubs volunteered to cook hamburgers and hot dogs while commercial businesses donated 105 prizes for those participating in trash cleanup for the May 1, 2004, Arvada Pride Day.
- The March 2004 edition of the Five Parks Pinnacle, an HOA newsletter, featured "Neighborhood Beautiful", and article informing residents how to keep our waterways clean.
- June 2004, 100 copies of "Caring for Your Lawn and Garden" and "Managing your Household Wastes" were distributed to the homeowners of the Sunrise Ridge Development.
- July 2004, 80 copies of "What can I do to protect our waterways?", "Caring for Your Lawn and Garden" and "Managing Your Household Wastes" were distributed to the homeowners of Westwoods Estates.
- September 24, 2004, City of Arvada receives a grant from the Sunrise Rotary Club for an interactive water quality exhibit for Majestic View Nature Center





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2.9 Improve and Distribute Brochures and Information

In 2004, the City of Arvada Stormwater Program compiled a list of nonpoint source educational outreach materials available both from the City and materials developed by other entities, including government, nonprofit, and academic resources. The City is working with Phase II permitted entities to leverage resources and produce brochures that can be used for this permit term.

In conjunction with the Urban Drainage and Flood Control Agency, the City of Arvada coordinated the publishing of three informational brochures: “Managing your Household Waste,” “Caring for Your Lawn and Garden,” and “Managing Your Construction Site”. Due to the coordinated effort with the many other cities needing brochures, the price per color brochure was reduced to 19 cents each.

The City will share its educational resources with the Apex Center for distribution to its patrons. The City anticipates 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 Publications

The City of Arvada published in the June / July 2004 edition of the Arvada Report an article entitled “A Homeowner’s Guide to Healthy Habits for Clean Water”, which included the article, “Citizen Response Saves Creek From Hazardous Materials”. The Arvada Report is a City newsletter that is delivered to every household, apartment and business in the City with approximately 52,000 copies of each edition produced six times a year.

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 is also posted on the City’s website.

Reproduced 200 copies of the 2003 Arvada Report Pet Waste Program article and distributed them at the May 1st, 2004 City Hall Open House, Arvada Pride Day, and the September Harvest Festival Booth.

2.11 Presentations

The following presentations were conducted in 2004:

- On March 5, 2004, presentations were made at Peck Elementary Career Day on Colorado wildlife, water quality, and watersheds. In attendance for the water quality presentations were 42 students and 5 adults.



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- On April 15, 2004, a presentation was made at Stott Elementary K-5 Cub Scout Continuation on the protection of drinking water sources. The Drinking Water Handbook was distributed to 50 attendees.
- On April 28, 2004, Jefferson Conservation Service was invited to present for the Peck Elementary School Cub Scout Pack #167's April pack meeting on Enviroscape and Stream Erosion.

2.12 Surveys

A public opinion survey was conducted at the Open House on May 1st, 2004 obtaining public opinion of water conservation, sources of contamination, West Nile Virus and grass clipping recycling. The response yielded the following information:

- Arvada citizens feel that the City's Water Restriction Program actually does save water.
- The City has communicated water restriction information well.
- Fertilizers and pesticides contribute the most to stormwater contamination in Arvada.
- Most Arvada citizens do not regularly use a product such as DEET to prevent mosquito bites, although most citizens are concerned or very concerned about West Nile.
- More than half of Arvada citizens dispose of grass clippings by bagging and putting the clippings out for the trash, some leave clippings on the lawn after mowing (natural fertilizer), and very few bag and recycle the clippings.

2.13 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 list the rules of the park, including the rule to clean up after your pet.

Arvada's Stormwater Program continued the Pet Waste Program in 2004 by:

- One Eagle Scout project created five pet waste pickup dispensers that were placed in Allendale Park. Neighborhood residents restock the bags.





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- Provided pet waste bags in three City parks to assist owners in picking up after their pets and maintaining the dispensers.
- Neighbors of the Majestic View Park maintain the bag dispensers as needed.

2.14 Leverage Existing Educational Resources

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

- Arvada continued to work with the Northern Colorado Alliance of Stormwater Coordinators, a group consisting of ten governments all operating under a Phase II Stormwater Permit.
- The Jefferson Conservation Service representative who works with schools throughout Jefferson County on nonpoint source education joined the City of Arvada at a Cub Scout meeting.
- June 15-18, 2004, Arvada Stormwater Coordinator attended the EPA 2004 Community Involvement Conference & Training.

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 2005:

2005 Reporting Cycle Goals

- Pet waste program implementation
- Insert on the utility bill or enclose with the utility bill, text concerning nonpoint source education – to be distributed to over 30,000 customers.
- Write a stormwater article for the Arvada Report, which is published every other month with over 50,000 copies distributed.
- Conduct one storm drain marking activity



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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. Other programs may be implemented to facilitate public participation and involvement in the Phase II Stormwater Permit programs.

In 2004, the City of Arvada spent \$839 on implementing the Public Involvement Minimum Control Measure. Labor Overhead, which funds administrative costs in the City Clerk's Office, conducted the necessary public notice.

2.0 Summary of Programs

2.1 Stormwater Utility Stakeholder Group

The Stormwater Utility Stakeholder Group was dismantled in 2004. The seven-member board completed its work developing the criteria for the Stormwater Utility.

2.2 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.

2.3 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.

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 2005.



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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 2004, the City of Arvada expended \$21,000 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 of pollutant discharges to gutters or drains and their toxicity, funding cleanups 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

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 all outfalls that discharge to State waters, specifically, Van Bibber, Leyden, Little Dry, Ralston and Clear Creeks, and the Farmers' Highline Canal, Church Ditch and Croke Canal. Further, the City of Arvada Engineering Mapping Section has mapped stormwater conveyances, including inlets, manholes, and outfalls, with exception of some new developments. Field investigations met with Engineering Mapping Section 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 been mapped and located accurately in the CAD files.



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2.3 Develop a Plan to Detect and Address Discharges

In 2004¹, the City's Stormwater Program responded to 29 complaints of 28 spills (one was simply tree pollen) from citizens about oil, concrete/cement, grease, chemical waste dumped in the gutter, and equipment washout in the gutter, including:

- 11 oil, gas, or hydraulic fluid spills
- 4 grease
- 5 concrete washouts
- 4 cleaners/detergents
- 2 sewage
- 1 fertilizer
- 1 equipment washout

Most discharges or spills were handled immediately. All citizen-initiated calls were investigated and recorded on a complaint form. In some cases, the Program was responsible for funding the cleanup. Cases in which the responsible party was known, the incident included public education and a requirement to clean up the spill. The Westminster sewage spill was reported to the State as it affected a waterway.

In July, 2004, the City sent a notification letter to 55 neighborhood homes asking to report residents who clean out their lawn mowers in the storm drain. The letter was in response to a staff member who reported a resident who was cleaning out his lawn mower in a storm drain; however, his address was unknown.

There were no notices of violation in 2004. Three letters of accommodation were issued in the year to thank those who reported spills so that proper cleanup could be conducted.

2.4 Minimizing Illicit Discharges

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

Dry Weather Screenings:

Although dry weather screenings have not been a predominate avenue to alert the City of illicit discharges, the City has conducted dry weather screenings of outfalls. There were seven weather screenings conducted in 2004 to finish the field verification of all outfalls, with none of the outfalls detecting a problem. This information is used to prioritize dry weather screenings, to assign each area an annual screening, a semiannual screening, or a screening once every three years. During the remainder of the year, dry weather screening efforts focused on mapping the outfalls

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



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found on the 2003/2004 field surveillance. The dry weather screening efforts required 233 hrs in 2004.

Stormwater Hotline:

The Stormwater Hotline was established using the following number: 720-898-7810. This number has been in effect for three years to answer questions about the Stormwater Utility. Now, it is utilized to record complaints or spills. After hours, if the caller deems it an emergency, the call is routed to Police Dispatch or the Water Treatment Plant.

2.5 Develop a Compliance and Enforcement Program for IDDE

The City of Arvada has an ordinance that prohibits any discharges into the storm sewer system except stormwater. Most compliance and enforcement has been handled through the City's Code Enforcement Section. The last section of IDDE was developed in November, 2004.

On December 3rd, 2004, the City attended a presentation of the Association of Code Enforcement Officials describing the appropriate steps needed to convict a party of environmental crimes, including documentation, photography and testifying. Merging the efforts of Code Enforcement and the Stormwater Program will be necessary to apply consistency to spill responses.

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 2005:

2005 Reporting Cycle Goals

- Document percent of Storm Sewer Maps complete
- Document number of calls received on the hot line
- Document number of dry weather inspections performed
- Document number of illicit discharges detected and eliminated
- Document number of staff trained on the IDDE plan
- Document number of Compliance and Enforcement Actions



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 of one or more acres, or construction activity that is less than one acre but part of a larger common plan of development or sale.

In 2004, the City of Arvada expended \$36,500 maintaining the construction site erosion 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 which 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 2004, the City's Engineering Division reviewed 35 Minor Subdivision Plats, 8 Final Plats², 21 Site Plans, and 23 Final Development Plans for the City.

2.3 Construction Site Inspection and Enforcement Program

The City of Arvada conducted 520 construction-site runoff control inspections of more than 44 construction sites throughout 2004. 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.

Three Warning Letters were sent and two Notices of Noncompliance were issued.

² Plats are used to subdivide an area through the Jefferson County Assessor's Office.



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2.4. Construction Site Materials Handling – Spill Prevention

Areas of fueling, concrete washout, and stockpiles were part of all 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 surrounding 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.” Two City employees attended this training on January 6, 2004.
- On March 2, 2004, and October 21, 2004, the City participated as a panel member at workshops hosted by the Home Builder’s Association of Metropolitan Denver (HBA). At the workshops respectively, there were 68 participants and one hundred plus in attendance.
- The Engineering Inspector Supervisor viewed the APWA online training regarding construction site erosion and sediment control on April 22, 2004.
- When a workshop or training is advertised, the City places flyers on the Building and on the Planning Departments’ counters so visitors are 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 6, 2004.
 - Storm Water Compliance Workshop, HBA, March 2, 2004.
 - Stormwater Compliance 102, HBA, June 18, 2004.



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- 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.
- The City attempts to provide information to construction site managers about expectations with respect to erosion and sediment control. The City continues to communicate potential Best Management Practices (BMP) issues by faxing inspection reports to on-site management. If the site manager or designee requires clarification of a finding, the City discusses the issue with them.

2.6 Response to Public Concerns

The City of Arvada provided a Stormwater Hotline, 720-898-7810, for residents to call in complaints about construction sites. In 2004, the City received eight complaints about construction sites from the Stormwater Hotline, e-mail, phone or through the Streets or Engineering Divisions. 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 2005:

2005 Reporting Cycle Goals

- Document number of construction site inspections performed.
- Document number of compliance and enforcement actions taken.
- Document number of staff inspectors, site owners/operators/landscapers trained.
- Document number of resident calls to the Hot Line.



E. POST-CONSTRUCTION STORMWATER MANAGEMENT

1.0 General Summary

Under the Post-Construction Stormwater Management Program, the City of Arvada must prevent or minimize impacts to stormwater from new development or redevelopment. The City of Arvada must inventory stormwater Best Management Practices (BMPs) that were installed in new developments or in redevelopments since March 2003, when the permit period began. BMPs include detention ponds, trickle channels, grassy swales, or any other structural facility constructed to control stormwater runoff and improve water quality. BMPs must be inspected and the City must ensure that long-term maintenance is conducted through a control mechanism such as an ordinance, or by conducting the maintenance with City staff.

In 2004, the Stormwater Program expended \$45,600 in maintaining and monitoring post-construction BMPs.

2.0 Summary of Programs

2.1 Long-Term Maintenance Ordinance

An Ordinance has been in place to hold the owner or developer liable for the long-term maintenance of BMPs that they are required to install (Ordinance 3209, 8-25-95, removed and codified in the Land Development Code by Ordinance 3639, 8-28-00). The Arvada Land Development Code requires that site plans, submitted for review and possible construction in the City of Arvada, address drainage facilities that are compliant with the Urban Storm Drainage Criteria Manual, Volume 3: Best Management Practices manual, developed by Urban Drainage and Flood Control District. The Code requires that the owner or developer of land to be improved maintain such facilities after construction.

2.2 Establish Procedures to Identify BMPs

The Plan Review Process was used to identify and inventory BMPs proposed for new development and redevelopment. The approved BMPs were consistent with the Urban Storm Drainage Criteria Manual, Volume 3: Best Management Practices, developed by Urban Drainage and Floor Control District.



2.3 Implement an Inspection Procedure

The BMP inspection program was conducted in conjunction with the erosion and sediment control inspections. There were 520 site inspections performed in 2004. As development and redevelopment construction site activities finalize, inspections will be conducted annually to identify maintenance issues.

To ensure that long-term operation and maintenance of structural BMPs occurs, the City developed an inspection program for residential and commercial development and redevelopment BMPs installed since March 2003.

3.0 Summary of Activities during the Next Reporting Cycle

The Stormwater Program must continue its Post-Construction Stormwater Management efforts on existing programs as outlined above. In addition, the following Post-Construction Stormwater Management goals were established in the permit for 2005:

2005 Reporting Cycle Goals

- Document number of inspections performed.
- Document the number of BMPs maintained.
- Develop a compliance and enforcement program.



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 guidelines 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.

In 2004, the City of Arvada expended over \$216,000 in labor, contract and supply costs for Pollution Prevention / Good Housekeeping. Major efforts included street sweeping, storm drain maintenance, and development of City facility spill plans and wash pads.

2.0 Summary of Programs

2.1 SPCC Plans Maintenance

Every five years, the City must update the Spill Prevention Control and Countermeasure (SPCC) Plans for City facilities. Training must be provided to supervisors on what is contained in the SPCC Plan. In 2004, staff developed the SPCC Plan update and training program that will be implemented in 2005.

In 2004, the City updated the existing SPCC Plans for the following facilities:

- Indiana Service Center
- Wadsworth City Shops
- Lake Arbor Golf Course
- West Woods Golf Course

In addition, staff attended the EPA Region 8 SPCC Workshop on May 4, 2004.

2.2 Storm Sewer Maintenance

The Wastewater Section maintained the underground storm sewer lines. Maintenance and responses to complaints were conducted as-needed. According to the Wastewater Section's Annual report, staff jetted 6,864 feet of storm sewer line and cleaned 71 inlets in 2004.

The Streets Section maintains the surface stormwater infrastructure, such as gutters, streams and ditches. The Streets Section conducts routine cleaning of roadside ditches, and may be called out to clean areas during rain storms to assure proper drainage. Streets also responded to two citizen complaints concerning drainage in 2004.



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2.3 Conduct Street Sweeping

The streets of Arvada were swept multiple times in 2004. The Apex Center, which is covered under the City's Permit, conducted sweeping of the parking lot four times in 2004.

2.4 Development of Runoff Control Plans

The City of Arvada evaluated and inventoried all municipal facilities that require a Runoff Control Plan (RCP). Runoff Control Plans are designed to help reduce any impacts to stormwater from City operations. These facilities are as follows:

In 2004, RCP Plans for the following facilities were developed:

- Indiana Service Center
- Wadsworth City Shops
- Lake Arbor Golf Course
- West Woods Golf Course
- Ralston Water Treatment Plant
- Arvada Water Treatment Plant
- Ron Culbertson Building (Wastewater Collection)
- Arvada Center

In 2004, a group plan was developed for the following types of facilities:

- City Administration (City offices, parking lots and public parking)
- Parks

The Apex Center also developed a Runoff Control Plan in 2004.

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. SPCC and RCP Plans were developed for the Indiana Shops and peripheral analysis of the other City facilities were conducted in 2004.
2. In 2004, two major contracts for public improvements were evaluated for spill prevention requirements including the Arvada Dam enlargement and the Van Bibber Flood Control Project.
3. The City's two golf courses were evaluated in 2004 for pollution prevention and runoff control while updating the SPCC and developing the RCP Plans for these facilities.



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4. During the winter months, salt and sand are used on City streets in order to keep them safe for motorists. Monitoring of Ralston Creek was conducted to show how chloride concentrations change as the stream travels through different areas of the City. Based on sampling from 12 sampling events, the data showed that the sampling location which contained a mixture of salt/sand had a slightly higher chloride concentration compared to the area that had salt alone.
5. Parks seasonal employees were trained at the Westwoods and Lake Arbor Golf Courses in June of 2004. 65 seasonal employees were trained in Pollution Prevention and Good Housekeeping practices as well as West Nile Virus Prevention.

The following facility changes were made in 2004:

1. Installed lawnmower washout at the Wadsworth City Shops.
2. Installed street sweeper washout at the Indiana Service Center.
3. Installed "No Equipment Washout" signs on all outdoor hose bibs at the Indiana Service Center and Wadsworth City Shops.

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 were established in the permit for 2005:

2005 Reporting Cycle Goals

- Document number of City staff trained on the Runoff Control Plans.
- Document number of facilities with a Pollution Prevention Evaluation conducted.
- Document the number of City contracts evaluated for Spill Prevention requirements.
- Document the number of parks/golf courses evaluated for grounds keeping.



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IV. 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, Van Bibber, Leyden, and Little Dry Creeks. The City maintains an active role in the rulemaking process and works collectively with surrounding jurisdictions to protect water quality. In 2004, the City expended \$21,400 in conducting these efforts in labor, supplies, and laboratory costs.

Activities conducted under this effort include the following:

- Monitoring and sampling the streams
- Monitoring and sampling the three major canals
- 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 other metro cities in enhancing stream water quality.
- Member of the Upper Clear Creek Watershed/Standley Lake Agreement, involving cooperative Monitoring.



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B. POND DREDGING

The City of Arvada dredges (sediment removal) from area ponds to restore and maintain the health of the pond and to allow for water to flow through as designed. Despite efforts to eliminate sediment in our stormwater there is a certain amount of silt that makes it into our waterways and is trapped in ponds. Over the years as the sediment builds up, the shallower water depth allows the pond to heat up, thereby contributing to increased algal growth. The shallower pond also allows for more aquatic weeds and plants to grow along the edge which reduces the water flow during high runoff events. In 2004, the City expended \$8,100 in conducting these efforts in contracted labor costs

C. MOSQUITO CONTROL

The mosquito control program expended close to \$33,000 in labor and materials to implement mosquito prevention programs for the West Nile Virus through treatment of standing water, testing for increases in mosquito populations, and responding to public concerns. In 2004, Colorado ranked third highest for West Nile Virus cases in the National case count with 291 reported cases, 8 being in Jefferson County.

In 2004, the City contracted with Colorado Mosquito Control through the Jefferson County Intergovernmental Agreement (IGA) to monitor and reduce the potential for mosquito breeding within the City, especially breeding of the species of mosquitoes that carry West Nile Virus. Many areas throughout the City that had a history of retaining stormwater required routine larval surveillance and treatment.