

Keep it Clean Partnership

A partnership of communities in the Boulder and St. Vrain watersheds -
working to protect our water quality



2008 Annual Report

Boulder County • City of Boulder • City of Longmont • City of Louisville • Town of Erie • Town of Superior



**KEEP IT CLEAN
PARTNERSHIP**

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**Keep it Clean Partnership
ANNUAL REPORT for 2008
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Executive Summary

Keep It Clean Partnership

2008 Annual Report



To address the impact of stormwater on water quality, the federal Clean Water Act was expanded to include requirements that municipalities control pollutants from municipal storm drainage systems. The Keep it Clean Partnership (KICP) grew out of the need for local communities to respond to these new stormwater regulations. The Partnership is a collaboration of communities in the Boulder and St. Vrain watersheds, and includes Boulder County; the cities of Boulder, Longmont, and Louisville; and the towns of Superior and Erie, working together to protect water quality through stormwater management.

The KICP uses a unique, collaborative approach to involve various levels of government in creating cost-effective solutions to stormwater and other water quality problems. The KICP embodies the spirit of the watershed approach that was envisioned in the federal Clean Water Act and adopted in the Boulder Valley Comprehensive Plan.



Into the Future

As the KICP Partners enter the seventh year of implementation, there are a number of challenges in stormwater management approaching. No fewer than 23 new or proposed water quality regulations are being presented. A number of these regulations are directed at stormwater discharges, and others overlap with wastewater and drinking water regulations, such as nutrient and aquatic life standards and emerging contaminants.

Now, more than ever, municipalities must find ways to meet multiple objectives, maximize the use of resources, and avoid duplication of effort. The KICP can serve as a model and possibly facilitate regional cooperation in meeting these challenges. Future activities should focus on:

- A holistic watershed approach
- Pollution prevention, such as low-impact development, rather than costly pollution removal and treatment
- Encouraging an active and engaged public to change water quality degrading behaviors and to support initiatives to protect water quality

2008 Highlights

In 2008, all KICP Partners **achieved full regulatory compliance** with their municipal stormwater discharge permits. In addition, **each Partner's municipal stormwater discharge permit was renewed** through the Colorado Department of Public Health and Environment (CDPHE) for a second five-year term (2008-2013). Although discharge permits are issued for each municipality individually, the majority of the compliance programs are shared.

Costs

The common and shared KICP programs are implemented by 3.50 full-time employees (FTE). The staff currently includes 1.00 FTE to support the business and municipal outreach, 1.75 to support the residential outreach program, and 0.75 FTE for the Keep it Clean coordinator position. In 2008, the KICP budget was \$380,191, of which \$37,111 (9.7%) was proportionately reimbursed to each of the

Partners. The sharing of programs and costs saves each KICP Partner communities 25-50%, when compared with implementing programs individually.

Awards and Recognition

In September, KICP was named one of only two national recipients of the U.S. Environmental Protection Agency (EPA) 2008 National Clean Water Act Recognition Award (<http://www.epa.gov/owm/mtb/intnet.htm>), in recognition for going far beyond the minimum needed to meet Clean Water Act requirements. The award recognizes municipalities and industries for demonstrating outstanding technological achievements in their waste treatment and pollution abatement programs.

In addition, *The Ride Through a Storm Drain* video, featuring H₂O Jo the water droplet character logo, won the City-County Communications and Marketing Association (3CMA) Savvy Award in the category TV and Video – Education/Training, for the population group 16,000 – 100,000.

School and Community Outreach Programs

KICP contracted with the City of Boulder’s Watershed Education Program to implement the community outreach and school education programs. The Partnership has developed a communication plan to implement in 2009 to better reach the community at-large, including incorporating social marketing techniques and developing a pledge program to be implemented at the KICP booth during special events.



108,153 brochures and campaign materials distributed
7,457 students and 258 classrooms/events attended school-based education programs
451 storm drains were labeled with the message, “Dispose no Waste, Drains to Creek.”
1,975 door hangers were distributed as part of the storm drain marking program
2,641 residents visited the stormwater booths at 17 community events
495 residents attended one of 16 speaker’s events
265 residents participated in one of 30 stream teams
40,000 visits to www.KeepitCleanPartnership.org
413,810 cars travel past the ‘KICP’ tributary signs each day

Stormwater Pollution Prevention Programs

The KICP contracted with the Boulder County Public Health Partners for a Clean Environment (PACE) Program to implement the business and municipal outreach.

Business Outreach

PACE provided education to restaurants, auto repair facilities, and retail businesses regarding energy efficiency, water conservation, resource management, and stormwater protection. Outreach will continue in 2009.

Municipal Outreach

In 2008, PACE exceeded the number of contracted site visits by 30% and provided customized training to nearly 300 municipal employees across 7 different departments in 6 different municipalities. PACE also recognized 12 municipal “Stormwater Heroes” for their efforts to protect stormwater.

In 2009, a significant effort will be made to update and modify of pollution prevention procedures to ensure that the Partners meet 2009 goals of requiring the review of existing procedures and the development of new procedures to prevent or reduce pollutants in runoff from municipal operations.

173 restaurant and 106 vehicle service facility stormwater pollution prevention evaluations completed
58 other businesses with the potential to impact water quality visited
298 municipal employees trained at 22 stormwater pollution prevention trainings
60 municipal facilities visited
4 newsletters mailed to 500 municipal employees



Erosion Control, Permanent Water Quality Structures, and Illegal Discharge Prevention

In 2008, KICP worked within their individual communities to implement operating procedures and regulations to manage illegal discharges, active construction, and post-construction management.

Low-Impact Development Barrier Analysis

In 2008, KICP hired a contractor to evaluate the integration of and barriers to control measures that prevent or limit adverse effects on water quality. A questionnaire, checklist, plan reviews, and white paper was finalized in 2009; they will be used to assist developers, engineers, and municipal staff to identify opportunities for water protection in proposed development and redevelopment projects. Identification of these barriers is an important first step in encouraging wider use of low-impact development practices in this region.

Erosion Control Training

In 2008, the KICP provided two well-attended recertification classes. Certification, recertification, and waterway classes are planned for 2009.



39 participants were provided with construction erosion control training
20 individuals participated in two low-impact development trainings
298 municipal employees were trained about illegal discharge identification
90 illegal discharges received response
162 active construction sites were inspected 1,500 times
40 sites had post-construction controls installed

Regional Participation

- ◆ Water Quality Forum E. coli Workgroup
- ◆ Boulder Creek Watershed Initiative
- ◆ Colorado Stormwater Council, an organization giving a voice to municipalities with stormwater permits
- ◆ Colorado Stormwater Council's Permit Compliance Committee and the Education and Outreach Committee
- ◆ Addressing Water and Natural Resource Education (AWARE) Board

Background, Partnership Overview, and 2008 Highlights

Background

To address the impact of stormwater on water quality, the federal Clean Water Act was expanded to include requirements that municipalities control pollutants from municipal storm drainage systems. In 1990 the U.S. Environmental Protection Agency (EPA) issued the Phase I Stormwater Rules. These rules require National Pollutant Discharge Elimination System (NPDES) permits for operators of municipal separate storm sewer systems (MS4s) serving populations over 100,000 and for runoff associated with industry, including construction sites five acres and larger. In 1999 EPA issued the Phase II Stormwater Rule to expand the requirements to small MS4s and construction sites between one and five acres in size.

The Keep it Clean Partnership, formerly known as The Watershed Approach to Stream Health (WASH) Project, grew out of the need for local communities to respond to these new stormwater regulations. In 1999, water quality and stormwater professionals representing various communities in the Boulder Creek and St. Vrain watersheds participated in meetings to help develop the goals, objectives, and project focus that are now incorporated into the Keep it Clean Plan. To further focus efforts, a 2006 Water Quality Roundtable was conducted where experts from local, federal, and state agencies identified six areas of concern typical of urban runoff. These include: pathogens (e.g. e. coli), sediment, nutrients, flow modification, metals, and pesticides. These impacts are considered when implementing programs.

The Keep it Clean Partnership (individually referred to as “Partners”) is a collaboration of communities in the Boulder and St. Vrain watersheds working together to protect water quality through stormwater management. The communities include Boulder County; the cities of Boulder, Longmont, and Louisville; and the towns of Superior and Erie.

The primary goal of the Keep it Clean Partnership (KICP) is to implement a regional stormwater management program, not only to comply with federal Phase II stormwater regulations, but also to address broader water quality issues. The KICP uses a unique, collaborative approach to involve various levels of government in creating cost-effective solutions to stormwater and other water quality problems. The KICP embodies the spirit of the watershed approach envisioned in the federal Clean Water Act and adopted in the Boulder Valley Comprehensive Plan.

Partnership Overview

The KICP operates under a five-year plan that outlines programs tasks, schedules, and budget. Emphasis is placed on developing programs that meet federal Phase II Municipal Stormwater Discharge Regulations. The first plan, developed in 2002, used existing, successful programs; addressed community water quality goals; and allowed for flexibility within jurisdictional oversight. The second plan was finalized in October 2008 when the Partners applied for the 2008-2013 Phase II Municipal Stormwater Discharge Permit with the Colorado Department of Public Health and Environment (CDPHE).

Implementation of the Keep it Clean Plan is governed by an intergovernmental agreement (IGA) and supporting bylaws. The initial IGA was executed in January 2003, and the subsequent one was signed in December 2007. The IGA identified a steering committee as the managing entity; it is made up of one voting representative from each Partner community. The steering committee directs the KICP coordinator, who provides administrative and management services to implement the Keep it Clean Plan and budget. The IGA identifies Boulder County Public Health (BCPH) as the contracting/fiscal agent. BCPH is also the employer of the KICP coordinator. The Keep it Clean Partners participate in workgroups, which direct implementation of the Keep it Clean Plan.

Municipal stormwater regulations call for implementation of six minimum control measures (MCMs) to address the impact of stormwater runoff on water quality and stream health. These programs implemented through the KICP Plan are as follows:

1) MCM 1 - Public Education and Outreach

- School-based education programs (classroom programs, water festival, and teacher training)
- Community outreach programs (outreach booth, speakers program, website, watershed stewardship, and stream volunteers supported with brochures and other outreach materials)
- Tributary signage and storm drain marking
- Business education program (see MCM 3)

2) MCM 2 - Public Participation and Involvement

- Website
- Annual outreach event booths to solicit input on Keep it Clean programs

3) MCM 3 - Illicit Discharge Detection and Elimination

- Legal prohibition of illicit discharges (ordinances)
- Illicit discharge enforcement (hotline, spill response plan, inspections, enforcement, and data tracking)
- Business Education Program
- Storm drainage system mapping

4) MCM 4 - Construction Site Stormwater Runoff Control

- Training and education for construction site operators and inspectors
- Erosion control ordinance (required erosion control for construction sites)
- Erosion control standard operating procedures (SOP) (outlines application and approval procedures for construction site stormwater management plan submittals)
- Erosion control inspection and enforcement (implementation of erosion control ordinance)
- Public input

5) MCM 5 - Post-Construction Stormwater Management

- Post-construction ordinance (required treatment of stormwater runoff)
- Design criteria and standards (outlines type of stormwater treatment or best management practices [BMP] required)
- Development review (ensures appropriate design of BMPs)
- BMP operation and maintenance (requires long-term maintenance of BMPs)

6) MCM 6 - Pollution Prevention and Good Housekeeping for Municipal Operations

- Training and certification for municipal facilities, activities, and employees

Implementation of the Keep it Clean Plan

The Keep it Clean Plan uses a variety of approaches to reduce the discharge of pollutants from the storm drainage system to protect water quality standards, and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations.

- **Common Elements:** Program elements that have common themes and common implementation procedures. An example was the development of ordinance language.
- **Individual Programs:** Program elements that are exclusively the responsibility of individual Partners to implement. An example is the enforcement of erosion control and illicit discharge ordinances.
- **Shared Programs:** Program elements that are shared by all Partners. The following two contracts are examples:
 - ◆ The City of Boulder Water Quality Education Program provides community outreach materials and school programs in each of the Partner jurisdictions.
 - ◆ Boulder County's Partners for a Clean Environment (PACE) Program provides outreach materials and conducts site visits, addressing commercial and municipal operations.

2008 Highlights

Through implementation of the Keep it Clean Plan, all Partners achieved compliance with their stormwater discharge permits. A summary of major tasks completed in 2008 follows.

Permit for 2008-2013

The Phase II stormwater discharge permit for the Partners expired at the end of 2007. The Partners submitted their program descriptions in June 2008 to be covered under the state's general discharge permit for the second permit term, which covers March 2008 to March 2013. In late August, the CDPHE asked for more program specifics to be submitted addressing the individual Partner programs surrounding construction and post-construction plan review and enforcement. The final plan was submitted in October 2008.

The State has intentionally not defined the term maximum extent practicable (MEP) in order to allow maximum flexibility permitting and optimize reductions in stormwater pollutants.

Each permittee must determine appropriate programs to satisfy each of the six program areas.

Program Implementation

Each Partner evaluated their individual community's goals and identified potential compliance program deficiencies and support need from the KICP shared programs. The Partners reaffirmed the benefits of KICP participation and developed individually tailored programs to meet specific community objectives.

Costs

The Partner communities fund the common and shared program costs. Cost allocation is based on each Partner's urbanized population, as outlined in the Keep it Clean IGA. Costs to implement the individual community programs are the responsibility of each individual community. The KICP programs emphasize cost-effectiveness by sharing programs and using common strategies and leveraging existing programs. The common and shared programs are implemented by 3.50 full-time employees (FTE). The staff currently includes 1.00 FTE to support the business and municipal outreach, 1.75 to support the residential outreach program, and 0.75 FTE Keep it Clean coordinator position.

In 2008, the KICP budget was \$380,191, of which \$37,111 (9.7%) was proportionately reimbursed to each of the Partners. The majority of the reimbursement represents the unspent contingency funds.

Grants

KICP, with the support of the City of Boulder staff and on behalf of the Colorado Stormwater Council, drafted a 319-grant application for \$1.7 million over a 3-year period to conduct a statewide water quality outreach program. The scope of work for the grant was determined by a national study of outreach campaigns conducted by a consultant for the Colorado Stormwater Council. In the end, though there appeared to be support from the funders, the grant application was withdrawn so additional parties could be identified.

The City of Boulder is still conducting work under a grant from the Environmental Protection Agency (EPA) to evaluate the relative contribution of the municipal storm drainage discharges to the E. coli contamination of Boulder Creek, and to evaluate sources of contamination due to human and non-human sources.

School and Community Outreach Programs

The Keep it Clean Partners contracted with the City of Boulder's Watershed Education Program to implement the community outreach and school education programs.

Staff accomplished most of the contract goals, but they realized to ensure adequately reaching the adult audiences (which, unlike school programs, are not a captive audience), a communication plan and coordination with the individual Partner's public information officers was needed. The plan was created, and implementation will begin in 2009.

In an effort to incorporate social marketing techniques, the Education Program contracted with a consultant to create a pledge program. In 2009, the pledge program will be implemented at the KICP booth during special events.

Stormwater Pollution Prevention Programs for Private and Public Sectors

The KICP contracted with Boulder County Public Health's Partners for a Clean Environment (PACE) Program to implement the business and municipal outreach.

Business Outreach

PACE offers a pollution prevention certification program to various business sectors. PACE services are free-of-charge to interested businesses. In 2008, PACE offered the Keep it Clean Partners five programs to address business activities with stormwater impacts:

- 1) Continued Outreach to Existing Sectors
- 2) Outreach to New Sectors
- 3) PACE Allies,
- 4) One-on-One Training
- 5) Beyond PACE

Keep it Clean Partners ranked priority for these programs in their communities. Based on these priority rankings, each KICP community received a customized scope of work.

Business outreach continued to the restaurant and vehicle service facilities. For over 13 year, PACE has delivered educational outreach on a range of topics, including energy efficiency, water conservation, and resource management to businesses in Boulder County. For the past six years, PACE has included stormwater protection messages in its outreach to restaurants, auto repair facilities, and retail businesses in support of the KICP. While the

majority of the businesses in these sectors have been contacted by PACE, repeated visits are typically necessary to counteract such factors as employee turnover and simple apathy.

PACE visited several businesses unannounced. Pictures of both good and bad stormwater practices were taken and included in follow-up letters to the manager of the facility. This mode of outreach will be continued in 2009.

Municipal Outreach

In 2008, PACE exceeded the number of contracted site visits by 30% and provided customized training to nearly 300 municipal employees across 7 different departments in 6 different municipalities. PACE also recognized 12 municipal “Stormwater Heroes” for their efforts to protect stormwater and developed detailed best management practices in three prioritized sectors of activity.

In 2009, a significant effort will be spent on the update and modification of the pollution prevention procedures or BMPs that were drafted in 2005. This effort will ensure that the Partners meet the measurable goal slated for complete in 2009 that requires permittees to review existing documented procedures, and develop new written procedures, as necessary, for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee’s municipal operations. The documentation must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program. The documentation must also include a list of the industrial facilities the permittee owns or operates that are subject to separate coverage under the State’s general stormwater permits for discharges of stormwater associated with industrial activity.

Erosion Control, Permanent Water Quality Structures, and Illegal Discharge Prevention

The Keep it Clean Partners spent a significant amount of effort working within their individual communities implementing operating procedures and regulatory mechanisms needed to manage illegal discharges, active construction, and post-construction management. The Partners reviewed and refined their standard operating procedures in preparation for submitting the detail the State required in the resubmitted 2008-2013 program description.

Low Impact Development (LID) Barrier Analysis

The Partners asked Wright Water Engineers to evaluate, through the process of reviewing three development plan sets, if all control measures or BMPs that prevent or limit adverse effects on water quality were being integrated properly, and if not, what were the barriers to their implementation. Wright Water Engineers:

- ◆ Developed a questionnaire to determine the perceived barriers and rank their importance.
- ◆ Developed a checklist to be used during development review by developers, engineers, and municipal staff to identify potential opportunities for LID for proposed development and redevelopment projects.
- ◆ Reviewed three plan sets using the checklist to identify opportunities for water protection.
- ◆ Convened several meetings with municipal staff to discuss review findings.
- ◆ Authored a final white paper.

The checklist covered topics related to administrative considerations; site resources and characteristics; proposed site layout, including streets and driveways, parking, and landscaping; LID opportunities; structural BMPs; and construction and maintenance. The checklist was designed for “yes/no” responses and provides an area for users of the checklist to provide comments. The checklist also includes comments on applicability of each of the questions and considerations for LID to assist users in selecting appropriate responses and providing comments.

The report summarizes the results of plan set review from three of the KICP communities and includes a table summarizing *Conceptual Strategies for Addressing LID Barriers*. The questionnaire, checklist, plan reviews, and white paper were finalized in 2009 and can be found on the construction page of the www.KeepitCleanPartnership.org website.

Identification of these barriers is an important first step in encouraging wider use of LID practices in this region. The LID Barrier project has identified barriers and strategies to implementation of LID practices. KICP Partners will use the list of strategies to address barriers to identify next steps to support a full spectrum of BMPs and LID practices.

KICP will continue to support the efforts of organizations such as Addressing Water and Natural Resources Education (AWARE) Colorado and Urban Drainage and Flood Control District (UDFCD). Efforts by these two groups have great potential to overcome many of the barriers identified in this study.

Erosion Control Training

The KICP offered two recertification classes, which were well attended. However, the first 2-day compliance inspector training class scheduled in the beginning of the year was canceled, and the similar class held at the end of the year had limited attendance - making it not cost-effective. The Partners decided to eliminate this class in 2009. In 2009, a certification, recertification, and waterway classes will be offered.

KICP’s Approach to 2009

As the KICP Partners enter the seventh year of implementing the shared and common programs for the benefit of all of the Partners, they continue to fine-tune the outreach their shared programs offer and continue to identify programs that will ensure compliance with the stormwater discharge permit and improve local water quality.

In October 2008, the final version of KICP Plan for 2008-2013 was submitted to the CDPHE Water Quality Division. The KICP Plan now includes individual community program specifics, which is a significant difference from the first permit term.

The Partners have begun implementing the 2009 KICP plan, which continues to be dominated by KICP contract personal conducting outreach. The group will continue to educate:

- ◆ School children
- ◆ Adults
- ◆ Businesses
- ◆ Construction operators
- ◆ Homeowners’ associations
- ◆ Municipal employees

In addition to common and shared programs, each individual Partner will continue to be responsible for the following tasks in 2009:

- ◆ Implement the individual ordinances adopted in 2004 and related procedures, such as:
 - Review and track erosion control plans and proposed permanent water quality structures.
 - Conduct and track construction and post-construction site inspections.
 - Respond to, enforce, and track all illegal discharges.
- ◆ Maintain storm drainage outfall maps.
- ◆ Ensure municipal operations are in compliance with stormwater regulations.
- ◆ Participate in the ongoing implementation of the 2008-2013 KICP Plan.
- ◆ Track the development of the state e. coli total maximum daily load (TMDL) process, which may require communities to control bacterial pollutant sources.

Future Watershed Considerations

National Direction for Stormwater Management

In 2008, a report was released from the National Research Council on *Urban Stormwater Management in the United States*. The report lay out not only the challenges in managing stormwater in an urbanized environment, but also recommends future management of all water-related permits on a watershed basis. The content of the report will guide the future work of the KICP.

Watershed Permitting

“There are numerous innovative regulatory strategies that could be used to improve the EPA’s stormwater program. The course of action most likely to check and reverse degradation of the nation’s aquatic resources would be to base all stormwater and other wastewater discharge permits on watershed boundaries instead of political boundaries.” National Research Council, *Urban Stormwater Management in the United States*, 2008.

The Problem with Urbanization

“Urbanization causes change to natural systems that tends to occur in the following sequence. First, land use and land cover are altered as vegetation and topsoil are removed to make way for agriculture, or subsequently buildings, roads, and other urban infrastructure. These changes, and the introduction of a constructed drainage network, alter the hydrology of the local area, such that receiving waters in the affected watershed experience radically different flow regimes than prior to urbanization.

Nearly all of the associated problems result from one underlying cause: loss of the water-retaining and evapotranspiring functions of the soil and vegetation in the urban landscape. In an undeveloped area, rainfall typically infiltrates into the ground surface or is evapotranspired by vegetation. In the urban landscape, these processes of evapotranspiration and water retention in the soil are diminished, such that stormwater flows

Program Challenges

“Perhaps most problematic is that the requirements governing stormwater dischargers leave a great deal of discretion to the dischargers themselves in developing stormwater pollution prevention plans and self-monitoring to ensure compliance. These problems are exacerbated by the fact that the dual responsibilities of land-use planning and stormwater management within local governments are frequently decoupled.”

National Research Council,
Urban Stormwater Management in the United States, 2008.

rapidly across the land surface and arrives at the stream channel in short, concentrated bursts of high discharge. This transformation of the hydrologic regime is a wholesale reorganization of the processes of runoff generation, and it occurs throughout the developed landscape. When combined with the introduction of pollutant sources that accompany urbanization (such as lawns, motor vehicles, domesticated animals, and industries), these changes in hydrology have led to water quality and habitat degradation in virtually all urban streams.” National Research Council, Urban Stormwater Management in the United States, 2008.

Imperviousness
 The Center for Watershed Protection (2005) defined imperviousness for:

- “rural” (0 to 10 % imperviousness)
- “suburban” (10 to 25% imperviousness)
- “urban” (25 to 60% imperviousness)
- “ultra-urban” (greater than 60% imperviousness)

New Regulations on the Horizon

Total Maximum Daily Load

On a semi-annual basis, the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division develops a list of impaired waters in the state as mandated under Section 303(d) of the federal Clean Water Act. Pollutants entering the impaired water are generally controlled through numeric limits on permitted discharges, which could include wastewater treatment and/or stormwater discharges.

Three creek segments in the KICP communities have been listed as impaired for Escherichia coli, or E. coli. The following table outlines the stream segments as well as the communities discharging to these segments:

303d Listed: Impaired Stream Segment	KICP Community Discharging to Segment*
Boulder Creek from 13 th Street to the confluence with South Boulder Creek	Boulder
Coal Creek from Highway 36 to Boulder Creek	Louisville
Boulder Creek from Coal Creek to St. Vrain Creek.	Erie, Superior

* Any National Pollutant Discharge Elimination System (NPDES) permittee discharging to these stream segments may be included in a TMDL process.

The municipal stormwater discharge permits include language that provide for the implementation of total maximum daily load requirements. Affected communities, therefore, may have to meet numeric discharge standards through a TMDL process associated with their discharge permit(s).

The implication of an E. coli TMDL for any of these communities is uncertain at this time; however, if numeric standard of 126 cfu/100ml is established, it may be difficult, if not cost-prohibitive, to meet such a standard.

Temperature Standard

In 2006, the CDPHE Water Quality Control Division (WQCD) proposed changes to statewide water temperature standards. A more restrictive and complex set of temperature standards were adopted in the Colorado Basic Standards and Methodologies for Surface

Water. The WQCD will evaluate receiving water temperature data and determine whether discharges, such as treated effluent from wastewater treatment facilities, should have a lower effluent temperature to protect aquatic life (recognizing that temperature variations result from natural conditions and irreversible human impacts).

Nutrient Standards

In 2002, the WQCD released their Nutrient Criteria Development Plan for the development and implementation of nutrient criteria in Colorado. They have been working towards developing nutrient criteria for nitrogen, phosphorus, and chlorophyll a. Algae, measured as chlorophyll a, has been identified as the primary indicator for evaluating the health of lakes and reservoirs. The WQCD is also evaluating the relationship between chlorophyll a and nitrogen and phosphorus concentrations. For streams and rivers, the WQCD is focusing on controlling nitrogen and/or phosphorus contributions based on the health of the aquatic community, specifically macro invertebrates. The WQCD will propose statewide nutrient criteria to the Water Quality Control Commission at the 2010 Basic Standards Hearing. Nutrient criteria development work group meetings will continue through 2009 and into early 2010 in preparation for the trial.

Aquatic Life Standards

The WQCD initiated the Aquatic Life Work Group in 2000 as part of their process of developing aquatic life water quality standards, which are expressed as biocriteria. The primary function of biocriteria is to describe the biological condition that is necessary to support the designated use of the water body, including lakes, reservoirs, rivers, and streams. Bioassessment tools are being developed to quantify the biological condition of an aquatic community. The primary intent of biocriteria is not to set a regulatory standard, but instead to be used to detect impairment in aquatic life and identifying probable causes of the impairment. To date, the approach to developing biocriteria has focused on using macro invertebrate population data, habitat assessments (physical features), and fish population data. One of the main challenges in developing biocriteria is determining “expected conditions.” The expected condition will reflect a range of biological characteristics that are considered “normal” or “healthy” for a waterbody. Impairment of a waterbody will be based on the comparison of the expected condition to the actual condition, based on collected data.

Airborne contaminants

The U.S. Geological Survey’s National Water Quality Assessment program included the first comprehensive evaluation of waterways in the U.S. The study identified airborne contaminants as a source of hydrocarbon pollutants in surface water, stormwater, and groundwater. The burning of fossil fuels likely formed these contaminants. EPA has indicated that these contaminants will be regulated in the future.

Sediment

CDPHE has adopted guidance concerning sediment deposition impacts to aquatic life in streams and rivers. The guidance document, “Provisional Implementation Guidance for Determining Sediment Deposition Impacts to Aquatic Life in Streams and Rivers,” focuses on the application of “expected conditions” with respect to aquatic life classification, nutrient criteria, and narrative sediment standard issues. The Water Quality Control Commission (WQCC) is currently developing sediment regulations, which are expected to be completed by 2011.

Effluent Limitation Guidelines

On November 28, 2008, a proposed rule regulating stormwater was added to the *Federal Register* (Volume 73, Number 230, pages 72561-72614). This rule proposes regulations that would establish technology-based effluent limitations guidelines and new source performance standards for the construction and development industry. EPA expects that the requirements of the effluent guidelines will be implemented over time, as states revise their general permits. EPA expects full implementation within five years of the effective date of the final rule, currently required to be promulgated in December 2009, which would mean the rule would be effective in all states by 2014.

Presence of Invasive Species in Colorado

In 2008, Quagga and Zebra Mussels were detected in Colorado reservoirs, including Carter Lake, upstream of Boulder Reservoir. The State of Colorado initiated an extensive monitoring and education program related to the invasive species.

Climate change

One of the biggest factors impacting water quality is the modification of stream flows and groundwater levels. These modifications are due in a large part to increased runoff from urban areas and to diversions and return flows from agricultural and municipal water demands. This hydrologic modification of the natural stream system leaves little water in the creek to provide dilution of pollutants, or to maintain habitat and the natural stream channel. These hydrologic conditions may be further affected by climate change.

In a recent study completed by University of Colorado for the City of Boulder's Water Resources Workgroup, researchers predict dryer winters and wetter springs with an earlier mountain snow runoff period. These conditions could lead to depleted stream flows in the winter, threatening aquatic life and more frequent and severe flooding in the spring, which could lead to accelerated stream bank erosion and degradation of aquatic and riparian habitat. Both conditions could lead to degraded water quality.

2008 Activities

MINIMUM CONTROL MEASURES

The following is a summary
of
activities implemented under
the Keep it Clean Plan
for each of the
Six Minimum Control Measures (MCMs)

MCM 1 - Public Education and Outreach

Permit Requirement

The 2008-2013 permit requires:

The permittee must implement a public education program in an effort to promote behavior change by the public to reduce water quality impacts associated with pollutants in stormwater runoff and illicit discharges that includes:

- 1) Targeting specific pollutants and pollutant sources determined by the permittee to be impacting, or to have the potential to impact, the beneficial uses of receiving waters;*
- 2) Conducting outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff; and*
- 3) Informing businesses and the general public of the municipality's prohibitions against and/or the water quality impacts associated with illegal discharges and improper disposal of waste.*

Program Objective

Getting the Word Out - Public Education: Individuals play a key role in reducing stormwater impacts in their day-to-day activities. To successfully achieve water quality goals, a public education program must first educate the public on the extent and nature of the problems associated with urban runoff. Next, the public must be instructed on what they can do to help solve the problem; and finally, a successful program must provide opportunities for hands-on activities.

Program Implementation

The Keep it Clean Partners contract with the City of Boulder to provide the Keep it Clean education programs, which includes activities required under MCM 1 and MCM 2 for all Keep it Clean Partner communities. The Keep it Clean education staff, with direction from the Keep it Clean Education Workgroup and input from PACE staff, implemented programs outlined in the Keep it Clean Plan. Individual Partners are responsible for certain program elements, including the continued distribution of brochures and directing their citizens to the Keep it Clean website. The KICP Education Program conducts school-based education and community-based outreach programs to educate teachers, students, and families (adults) on ways to change their behavior to reduce water pollutants. The entire KICP Stormwater Education Program's annual report is available at www.KeepitCleanPartnership.org. The following is a summary of that report.

School - Based Education Programs

Operation Water Festival

Annually, two daylong events with hands-on water quality activities will be conducted. The festival is provided for Boulder Valley School District (BVSD) and St. Vrain Valley School District (SVVSD) students.

H₂O Jo and Flo reappeared in 2008 as hosts for the BVSD and SVVSD water festivals. Their message, "Keep it clean, 'cause we're all downstream!" was the theme.

Approximately 993 BVSD 4th and 5th grade students and their teachers from 39 classrooms in 16 BVSD schools attended the 16th annual Children's Water Festival held at the University of Colorado (CU) campus on May 14, 2008. Sponsors included the Northern Colorado Conservancy District, CU's Office of Community Relations, and the U.S. Bureau of Reclamation.

Approximately 925 SVVSD 5th grade students and their teachers from 40 classrooms in 11 SVVSD schools attended the Longmont Children's Water Festival held at the Raintree Conference Center in Longmont on May 13, 2008.

This year marked the third year of a new and improved Operation Water Pre-Festival Program. The materials focus on fundamental water awareness, conservation, pollution, and flooding. The program, Operation Water Festival, includes a complete teacher's packet featuring teacher's guides, student worksheets, and flashcards on each water topic. Colorful stickers and certificates were given as study and performance measures. All of these elements were presented in a contemporary, undercover secret agent theme.

A key benefit of the Operation Water Festival materials is the take-home water agent book. This book features homework assignments for each activity. Students are encouraged to work with family members to complete the assignments. As a result, parents and siblings learn about water protection and conservation.

All of BVSD and SVVSD classes attending the Children's Water Festival participated in the Water Ambassador Program.

School-Based Education Programs

Annually, a minimum of 60 classroom and/or field-based programs will be offered to BVSD and SVVSD teachers and students.

The Get to Know Your H₂O postcard featuring a school-based graphic of H₂O Jo, brief description, and link to the website with classroom programs was distributed to all K-5 teachers and 6-12 science teachers in BVSD and SVVSD, as well as to local private schools. The brochure was also sent to teachers via an email attachment. This brochure served as a key tool in promoting the "Get to Know Your H₂O" Education Program. Keep it Clean Partnership education staff facilitated 132 stormwater education programs and reached a total of 3,821 BVSD and SVVSD students in 2008.

In addition to providing classroom and field-based programs, Keep it Clean Partnership staff provided training and loaned out equipment/resources to teachers wishing to teach programs in their own classrooms. In 2008, 30 teachers provided programs for 1,646 students in 47 BVSD and SVVSD classrooms.

This year marked another successful year partnering with local environmental organizations to host the Science is Everywhere Program. This year's program included hosting a water education table at Loma Linda Elementary School in Longmont, where 30 students participated in a stormwater pollution prevention program. The following week, many of these same students, along with their families (siblings and grandparents included), attended the Science is Everywhere night at the University of Colorado's Fiske Planetarium. A total of 125 people

attended this event where students taught families lessons learned at the water quality station and other stations they visited the prior week.

Teacher Workshop

Annually, one training will be offered to BVSD and SVVSD K-12 teachers on the use of KICP-sponsored and other water quality curriculum.

The Watershed Resource Guide contains background information and activities related to the Boulder Creek and St. Vrain Creek watersheds. Watershed and Project WET (Water Education for Teachers) materials are used as the basis for the annual Get to Know Your H₂O Teacher Training. All BVSD and SVVSD K-5 grade teachers and 6th-12th grade science teachers received an email advertising the free two-day training.

Community-Based Outreach Programs

Outreach Booth

Provides stormwater pollution prevention materials to the public. Annually, a staffed booth travels to at least one special event in each of the partner communities.

Utilizing graphics and messages created for the “Keep it Clean” water quality campaign, a special events outreach booth was developed. The booth includes hands-on, portable, engaging activities that serve as tools for community members to learn about non-point source pollution and recognize how their behaviors can affect water quality. KICP staff provides the citizens an opportunity to discuss, provide input on, and learn about stormwater issues.

The booth reached 2,641 individuals at a minimum of one large-scale community event in each Keep it Clean community in 2008.

In addition to the outreach booth, the KICP had a presence at several other events.

Festivals or Special Events

Partner	Date of Event	Event	Number of Visitors
Boulder	March 13, 2008	CU Global Expo	27
	March 15, 2008	Spring Fest	86
	April 22, 2008	Earth Day Whole Foods	120
	April 25, 2008	Colorado Children’s Day	350
	May 17, 2008	Community Clean up	60
	June 1, 2008	B-360 Bike Ride	35
	August 14, 2008	CU RA Resource Fair	225
	September 21, 2008	Fall Festival	250
	October 2, 2008	Lights on After School	225
Longmont	July 12, 2008	Rhythm on the River	190
	September 11, 2008	St. Vrain MESA Advisor	80
Boulder County	April 24, 2008	IBM TakeYour Kid to Work	310
	July 23, 2008	Lake Appreciation Day	45
	September 7, 2008	Ned Nederland	200
Louisville	June 14, 2008	Taste of Louisville	116
Erie	July 12, 2008	Concerts in the Park	50
Superior	September 13, 2008	Chili Cook-off	272
Total			2,641

The H₂O Jo mascot attended 22 community events in the Keep it Clean communities and an additional 15 events throughout the state of Colorado.

Speakers Program

Staff and expert speakers attend events in each of the KICP communities to present water quality information to various community groups.

The Speakers Program includes a list of speakers available to present water quality information at local events. A program overview, the three presentation options, and a list of speakers are available at www.KeepitCleanPartnership.org. KICP staff provided 16 presentations and reached 495 people.

Speaking Events

Date	Group	Number of Participants	Location
2/8/08	CU International	6	Boulder
2/26/08	CU Earth Ed	15	Boulder
3/14/08	CU Class	40	Boulder
7/8/08	Boulder Rotary	100	Boulder
9/3/08	CU Sewall Hall	20	Boulder
9/21/08	CU Clean Water	20	Boulder
9/23/08	Boulder Creek Watershed	11	Boulder
3/17/08	Longmont Water Board	13	Longmont
4/17/08	Longmont HOA	55	Longmont
5/15/08	St. Gobains	100	Boulder County
12/9/08	Country Club	5	Boulder County
9/16/08	EPA Auditors	20	Denver
11/21/08	Candle Light HOA	20	Erie
11/24/08	Community Group	10	Louisville
12/23/08	Superior Chamber	40	Superior
12/11/08	Whole Foods	20	Superior
Total		495	

Watershed Stewardship Program

Trains volunteers to be neighborhood water quality advocates. Staff will offer programs in each KICP community.

The Watershed Stewardship Program is a neighborhood-based behavior change and outreach program. The goal is to engage residents in water protection activities so they reduce stormwater pollution in their community. To accomplish this goal, the program includes two main components:

- ◆ **Implement the Empowerment Institute Livable Neighborhood Water Stewardship Program** Host a meeting or series of meetings to involve community members in learning about local water quality issues and participating in actions that encourage behavior changes.
- ◆ **Measurable Results** Water quality action logs and surveys are used to gain quantifiable feedback on the behaviors taken and the environmental impacts. In 2008, a total of 17 people representing 14 households participated in the project and completed water protection/conservation actions. At this time, final evaluations, feedback, and water protection and conservation action results are being calculated. Recruitment efforts for this project continue in each KICP community. Education staff plans to expand the program in 2009.

Watershed Stewardship Groups

Partner	Date of Event	Name of Group	Number of Participants
Boulder	December 4, 2008	Boulder Group	5
Longmont	November 8, 2008	Burlington Team	7
Boulder County			
Louisville	Summer 2008	CRUSH Kids	5
Erie	Fall 2008	Rec Center	0
Superior			
Total			17

Stream Teams

Provides community volunteers the opportunity to be involved in water protection activities by providing resources and training for creek cleanups, water quality monitoring, and more. Staff will support teams in each KICP community.

KICP education staff continues to meet and consult with program partners, the United States Geological Survey (USGS), and the Boulder Creek Watershed Initiative (BCWI) to develop program resources and recruit and manage volunteers. The StreamTeam Program was promoted to the general public via press releases and direct mail/email to target groups. To date, 30 groups are enrolled as active StreamTeams. Keep it Clean Partnership staff provided training on how to use sampling equipment, which is loaned free of charge to all interested parties.

Stream Teams

Partner	Number of Groups	Number of Participants
Boulder	14	71
Longmont	6	128
Boulder County	5	26
Louisville	3	23
Erie	1	15
Superior	1	2
Total	30	265

Informational and Promotional Materials

Brochures, fact sheets, and product give-aways are produced, as needed, for distribution at school and community events. At a minimum, distribution will take place annually at special events in each partner community. Distribution also takes place through the school-based education programs and within public municipal areas.

Distribution of the Keep it Clean general residential brochure continued. A total of 18,989 Spanish and English language brochures were distributed throughout KICP communities at school, community, business outreach, and residential direct mail programs. The City of Boulder produced a 2/3-page version of the Keep it Clean brochure for inclusion in utility bill inserts. This brochure featured information in both Spanish and English and was mailed to 30,000 Boulder residents. The City of Longmont included a half-page on stormwater quality and KICP references in their Water Quality Report, which was sent to 36,000 residents. In total, the KICP distributed 80,946 brochures and flyers.

In addition to the brochures and flyers KICP distributed campaign materials including 2,924 magnets; 3,171 tattoos; 9,257 stickers; 2,984 *Adventures of H₂O Jo and Flo* activity books; and 4,828 place mats.

Informational and Promotional Material Distribution

Partner	Number of households	Number of brochures and campaign materials distributed in 2008
Boulder	39,596	56,690
Longmont	26,667	40,255
Boulder County	8,900	6,443
Louisville	7,216	1,668
Erie	3,750	2,403
Superior	4,500	694
Total	90,629	108,153

Tributary Signage and Storm Drain Marking

Storm Drain Marking

In the first permit term, 25% of all the KICP storm drains were marked. KICP education staff will maintain equipment and support volunteer groups to mark an additional 3% of the storm drains in each KICP community. Where appropriate, program participants may also post door hangers that explain the stormwater pollution prevention message.

Keep it Clean education staff facilitated storm drain stenciling activities with over 230 youth and citizens in Keep it Clean communities. Keep it Clean education staff continued to use curb markers and spray-painted stencils marking 426 storm drains, exceeding the goal of 3% marked drains. The Storm Drain Marking Program volunteers distributed 805 fish door hangers as part of the marking program in neighborhoods. The brightly colored, fish-shaped door hangers, available in both English and Spanish, were distributed to property owners in the same block that the storm drains were marked. The door hangers included information about the storm drain marking program and provided tips on ways to protect and conserve local waters. The door hanger also lists the www.KeepitCleanPartnership.org website and the Keep it Clean spill hotline (303-441-4444).

Volunteers were recruited via a flyer to local community groups, the cities of Boulder and Longmont community service programs, and through school and scout groups. For the fifth year, Keep it Clean Partnership education staff worked closely with Boulder County Youth Corps to mark storm drains throughout Boulder County.

Storm Drain Marking

Partner	Total Number of Storm Drains	2003	2004	2005	2006	2007	2008	Percent of Total Marked in 2008
Boulder	4,180	209	439	402	264	402	228	5.5%
Longmont	1,820	99	95	115	170	193	83	4.6%
Boulder County	225	82	40	31	23	50	36	16%
Louisville	600	43	137	31	31	83	26	16%
Erie	685	62	17	162	144	70	42	6.1%
Superior	300	22	20	74	20	30	36	16%
Total	7,810	517	748	815	652	828	451	5.7%

Tributary Signage

A minimum of 5 tributary signs are posted within each of the KICP Partner communities in prominent locations.

In 2003, tributary signs were designed and installed along major intersection marking significant waterways with the intent of increasing public awareness of local water resources. The sign caption reads, “Keep it clean, ‘cause we’re all downstream!” and includes the local creek name.

In total, over 413,810 cars travel past these signs each day.

Daily Vehicle Miles passing Tributary Signs

Partner	Number of daily vehicles traveled (DVT) for streets with tributary signs installed
Boulder	228,015
Longmont	94,600
Boulder County	28,235
Louisville	21,860
Erie	4,700
Superior	36,400
Total	413,810

Reaching Diverse Audiences

Businesses, teachers, students, and residents of diverse backgrounds are reached through the programs mentioned above. In addition, the KICP program has published and distributed two brochures that were translated into Spanish.

The vehicle maintenance and general KICP brochures continue to be distributed.

Illicit Discharge Education to Business and the Public

Partners for a Clean Environment (PACE) program reaches restaurants, vehicle service facilities, and other businesses that have the potential to adversely impact water quality. Outreach is performed either by direct personal contact, educational materials, or web resources.

The KICP Education Program informs residents of the impact of improper disposal of wastes. This is done through direct personal contact, educational materials, or web resources.

The PACE Program conducts visits and observations with commercial business. The point of contact was educated personally or in writing corespondance on proper practices so water quality is not adversely affected. For details on the business outreach effort, see the minimum control measure 3 section.

The KICP Education Program continued during personal contact to education the public on the impact of daily activities on water quality. This is conveyed during event booth and school interactions.

Program Changes

Though not a permit requirement, the education staff coordinated with the PACE team to outline a community and school-based pledge program, including goals, content, and a work plan. PACE and education staff, with the assistance of as social marketing expert, developed a pledge program concept paper. KICP education staff and PACE hired a graphic designer to develop key graphics pieces for pilot program to be launched in the spring of 2009. The pledge will be implemented in schools and at the outreach booth events. The pledge program will help meet the KICP's goal of thoughtfully incorporating community-based social marketing techniques into each program area.

The development of the 2008-2013 KICP program descriptions initiated a stronger emphasis on adult outreach. The KICP stormwater education program has realized that the development of a communications plan will be instrumental in effectively recruiting for the predominately adult-focused Stream Team, Speaker, and Watershed Stewardship programs.

Budget

Proposed: \$128,200

Actual: \$124,78

Unexpended funds: \$3,922

Members of Workgroup

Wendi Palmer, Town of Erie

Donna Scott, City of Boulder

MCM 2 - Public Involvement and Participation

Permit Requirement

The 2008-2013 permit requires:

The permittee must implement a public involvement program as follows:

1) The permittee must comply with the State and local public notice requirements when implementing the CDPS Stormwater Management Programs required under this permit. Notice of all public hearings should be published in a community publication or newspaper of general circulation, to provide opportunities for public involvement that reach a majority of citizens through the notification process.

2) The permittee must provide a mechanism and process to allow the public to review and provide input on the CDPS Stormwater Management Program.

Program Objective

Promoting Public Participation: To ensure buy-in and support from the public, participation is critical. This includes providing information and seeking public input on stormwater management issues.

Program Implementation

The Keep it Clean Partners contract with the City of Boulder to provide the Keep it Clean Education programs, which includes activities required under MCM 1 and MCM 2 for all Keep it Clean Partner communities. Individual Partners are responsible for certain program elements such as directing their citizens to the Keep it Clean website. The Keep it Clean programs include participatory programs, such as storm drain stenciling and stream teams. The KICP Steering Committee agendas and minutes are posted monthly online. The entire KICP Education Program's annual report is available at www.KeepitCleanPartnership.org. The following is a summary of that report as it relates to public participation.

Public Notices

The KICP Steering Committee agendas and minutes are posted monthly online. All individual KICP Partner's meetings are publicly noticed, as required by local ordinance.

Providing a Mechanism for Public Involvement/Feedback

Either the general KICP or the KICP education phone number is listed on publications. The KICP website lists all the contact information for all Partners. Each Partner's website provides a link to the KICP website. The KICP Stormwater Management Program descriptions' document is posted on the KICP website. An outreach booth (see MCM 1) is sponsored annually in each Partner community, where program feedback and suggestions are welcomed from the public.

The public continued to navigate through the Keep it Clean Partnership background information (including the six MCMs, annual reports, and stormwater resources) and Education and Outreach Program information. The www.KeepitCleanPartnership.org website is updated frequently to include the most current project information. In addition, teachers and staff continue to use this site for program registration.

Website Viewings

Year	Average Monthly Requests	Average Monthly Distinct Hosts Served
2004	1,587	703
2005	3,363	859
2006	3,029	1,543
2007	2,653	1,380
2008	3,373	1,340

All Keep it Clean Partners list the Keep it Clean website on their own communities' websites, which include:

- ◆ **Boulder County:** www.bouldercounty.org
- ◆ **Boulder:** www.boulderwater.net
- ◆ **Longmont:** www.ci.longmont.co.us
- ◆ **Louisville:** www.ci.louisville.co.us
- ◆ **Superior:** www.townofsuperior.com
- ◆ **Erie:** www.erieco.gov

Program Changes

None

Budget

Funds are identified in MCM 1

Members of Workgroup

Wendi Palmer, Town of Erie

Donna Scott, City of Boulder

MCM 3 - Illegal Discharge Detection and Elimination

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at 61.2) into the permittee's MS4. Illicit discharges do not include discharges or flows from fire fighting activities, or other activities specifically authorized by a separate CDPS permit. The permittee must:

1) Develop and maintain a current storm sewer system map, showing the location of all municipal storm sewer outfalls and the names and location of all state waters that receive discharges from those outfalls.

2) To the extent allowable under State or local law, effectively prohibit, through ordinance or other regulatory mechanism, illicit discharges (except those identified in subparagraph 5 and 6 of this section) into the storm sewer system, and implement appropriate enforcement procedures and actions.

3) Develop, implement, and document a plan to detect and address non-stormwater discharges, including illicit discharges and illegal dumping, to the system. The plan must include the following three components: procedures for locating priority areas likely to have illicit discharges, including areas with higher likelihood of illicit connections; procedures for tracing the source of an illicit discharge; and procedures for removing the source of the discharge.

4) Develop and implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties. The program must address who will be likely to make such observation and therefore receive training, and how staff will report observed suspected illicit discharges.

i) Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (4) by no later than December 31, 2009.

5) Address the following categories of non-stormwater discharges or flows (i.e., illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee's MS4: landscape irrigation, lawn watering, diverted stream flows, irrigation return flow, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, springs, flows from riparian habitats and wetlands, water line flushing, discharges from potable water sources, foundation drains, air conditioning condensation, water from crawl space pumps, footing drains, individual residential car washing, dechlorinated swimming pool discharges, and water incidental to street sweeping (including associated side walks and medians) and that is not associated with construction.

The permittee may also develop a list of occasional incidental non-stormwater discharges similar to those in the above paragraph, (e.g., non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-stormwater discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs, etc.). The permittee must document in their program any local controls or conditions placed on the

discharges. The permittee must include a provision prohibiting any individual non-stormwater discharge that is determined to be contributing significant amounts of pollutants to the MS4.

6) The following sources are excluded from the prohibition against non-stormwater discharges and the requirements of subsections (2) and (3) above:

i) Discharges resulting from emergency fire fighting activities. Such discharges are specifically authorized under this permit (see Part I.A.2)

ii) Discharges specifically authorized by a separate CDPS permit.

Program Objective

Detecting and Eliminating Improper or Illegal Connections and Discharges: A cost-effective way to reduce some of the worst stormwater pollutants is to identify and eliminate illegal connections and discharges.

Program Implementation

The Keep it Clean Plan includes public and municipal employee education training, spill response, and regulatory language to control illegal discharges. In addition, public information material discusses the impacts of spills on water quality and lists a hotline for reporting illegal discharges.

The maintenance of the outfall map, the response to discharges, and enforcement is performed by the individual KICP Partners.

Outfall Map

All KICP Partners have completed their outfall maps, which are updated on an as-needed basis.

The CDPS Stormwater Management Program Description document submitted by KICP in October 2009 details the individual Partners process for updating outfall maps.

Regulatory Mechanism

All Keep it Clean Partners have illegal discharge ordinances in place. The following table includes web links to the Partners' ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	http://www.colocode.com/boulder2/chapter11-5.htm#section11_5_5 Boulder Revised Code 1981, Title 11, Chapter 5, Section 5 (b) (BRC 11-5-5b)
Longmont	January 12, 2005	http://www.ci.longmont.co.us/city_clerk/municipal_code.htm Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	September 13, 2005	http://www.co.boulder.co.us/bocc/Ordinances/illicit%20stormwater%20discharge.htm Ordinance no. 2005-1, Ordinance Concerning Illicit Stormwater Discharge
Louisville	December 21, 2004	http://www.ci.louisville.co.us/cityclerk/municode.htm Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	http://66.113.195.234/CO/Erie/index.htm Title 12, Chapter 2, Illicit Discharges and Storm Water Quality Permit Requirements
Superior	December 13, 2004	http://www.colocode.com/superior.html Chapter11, Article IV

Illicit Discharge Detection and Elimination Plan

Each KICP Partner has developed and is implementing a plan that addresses illicit discharges and illegal dumping to their storm drainage systems. The plans include the following three components: procedures for locating priority areas likely to have illicit discharges, procedures for tracing the source of an illicit discharge, and procedures for removing the source of the discharge. In addition, Boulder County’s Partners for a Clean Environment (PACE) Program assists in identifying illicit and threatened discharges. They educate the offender and refer the information to the enforcing community. Discharges that are unknown or hazardous in nature are responded to by the local municipal fire department with assistance from the County’s Environmental Emergency Response Team.

The CDPS Stormwater Management Program Description document submitted by KICP in October 2008 details the individual Partners description of plans and procedures in place for locating, tracing, and removing illicit discharges.

The Keep it Clean Partners share an illegal discharge incident database, hosted on the www.KeepitCleanPartnership.org website. The Boulder County Environmental Emergency Response Team (EERT), which responds to hazardous material and other spills, contributes data to the database as well.

Illicit Discharge Response

Partner	Responses*	Enforcement Actions
Boulder	28 + 193	20 verbal, 2 written, 12 PACE
Longmont	46	20 verbal, 13 written, 1 fines, 2 clean up
Boulder County	12	12 verbal
Louisville	2	1 verbal, 1 written
Erie	3	3 verbal
Superior	2	2 verbal

*First or only number is from the KICP database, the second number is from local fire department

Illicit Discharge Education to Businesses

Partner for a Clean Environment (PACE) program reaches restaurants, vehicle service facilities, and other businesses that have the potential to adversely impact water quality. Outreach is performed either by direct personal contact, educational materials, or web resources.

The Keep it Clean Partners contract with the Boulder County Partners for a Clean Environment (PACE) Program to provide stormwater pollution prevention education and materials to businesses operating in the Keep it Clean communities. Major work elements performed by PACE in 2008 for the KICP are outlined below. For more details, the complete PACE Annual Report is available online at www.pacepartners.com.

About PACE

PACE offers a pollution prevention certification program to various business sectors and has expanded outreach efforts beyond the certification program. PACE services are free-of-charge.

The five program areas implemented to address business activities with stormwater impacts are:

1. Continued Outreach to Existing Sectors
2. Outreach to New Sectors
3. PACE Allies
4. One-on-One Training
5. Beyond PACE

Annually, the Keep it Clean Partners assign priority to these programs for their communities. Based on these priority rankings, each KICP community receives a customized scope of work. Each of these programs is described below, along with the results achieved in 2008.

Continued Outreach to Existing Sectors/PACE Certification

For over 13 years, PACE has delivered educational outreach on a range of topics, including energy efficiency, water conservation, and resource management to businesses in Boulder County. For the past six years, PACE has included stormwater protection messages in its outreach to restaurants, auto repair facilities, and retail businesses in support of the KICP. While the majority of the businesses in these sectors have been contacted by PACE, repeated visits are typically necessary to counteract such factors as employee turnover and simple apathy.

PACE conducted site visits, which provided one-on-one technical assistance to educate businesses, identify stormwater impacts, and identify solutions.

Existing Sector Outreach

Partner	Priority	Contacts per Contract	Vehicle Contacts	Restaurant Contacts	Total Actual Contacts
Boulder	1	154	68	91	159
Longmont	1	97	32	69	101
Boulder County	2	5	1	6	7
Louisville	2	4	2	2	4
Erie	2	3	2	1	3
Superior	1	3	1	4	5
Total		266	106	173	279

New Sector Outreach

PACE provides stormwater outreach to businesses that are not currently included in PACE’s existing certification program. These business sectors included commercial building maintenance, facility managers, pressure washers, private golf courses, do-it-yourself auto parts stores, and equipment rental stores. PACE developed stormwater pollution prevention best management practices (BMPs) and outreach material for gas stations and car washes.

New Sector Outreach

Partner	Priority	Contacts per Contract	Total Actual Contacts
Boulder	4	5	5
Longmont	2	13	13
Boulder County	3	2	2
Louisville	1	4	4
Erie	1	3	3
Superior	4	1	1
Total		28	28

PACE Allies

The PACE Allies program was developed as a mechanism for working with service providers that do not fit the traditional PACE model of businesses – of being in a fixed location. Service providers such as mobile cleaners and landscape maintenance companies can affect a business’s ability to comply with stormwater ordinances. Certifying these service providers will allow PACE to present businesses with a list of service providers that understand and are able to follow stormwater BMPs.

PACE developed training and certification criteria for mobile cleaners and landscape maintenance companies.

One-on-One Training

Property managers can often have a greater impact on stormwater quality at a commercial area than the individual tenants. Property managers are typically responsible for the cleaning of parking areas and building exteriors, providing and maintaining dumpsters, and servicing HVAC equipment. PACE inspected a total of 30 commercial facilities in the KICP jurisdictions and identified a number of threatened stormwater discharges. PACE documented these threats and provided information packages – including photographs and descriptions of the threats, resource sheets detailing proper BMPs, and equipment catalogs – to the appropriate property managers.

One-on-One Training

Partner	Priority	Contacts per Contract	Total Actual Contacts
Boulder	2	15	15
Longmont	3	9	9
Boulder County	4	1	1
Louisville	3	2	2
Erie	3	1	1
Superior	2	2	2
Total		30	30

Beyond PACE Outreach

Activities that negatively impact stormwater quality are frequently observed in non-PACE sectors. The hours provided by the KICP Partners allow PACE to respond to these incidents and provide educational outreach on regulations and BMPs. The outreach was conducted both at the request of a KICP community or when observed by PACE staff when working in the field.

PACE staff documented the incidents and forward the information to the appropriate KICP community personnel. At the end of the 3rd quarter, PACE notifies the Keep it Clean Partners with remaining hours and ask that they identify specific business areas to be targeted by PACE for outreach.

Beyond PACE Outreach

Partner	Priority	Hours per Contract	Total Actual Hours
Boulder	3	40	36
Longmont	4	18	19
Boulder County	1	20	20
Louisville	3	4	4
Erie	4	3	2
Superior	3	4	4
Total		89	85

Municipal Staff Education

PACE provides yearly and as-requested training to KICP Partners municipal staff on observing and reporting illicit discharges. This training is provided to field personnel during classroom and/or tailgate sessions.

Number of Employees Trained per Municipality and Department

Partner	Fleets	Public Works/ Streets	Parks/ Golf	Facility Maintenance	Fire Dept	Gravity Storm Water	Contractors	Total
Boulder		20	39			12	12	83
Longmont	12	41	46			21	2	122
Boulder County		5		21				26
Louisville		19	20		14			53
Erie		1		2			2	5
Superior		8	1					9
Total	12	94	106	23	14	33	16	298

Household Hazardous Waste (HHW) Disposal Program

Though not a permit requirement, all of the Keep it Clean Partners signed a five-year intergovernmental agreement to participate in the countywide Household Hazardous Waste (HHW) Program. The shared cost for implementing the HHW Program is separate from the KICP Program, and therefore is not included in the MCM's budget.

Program Changes

None

Budget

Proposed: \$54,346

Actual: \$54,681

Unexpended funds: \$-335

The PACE contract was drafted after the budget was adopted and monies were allocated from MCM 6 work to MCM 3.

Members of Workgroup

Ken Mason, City of Louisville

Cal Youngberg, City of Longmont

Donna Scott, City of Boulder

MCM 4 - Construction Site Stormwater Runoff Control

Permit Requirement

The 2008-2013 permit requires:

The permittee must:

1) Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff, and to reduce pollutants in, or prevent when required in accordance with I.B.3, non-stormwater discharges that have the potential to result in water quality impacts (e.g., construction dewatering, wash water, etc.), to the MS4 from construction activities that result in a land disturbance of one or more acres. Reduction of pollutants in discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one or more acres. If the Division waives requirements for stormwater discharges associated with a small construction activity in accordance with 61.3(2)(f)(ii)(B) (the "R-Factor" waiver), the permittee is not required to develop, implement, and/ or enforce its program to reduce pollutant discharges from such a site.

2) Develop and implement the program to assure adequate design, implementation, and maintenance of BMP's at construction sites within the MS4 to reduce pollutant discharges and protect water quality. The program must include, at a minimum, the development, implementation, and documentation of:

:i) Program Requirements, including:

A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions and procedures adequate to ensure compliance, to the extent allowable under State or local law.

B) Requirements for construction site operators to implement appropriate erosion and sediment control BMP's.

C) Requirements for construction site operators to implement BMP's to control waste such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste, and other non-stormwater discharges including construction dewatering and wash water, at the construction site that may cause adverse impacts to water quality.

ii) Compliance Assessment, including:

A) Procedures for site plan review which incorporate consideration of potential water quality impacts.

B) Procedures for construction site compliance assessment, including

1) Site inspections; and

2) Receipt and consideration of information submitted by the public.

iii) Compliance Assurance, including:

A) Procedures for enforcement of control measures that includes documented procedures for response to violations of the permittee's program requirements. Procedures must include specific processes and sanctions

adequate to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures.

1) Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (A) to develop, document and implement response procedures that specifically address chronic and recalcitrant violators by no later than December 31, 2009.

B) An education and training program for municipalities, their representatives and/or construction contractors. At a minimum, the program must include an information program for construction site operators unfamiliar with the reviewing authority's regulatory requirements.

Program Objective

Controlling Construction Site Runoff: Effective construction site pollution prevention can dramatically reduce sediment loading to stream ecosystems. An effective erosion control program must include adequate ordinance language, effective inspection and enforcement, and appropriate development and construction standards.

Program Implementation

The Keep it Clean Plan includes all of the forementioned components. In addition, the Keep it Clean Plan includes contractor training and a certification program. These program elements ensure consistent countywide education and minimum standards.

Regulatory Mechanism

All Keep it Clean Partners have construction ordinances in place. The following table includes web links to the Partners' ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	http://www.colocode.com/boulder2/chapter11-5.htm#section11_5_6 Boulder Revised Code 1981, Title 11, Chapter 5, Section 5 (b) (BRC 11-5-5b)
Longmont	January 12, 2005	http://www.ci.longmont.co.us/city_clerk/municipal_code.htm Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	August 11, 2005	http://www.co.boulder.co.us/lu/luocode/amendments/DC0504final.pdf Article 7, Development Standards
Louisville	December 21, 2004	http://www.ci.louisville.co.us/cityclerk/municode.htm Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	http://66.113.195.234/CO/Erie/index.htm Title 12, Chapter 2-1, Illicit Discharges and Storm Water Quality Permit Requirements
Superior	December 13, 2004	http://www.colocode.com/superior.html Chapter 11, Article IV

Requirements for Construction Site Operators to Implement Appropriate Erosion Control BMPs

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit). All KICP Partners ordinances require that BMPs are designed to meet the technical standards of:

Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual Volume 3-BMP or its successor.

Any other alternative methodology approved by the jurisdiction, which is demonstrated to be effective.

Requirements for Construction Site Operators to Control Waste including Discarded Building Materials, Concrete Truck Washout, Chemicals, Litter, and Sanitary Waste

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit). The Stormwater Construction Permit requires that Stormwater Management Plans (SWMPs) include practices for stormwater pollution prevention, which includes controlling waste, such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste, and other non-stormwater discharges, including construction dewatering and wash water.

Procedures for Site Plan Review

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit).

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' processes for construction site plan submittal, review, and preliminary approval process; the system used to track status of stormwater control site plans; procedures for ongoing review of site plans during active construction; and how consideration of potential water quality impacts are achieved.

Procedure for Receipt and Consideration of Information Submitted by the Public

Each KICP Partner has community specific procedures in place for receiving and recording public complaints.

The CDPS Stormwater Management Program description document submitted by KICP in October 2009 details the individual Partners' processes for processing inquiries or tracking and documenting complaints received from the public.

Procedures for Site Inspection and Enforcement of Control Measures.

Each KICP Partner has community-specific procedures in place for conducting construction site inspections and enforcement. The procedures may include how inspections are conducted, documented and how enforcement is carried out. The KICP Partners utilize verbal warnings through stop work orders. Enforcement options are described in each Partner's ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures used for inspections; it includes inspection documentation, frequency, and prioritization, and how sites and inspections are tracked. Procedures for regularly scheduled compliance inspections, complaint response inspections, and reconnaissance inspections (as applicable) are described. In addition,

procedures used for enforcement, to include any documentation used that dictates responses to non-compliance; tracking of enforcement actions; enforcement tools; and escalation procedures for chronic and recalcitrant violators are described.

Construction Inspections and Enforcement

Partner	Number of Active Construction Sites Over an Acre	Number of Inspections	Enforcement Actions
Boulder	27	Full -176 Reconnaissance - 744	14 written, 62 verbal
Longmont	46	Full -357 Reconnaissance - 17	17 verbal
Boulder County	5	Full -58 Reconnaissance- 15	1 stop work, 4 verbal
Louisville	16	Full - 137	2 fine, 14 written
Erie	20	Continuous	Multiple verbal warnings no enforcement required
Superior	2	Full - 2 Reconnaissance - 5	0

Training and Education for Construction Site Operators

Each KICP Partner informs construction site operators of the regulatory requirements during the pre-construction meeting. The KICP website has a page specific to construction and lists link to each Partner's ordinance. The KICP Partners offer construction site stormwater management trainings which are open to both municipal and private entities.

The KICP has been implementing a training program for construction site operators and inspectors since 2003. Most of the Keep it Clean Partners require, by ordinance, that the individuals inspecting erosion control and sediment removal practices be certified by an acceptable program.

Thirty-one individuals from the private and public construction sector participated in the Keep it Clean erosion control recertification training, and 8 individual participated in the compliance inspector training.

Program Changes

KICP is now offering Colorado Department of Transportation erosion control certification.

Budget

Proposed: \$25,200

Actual: \$19,909

Unexpended funds: \$5,291

Savings are due canceling a compliance inspector training.

Members of Workgroup

Brian Campbell, City of Boulder

Dick McKee, City of Longmont

Ela Nelson, City of Longmont

Justin Gindlesperger, Boulder County

MCM 5 - Post-Construction Stormwater Management

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The permittee must:

- 1) Develop, implement, and document strategies which include the use of structural and/or non-structural BMPs appropriate for the community that address the discharge of pollutants from new development and redevelopment projects, and/or that maintain or restore hydrologic conditions at sites to minimize the discharge of pollutants and prevent in-channel impacts associated with increased imperviousness;*
- 2) Use an ordinance or other regulatory mechanism to address post- construction runoff from new development and redevelopment projects to the extent allowable under State or local law;*
- 3) Develop, implement, and document procedures to determine if the BMPs required under Item (1), above, are being installed according to specifications. (This may be developed in conjunction with the Construction program area, as described in Part I.B.4);*
- 4) Develop, Implement, and document procedures to ensure adequate long-term operation and maintenance of BMPs, including procedures to enforce the requirements for other parties to maintain BMPs when necessary;*
- 5) Develop, implement, and document an enforcement program, which addresses appropriate responses to common noncompliance issues, including those associated with both installation (subparagraph (3), above) and long term operation and maintenance (subparagraph (4), above) of the required control measures;*
- 6) Develop and implement procedures and mechanisms to track the location of and adequacy of operation of long-term BMPs implemented in accordance with the program.*

Program Objective

Addressing Stormwater in New Development and Redevelopment: It is estimated that when a tributary drainage basin reaches 10–20 percent impervious, there are significant ecological stresses on the aquatic ecosystem. Therefore, the most important strategy for addressing stormwater is to focus on land use and development. One of the best strategies is to address the aggregate amount of new impervious surfaces and disconnecting impervious areas. Other strategies include implementing effective best management practices (BMPs) for the control and treatment of site runoff, such as stormwater detention or grass swales. An effective post-construction program must include adequate ordinance language, effective inspection, and enforcement.

Program Implementation

The Keep it Clean Plan includes all of the forementioned components. In addition, the Keep it Clean Partners continue to educate municipal staff and the private sector in the advantages of infiltration BMPs. The 2008-2013 permit language includes added language to strength the goal of implementing BMPs that would benefit water quality over time and attempt to reduce the impact of land development.

Regulatory Mechanism

All Keep it Clean Partners have post-construction ordinances in place. The following table includes web links to the Partners' ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	http://www.colocode.com/boulder2/chapter11-5.htm#section11_5_6
Longmont	January 12, 2005	http://www.ci.longmont.co.us/city_clerk/municipal_code.htm Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	August 11, 2005	http://www.co.boulder.co.us/lu/lucode/amendments/DC0504final.pdf
Louisville	December 21, 2004	http://www.ci.louisville.co.us/cityclerk/municode.htm Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	http://66.113.195/CO/Erie/index.htm
Superior	December 13, 2004	http://www.colocode.com/superior.html Chapter11, Article IV

Design Criteria and Standards

All KICP Partners by ordinance have required BMPs designed to meet the technical standards of:

Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual-Volume 3 BMP or its successor.

Any other alternative methodology approved by the jurisdiction that is demonstrated to be effective.

Review and Approval Procedures

Each KICP Partner has community-specific procedures and requirements in place that address how plans for both public and private BMPs are tracked, reviewed, and confirmed as built.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures for plan review process; the systems implemented to track status of plans; how correct installation of BMPs is confirmed; and the enforcement procedures used when BMPs have not been built as approved.

Tracking

Each KICP Partner has a system to track permanent BMP locations, and requirements for maintenance of BMPs installed since the adoption of their ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures for tracking permanent BMP locations and maintenance history.

Ensuring Operation and Maintenance

Each KICP Partner has community-specific procedures in place for conducting BMP inspections and enforcement. Each KICP Partner has community-specific procedures for enforcement. Enforcement options are described in each Partner's ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' inspection programs, including routine and complaint response inspections.

Post-Construction Inspection and Enforcement

Partner	Number of Sites in which Post-construction BMPs were required	Number of BMPs implemented during reporting period	Number of Site Inspections of Post-Construction BMPs	Enforcement Actions
Boulder	11		76	27 written 19 verbal
Longmont	6		0	0
Boulder County	1		1	0
Louisville	16		0	0
Erie		2	45	6 verbal
Superior	4		18	1 verbal, 3 permit with holding

Raising Awareness on Low-Impact Development (LID)/Infiltration BMPs

To support the 2008-2012 permit language focusing on infiltration, the Partners asked a contractor to help KICP gain a better understanding of the barriers that exist in the development review process, which is essential to ensuring the incorporation of BMP's to address water quality and runoff modification resulting from developed sites.

The contractor evaluated, through the process of reviewing three development plan sets of three of the Partner communities, if all control measures or BMPs that prevent or limit adverse effects on water quality were being integrated properly, and if not, what were the barriers to their implementation.

The contactor:

- ◆ Developed a questionnaire to determine the perceived barriers and rank their importance.
- ◆ Developed a checklist to be used during development review by developers, engineers, and municipal staff to identify potential opportunities for LID for proposed development and redevelopment projects.
- ◆ Reviewed three plan sets using the checklist to identify opportunities for water protection.

- ◆ Convened several meetings with municipal staff to discuss review findings. The kickoff meeting was attended by 20 individuals.
- ◆ Authored a final white paper.

The checklist covers topics related to administrative considerations; site resources and characteristics; proposed site layout, including streets and driveways, parking, and landscaping; LID opportunities; structural BMPs; and construction and maintenance. The checklist was designed for “yes/no” responses and provides an area for users of the checklist to provide comments. The checklist also includes comments on applicability of each of the questions and considerations for LID to assist users in selecting appropriate responses and providing comments.

The report summarizes the results of plan set review from 3 of the KICP partners and includes a Table summarizing *Conceptual Strategies for Addressing LID Barriers*. The questionnaire, checklist, plan reviews, and white paper was finalized in 2008 and can be found on the construction page of the www.KeepitCleanPartnership.org website.

Identification of these barriers is an important first step in encouraging wider use of LID practices in this region. The LID Barrier project has identified barriers and strategies to implementation of LID practices. KICP Partners will use the list of strategies to address barriers to identify next steps to support a full spectrum of BMP’s and LID practices.

Program Changes

None

Budget

Proposed: \$14,675

Actual: \$13,477

Unexpended funds: \$1,198

Members of Workgroup

Brian Campbell, City of Boulder

Dick McKee, City of Longmont

Ela Nelson, City of Longmont

Justin Gindlesperger, Boulder County

MCM 6 - Pollution Prevention and Good Housekeeping for Municipal Operations

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop and implement an operation and maintenance program that includes an employee training component and has the ultimate goal of preventing or reducing pollutants in runoff from municipal operations. The program must also inform public employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations. The program must prevent and/or reduce stormwater pollution from facilities such as streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations, and from activities such as park and open space maintenance, fleet and building maintenance, street maintenance, new construction of municipal facilities, and stormwater system maintenance, as applicable. The permittee must:

1) Develop and maintain written procedures for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations. The program must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program. The program must also include a list of industrial facilities the permittee owns or operates that are subject to separate coverage under the State's general stormwater permits for discharges of stormwater associated with industrial activity;

i) Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (1) by no later than December 31, 2009.

2) Develop and implement procedures to provide training to municipal employees as necessary to implement the program under Item 1, above.

Program Objective

Implementing Pollution Prevention for Municipal Operations. A surprising number of municipal operations can affect water quality and quantity. These activities range from the storage and handling of harmful chemicals to the maintenance of municipal properties, vehicles, roads, and storm sewer systems. Activities such as integrated pest management, water conservation, recycling, and education programs can prove to be very effective in addressing these pollutant sources.

Program Implementation

The KICP provides an education and certification program through the Boulder County Partners for a Clean Environment (PACE) Program for municipal operations.

Implementation of an Operation and Maintenance Program

Partner for a Clean Environment (PACE) provides a stormwater pollution prevention program to KICP Partners' municipal facilities through an inspection and certification program. Certification is based on criteria developed specifically for the facility through industry

standards and municipal staff recommendations. Facilities are targeted based on potential to impact water quality. PACE conducts yearly or biannual audits of municipal operations to ensure that procedures are being implemented that meet the self-imposed certification program. PACE notifies the facility or operations manager, as well as the KICP Partner's stormwater manager, if any deficiencies are noted during sites visits.

The Keep it Clean Partners contracts with the Partners for a Clean Environment (PACE) Program to develop a certification program for municipal operations. The following outlines a summary of activities completed in 2008. The complete PACE Annual Report is available online at www.pacepartners.com.

Municipal Facility Certification

In 2008, 60 site visits were conducted at municipal facilities in each KICP community. Site visits involved walking around the facility, performing an audit of stormwater BMPs, documenting non-compliance issues, completing PACE's criteria checklist, taking photographs (that were later used for training staff), sending follow-up letters, reviewing or providing self-inspection checklists, and reviewing the facility's certification status. PACE exceeded the contracted number of site visits and reviews by 30%.

Site Visits per Municipality

Partner	Contracted Site Visits or Reviews	Completed Site Visits or Reviews Tier-1	Completed Site Visits or Reviews Tier-2
Boulder	19	15	4
Longmont	13	16	1
Boulder County	5	9	
Louisville	4	5	1
Erie	2	4	1
Superior	4	4	
Total	47	53	7

Tier 1 facilities are those facilities identified by PACE to have the highest impact on stormwater, including fleet, street, and storm drainage maintenance, and parks/golf courses.

Tier 2 sources were identified by PACE as the operations with the next highest potential to pollute stormwater that were not designated as Tier 1 operations. These facilities include fire departments, building and facilities maintenance, recreation centers, swimming pools, and solid waste transfer/recycling centers.

As of December 31, 2008, 98% of all Partners' facilities were certified. The three remaining sites have capitol improvement projects planned for 2008-2009. The City of Longmont's Fleet Services maintenance facility began installing a wash bay in 2008; it will be completed in 2009. The Boulder County Open Space and Transportation Complex in Longmont is planning to re-grade the area around an uncovered fueling island, install berms for containment of stormwater run-off, and install actuated valves in drainage pipes (which would close when petroleum fumes are detected). This project will also be completed in 2009. Boulder County's Road Maintenance facility in Nederland is outside of the urbanized area, but the County has started design and construction of a self-contained, recycling wash station to be completed in 2009.

The following table outlines the status of certified Tier 1 facilities in each of the Keep it Clean Partner communities.

Percentage of Certified Facilities

Partner	Percent of Tier 1 Facilities Certified
Boulder County	80%*
Boulder	100%
Longmont	88%*
Louisville	100%
Erie	100%
Superior	100%

* None of the “un-certified” sites have “active” discharges. They have not implemented all of the self-imposed PACE BMPs for certification. The three facilities have approved capitol improvement projects for 2009.

Municipal Employee Stormwater Training Program

PACE provides yearly and as-requested training to municipal staff on operational BMPs and on observing and reporting illicit discharges. This training is provided to field personnel during classroom and/or tail-gate sessions.

Newsletters and recognition programs may be used to support this effort.

PACE has designed several training approaches to ensure the most effective approach for the target audience.

New and Seasonal Employee Training

Two different stormwater training presentations have been developed for the different municipal sectors: *Stormwater 101* for Tier 1 Operations (fleet, parks, golf course, street and storm drain maintenance), and *Stormwater 102* for Tier 2 Operations (municipal fire departments, building & facilities maintenance departments). Both trainings provide basic information on stormwater compliance, illicit discharge identification and reporting, local contact information, and best management practices to prevent stormwater pollution. The “*Storm Watch*” video, created in 2006 for KICP/PACE, is viewed during the training classes. The *Stormwater 101* and *102* presentations can be found at www.pacepartners.com.

Tailored, On-site Training

These customized, on-site trainings required PACE staff to visit the facility the day before the training to take photos of stormwater issues/concerns, good housekeeping measures and/or BMPs. The photos were then incorporated into a customized presentation. This approach helps employees to recognize and take ownership of stormwater issues at their job site. It also provides PACE staff with a chance to conduct a site visit for stormwater compliance. Employees that implemented best management practices (BMPs) or good housekeeping measures were recognized by rewards of gift certificates and their names were listed in the quarterly *Stormwater* newsletters (See “Employee Recognition” below). PACE staff then returned to the facility to ensure issues were addressed, or they requested that the manager contact them when the matter was resolved.

Tailgate Training

“Tailgate” training sessions were conducted with municipal and contracted employees. PACE staff rode along with or were out in the field to observe daily operations and provide input on stormwater issues. These tailgate sessions allowed PACE staff to better understand the challenges to stormwater pollution prevention on the job and to observe standard operating procedures.

Non-compliance Training

PACE provided stormwater training to 4 employees of a municipal contractor that had been cited for stormwater non-compliance, and to 12 other municipally contracted employees who were doing jobs in the KICP communities.

In total, 298 employees were trained at 22 different training sessions.

Number of Employees Trained per Municipality and Department

Partner	Fleets	Public Works/ Streets	Parks/ Golf	Facility Maintenance	Fire Dept	Gravity Storm Water	Contractors	Total
Boulder		20	39			12	12	83
Longmont	12	41	46			21	2	122
Boulder County		5		21				26
Louisville		19	20		14			53
Erie		1		2			2	5
Superior		8	1					9
Total	12	94	106	23	14	33	16	298

Municipal Employee Recognition Program

The Municipal Employee Recognition Program or “*Stormwater Heroes*” program was designed to increase municipal staff’s knowledge and awareness of stormwater pollution prevention so they would participate in water protection behaviors. The program was also intended to empower staff to protect local water quality and to recognize that the work that they do directly affects water quality. PACE recognized employees who protected storm drains or reported illegal discharges with awards such as stickers, water bottles, names in newsletters, and/or gift certificates. Community-based social marketing techniques were utilized to change employee behavior.

The Municipal Employee Pledge Program was developed in 2008 to create ownership and to motivate employees to take actions to protect storm drains and keep our water clean. The three pledge actions are:

1. *Locate and Protect* storm drains near work site.
2. *Cover and Contain* any materials stored outside and *Clean Up* spills.
3. *Report* any pollutants that may enter storm drains.

Accomplishments

- ✓ 12 *Stormwater Heroes* announced in 4 quarterly newsletters.
- ✓ Four \$50 gift certificates distributed to 4 of 12 *Stormwater Heroes* via a raffle.
- ✓ Seven \$15 gift certificates distributed to training attendees via a raffle.
- ✓ 150 “*Protect Storm Drains*” stickers distributed during trainings and site visits.
- ✓ 150 “*Keep it Clean*” static-cling window decals distributed during trainings and site visits.
- ✓ Municipal Pledge Program concept and message developed.
- ✓ Municipal Employee Pledge Sheet designed.

Expanded Sector Programs

PACE Street Smart

The *Street Smart* Program was designed to look more in-depth at current street sweeping practices and technologies, to review studies on street sweeping effectiveness, and to research pollutant removal from street sweeping operations. The pollutants generated from street runoff include: fine and coarse sediments, salt residue, trash, leaves, organics, heavy metals, oil and grease (petroleum-based products).

- ✓ Researched sweeper technologies, vendors, frequencies, and accepted practices.
- ✓ Provided links to current research on nationwide street sweeping programs and pollutants removed or found in street debris.
- ✓ Developed spreadsheet to track current practices in each KICP municipality.
- ✓ Interviewed public works managers to document current procedures, practices, and technologies.
- ✓ Conducted a focus group with street maintenance managers to review program concepts and to receive input on proposed practices.
- ✓ Conducted site visits and tailgate meetings with managers and staff to observe BMPs and challenges faced in their communities.
- ✓ Developed *Street Smart Fact Sheet* and posted on PACE website.

PACE Storm Smart

The *Storm Smart* Program, much like *Street Smart*, was designed to take a more in-depth look at storm sewer system maintenance practices and technologies in the KICP partners’ communities, as well as other municipalities around the state and country.

- ✓ Researched technology, vendors, and accepted practices.
- ✓ Interviewed public works managers to document current procedures, practices, and technologies.
- ✓ Arranged on-site visits and tailgate meetings with managers and staff to observe BMPs and challenges faced in their communities.
- ✓ Conducted focus groups with program managers to review program concepts and areas where PACE could assist in development of program elements.
- ✓ Interviewed public works managers from other Colorado communities to document current procedures, practices, and technologies.
- ✓ Provided a list of suggested SOPs for permit compliance.
- ✓ Conducted follow-up research on identified areas.

PACE Green Parking Lots

The *Green (Parking) Lots* Program was developed to address pollutants generated from runoff from municipal parking lots such as trash, leaves, suspended solids, fine sediments, oil, grease, (hydrocarbons), heavy metals, and salt products.

- ✓ Researched best management practices for stormwater control.
- ✓ Distributed survey (spreadsheet) on current practices which included:
 - Number of municipal parking lots maintained per department
 - Listing of all parking lots
 - Responsibility for maintenance
 - Contractors providing services
 - Frequency and extent of maintenance
 - Pavement resurfacing schedule and products used
 - Snow removal and storage
 - Sand/salt application practices and type of salt product(s) used
- ✓ Created inventory of all municipal parking lots in KICP communities.
- ✓ Developed *Stormwater Best Management Practices for Municipal Parking Lots* resource sheet, which included the following practices:
 - Maintenance, cleaning, and sweeping practices
 - Concrete repair
 - Asphalt re-surfacing
 - Material storage
 - Proper pressure washing techniques
 - Snow removal and storage
 - Salt or de-icer application
 - Incorporate low-impact development (LID) techniques, stormwater (structural) BMPs, and/or pervious pavement into new parking lot designs and construction

Program Changes

None

Budget

Proposed: \$77,829

Actual: \$74,864

Unexpended funds: \$2,965

Unexpended funds were used to balance the over expenditure of MCM 3 business outreach budget.

Members of Workgroup

Ken Mason, City of Louisville

Cal Youngberg, City of Longmont

Donna Scott, City of Boulder

Partnership Working Agreement

Keep it Clean Partners Are:

- Dedicated to the stated goals and objectives of the project.
- Active participants, attending meetings and voicing opinions equally.
- Willing to share resources and data.
- Clear about their agencies' needs and interest in participating in the project.
- Completing the bulk of KICP work in subgroups.

Keep it Clean Partners Will:

- Be prompt to meetings and participate to the highest level of their ability.
- Maintain focus, prioritize all actions, and encourage involvement of all.
- Understand that not all communities have the resources to attend every meeting.
- Complete assigned tasks that are agreed upon in the group.
- Stay informed about discussions and decisions that take place at Keep it Clean meetings in their absence.

Keep it Clean Partners Are:

- Participating in good faith and working towards the identified common goals and objectives.
- Committed to the protection of water quality within the Boulder Creek and St. Vrain River watersheds.
- Committed to sharing information and resources with other Keep it Clean Partners.
- Committed to developing strategies and solution that benefit the general public and represent the shared goals and objectives of the KICP.

Keep it Clean Partnership Decisions:

- Will be discussed in an organized manner and the process will be open to all.
- Will be made by consensus, an approach to find an inclusive solution that everyone can support.

Keep it Clean Partners:

- Understand compromise may be necessary to reach Keep it Clean common goals.
- Show a commitment to mediate disagreement.

Partner Contact Information

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