

City of Aurora Phase I MS4 Program Inspection Findings Response

January 4, 2013

Finding: 1CR – Long-Term BMP Program

Based on site observations and the condition of the post-construction BMPs and the submittal rate of annual inspection reports and I&M plans by the site operators, it was determined the City is not adequately implementing procedures to ensure long-term operation and maintenance BMPs. It was also observed that the City has not developed a well-established or clear process to review, approve, and implement the I&M plans. Based on observations, the EPA inspections team concluded that the City needs to improve oversight and enforcement of its long-term, post-construction operation and maintenance BMPs to equally address those sites developed before and after the issuance of the ordinance.

Permit Requirements:

Part B.1.a.2.d of the Permit requires the City to “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.”

Required Corrective Actions:

The City needs to more fully develop and implement a program to ensure commercial and residential compliance with long-term operation and maintenance of all post-construction BMPs.

Recommendations:

None.

City Response to Finding 1CR

The City proposes the following to meet the elements of the required Corrective Actions required by the EPA. A detailed timeline with expected completion dates is outlined below. No additional resources will be required.

- February 1, 2013 - Review current administrative processes and ensure that all required elements of the long term operation and maintenance of all post-construction BMPs program are met.
- March 1, 2013 - Review current administrative escalation process for non-compliance utilizing the City’s Code Enforcement Division.
- June 1, 2013 – Verify and update the pond tracking list of all post-ordinance ponds.
- September 1, 2013 – Field verify the pond tracking list to ensure that administrative and field information is accurate and consistent.
- November 1, 2013 – Distribute official notification of non-compliance to all entities that are not in compliance with the program.

Finding: 2CR – Low Impact Design (LID) Education

The inspection team observed that the City’s efforts to promote the use of LID BMPs within private or public projects were largely ineffective.

Permit Requirements:

Part B.1.a.2.a of the permit requires the City to “implement and document strategies which include the use of structural and/or non-structural BMPs appropriate for the community, that addresses the discharge of pollutants from new development and redevelopment projects, or that follow principles of low-impact development. . .”

Required Corrective Actions:

None.

Recommendations:

The City should evaluate the effectiveness of its outreach to the private development community and identify ways to more effectively promote the inclusion of LID BMPs in private development design proposals.

City Response to Finding 2CR

We appreciate EPA’s suggestions and the additional information provided by the team leader following the inspection in August. We continue our efforts to provide the most effective BMPs to minimize the discharge of pollutants from new development and redevelopment projects, including green infrastructure, in a variety of locations throughout the City.

Finding: 1ID – Dry Weather Discharge Identification

Based on site visits conducted by the EPA inspection team several of the City’s MS4 outfalls exhibited dry weather discharge. For the reasons contained in the report, the Inspection Team observed that the City did not demonstrate nor rule out the potential that the discharges could be illicit and not an allowable stormwater discharge.

Permit Requirements:

Part B.1.2.b.2.b of the Permit requires the city to “continue to implement and document a plan to detect and address non-stormwater discharges, including illicit discharges and illegal dumping, to the system.”

Required Corrective Actions:

The City needs to more effectively document and implement a plan to detect and address persistent non-stormwater discharges. The City needs to identify outfalls exhibiting persistent dry weather discharges, investigate sources, and eliminate all identified illicit discharges. A copy of completed documentation illustrating the City’s findings for the outfall adjacent to Fitzsimons Parkway is to be provided.

Recommendations:

The outfall inspection form used by Operations Compliance Division staff could be improved to more accurately denote (1) the presence of dry weather discharges, (2) the results of field investigations, screening or sampling, and (3) rationale for determining the composition and source of discharge.

City Response to Finding 1ID

The City currently conducts comprehensive channel inspections on an annual basis. One of the key elements of the inspection report is the inspection of all outfalls. The expected completion date and steps to be taken are listed below. No additional resources will be required.

By January 10, 2013 - Review current administrative processes, SOPs and inspection reports to ensure that key outfall inspection components include:

- Visual inspection for floatables or any other debris
- Visual inspection for color/clarity
- Odor inspection for odors not consistent with stormwater discharges
- Oily sheen for potential petroleum or other

If any issues listed above are observed during normal inspections, then they are immediately researched, documented and the responsible party, if possible, identified, notified and required to mitigate the discharge as soon as possible.

The follow-up report for the outfall adjacent to Fitzsimons Parkway is included as Attachment A.

Finding: 2ID – Illicit Discharge Training of Staff (KFC)

Based on a site visit by the inspection team and City representatives conducted at a Kentucky Fried Chicken (KFC) restaurant that has a city-permitted grease intercepting device. The team observed an employee of the KFC discharging ice from its walk in freezer onto the impervious surface outside of the restaurant. The melting ice appeared to contain food particles from a floor mat. The City inspector observed the discharge but did not immediately address it.

Permit Requirements:

Part B.1.b.2.c of the Permit requires the City to “continue to implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties.”

Required Corrective Actions:

City inspectors need to recognize and appropriately respond to illicit discharges.

Recommendations:

None.

City Response to Finding 2ID

The incident documented in EPA’s inspection report is typical of those experienced regularly by City inspectors. In this case, the temperature was over 90 degrees F, and there was not a storm drain inlet in close proximity to where the incident occurred. The inspector hesitated before approaching the restaurant employee, considering how likely it would be that this activity would affect the City’s MS4. We acknowledge the comments in the inspection report and, as required, continue to prepare the inspectors to ensure they apply

established protocols to the variety of circumstances they may encounter when investigating possible illicit discharges.

Finding: 3ID – Illicit Discharge Training of Staff (Equipment and Vehicle Wash)

A site visit of the Aurora Hills Golf Course maintenance facility was conducted as a component of the inspection. An equipment washing area was inspected and observed to be discharging through a vegetated area prior to discharging into the High Line Canal. This has been observed and documented on annual facility inspection reports.

Permit Requirements:

Part B.1.b.2.c of the Permit requires the City to “continue to implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties.”

Required Corrective Actions:

The City needs to appropriately respond to the existing and on-going illicit discharge by implementing a permanent remedy.

Recommendations:

None.

City Response to Finding 3ID

The City is currently working with others to revise Regulation 84 which will allow reuse water to be used for equipment and vehicle washing on the pad adjacent to a pond on the golf course, south of the maintenance facility. Reuse water will be pumped from the pond, used for hosing off equipment, and then drain back into the pond or sanitary sewer. This regulatory change is expected to occur at the May 2013 rulemaking hearing. Very minimal, occasional, water only, equipment washing may be required at the wash pad adjacent to the maintenance building during the off season prior to May 2013 and during peak season to supplement washing at the reuse pond. When this pad is used, minimal amount of water runs off the pad into a depressed, well-vegetated area where it either evaporates or infiltrates into the ground. Parks employees will install a permeable barrier at the fence line to reduce the flow from the pad and allow for filtering of the water prior to entering the detention area by the end of January 2013.

Finding: 1PP – Inadequate Spill Response and Prevention

During the inspection, the Inspection Team observed several large petroleum product stains on the impervious surfaces at the motor pool of the City’s Central Facility. Practices in areas of the yard occupied by the Parks and Recreation Division do not exhibit consistently good housekeeping practices. Deficiencies have been noted during the 2011 inspection but they have not yet been corrected.

Permit Requirements:

Part I.B.1.e.2.a of the Permit requires the City to “implement Municipal Facility Runoff Control Plans (MFRCPs) for city-owned and/or operated facilities that do not have independent CDPS Stormwater permits.”

Required Corrective Actions:

The City needs to appropriately address existing spills and provide additional BMPs and guidance at the motor pool. The Parks and Recreation portion of the yard needs to improve housekeeping procedures to minimize pollutant exposure.

Recommendations:

None.

City Response to Finding 1PP

Fleet operations at Central will increase the supply of absorbent material for cleanup of spills and leaks. Drip pans will continue to be available and used for vehicles with leaks that can be contained effectively by this method. Fleet employees will be reminded of good housekeeping practices and spill cleanup procedures through regular staff meetings. These items will be implemented by the end of the January 2013.

Parks has developed a plan to address findings from the MFRCP inspections and August inspection. The straw wattle along the west end of the property was replaced at the end of 2012. Regrading of the materials storage area and installation of a rock swale will occur by June 2013. Containers will be labeled and spills will be cleaned up promptly. Trash cans are being consolidated, emptied when full, and located indoors or covered. Parks employees attended the recent stormwater awareness training on December 4, 2012 and housekeeping procedures will be discussed during regular staff meetings.

Finding: 2PP - Inadequate MFRCP Contents: Activity-Related BMP Schedule

The activity related BMPs in Section 5 of the Central Facility MFRCP states that “the following BMPs are recommended for the facility based on the operation activities conducted at the facility” and lists the following:

- Fueling practices
- Vehicle and equipment maintenance practices
- Vehicles and equipment washing practices
- Loading and unloading materials practices
- Liquid storage in above-ground tanks practices

The “Activity-Related BMPs” in Section 5 of the MFRCP for the Central Facility does not include a schedule for implementing stormwater management controls. Additionally, the MFRCP lacked site-specific details that would aid City staff in the implementation of appropriate BMPs for the above listed categories. The MFRCP also failed to discuss proper stormwater drainage pathways through the Central Facility.

Permit Requirements:

Part B.1.e.2.a of the Permit requires the City to “implement Municipal Facility Runoff Control Plans (MFRCPs) for city-owned and/or operated facilities that do not have independent CDPS Stormwater permits.”

Required Corrective Actions:

The City needs to revise the Central Facility MFRCP to include a schedule for implementing stormwater controls and additional BMPs for the individual tenants and for identified pollutant generating sources.

Recommendations:

The City should use the existing inspection checklists and past findings of the Operations Compliance Division as the basis for developing a site specific and comprehensive MFRCP for the Central Facility.

City Response to Finding 2PP

Most of the MFRCP BMPs have been implemented at the site over previous permit terms. Issues found during inspections that require implementation will be documented in the inspection reports. The updated MFRCP for Central Facilities will be submitted by the end of January 2013.

A detailed timeline with expected completion date is outlined below. No additional resources will be required.

- March 1, 2013 – Work with Parks O&M to install K-rail barriers as landscape “bins” to reduce erosion from material stockpiles.
- May 1, 2013 – Stormwater/Parks staff to construct a permanent BMP on north end of Parks area at Central to eliminate off site erosion.
- June 1, 2013 – Stormwater staff removes sediment from detention area and establishes vegetation.

Finding: 1WW – Wet Weather Monitoring Implementation

City representatives stated that they had yet to modify any portion of their program in response to the wet weather monitoring results. As required in the Permit, the City was to submit an assessment of the effects of wet weather discharges on the Denver metropolitan area’s state waters, an assessment of the changes over time, and a proposal for a monitoring program for the next permit term in Year 4 of the Permit cycle.

Permit Requirements:

Part D.2.b of the Permit states that “the annual report submitted in year four of the permit (submitted in April 1, 2012, covering January through December 2011), shall include . . . 3) a proposal for a monitoring program for the next permit term.”

Required Corrective Actions:

The City must provide a proposal for a monitoring program for the next permit term for sampling locations within its jurisdiction.

Recommendations:

The City should evaluate the wet weather assessment data and develop a strategy to minimize the upwards trending of pollutants in Toll Gate Creek.

City Response to Finding 1WW

The City believes the existing monitoring program which has been on-going for over 15 years continues to be effective. We do not propose any changes to it for the next permit term.

Regarding trending of pollutants, please refer to the Wet Weather Water Quality Monitoring Trend Analysis, Year Four Trend Analysis Report – 2006-2010, prepared by the Urban Drainage and Flood Control District, March 23, 2012, p. 21 (Attachment B). Nearly all of the constituents sampled indicate a statistically significant downward trend. We will continue to evaluate the annual results of monitoring and consider strategies to control pollutants as necessary.

Attachment A

Fitzsimons Parkway Report



**-CITY OF AURORA-
Stormwater Inspection Report
Creeks and Channels**



Date of Inspection: 8/14/12
Inspector: Perry
Date of Report: 8/15/12
Reviewed by:
Forwarded to:

Inspection Type: Annual Post Storm Complaint Follow-up

Creek or Channel Name: Tollgate Creek

Segment ID: 4G-CR01 to 2E-CR02
Detailed Location: E. Colfax Ave. to 2E-CR02
Length of Segment: 7,794 ft
Map Page: 4G, 4F, 3F, 2F, 2E

Type of Channel: Creek Earth Channel Concrete Channel Overflow Tract Other

F.E.M.A. Channel? Yes No

Type of Stream

- Ephemeral:** flows only during and after period of precipitation.
- Intermittent stream:** Seasonal flow
- Perennial stream:** Flows continuously

Inspection Observations

Do conditions exist for channel overflow that would present an eminent and or unusual threat to:

Life Yes No **Property** Yes No **Structures** Yes No

1. Weather and Flow Conditions

- a. Seasonal dry. Below base flow.

2. Water Quality

Conditions Satisfactory

3. Trash/Debris

Conditions Satisfactory

- a. Rope or cable. Photo views from Colfax Bridge. Photo #7.
- b. Debris, light steel, upstream from E. Colfax. Photo #42.
- c. Silt fence remains from Fitzsimons Pkwy project. Upstream from E. Colfax. Photo #46

4. Vandalism/Graffiti

Conditions Satisfactory

- a. Graffiti under E. Colfax bridge. Visible from ROW. Is State highway. Photo #1.
- b. Graffiti under Pedestrian Bridge near confluence with Sand Creek. Visible from ROW. Photo #63

Creek or Channel Name: Tollgate Creek
Segment ID: 4G-CR01 to 2E-CR02
Date of Inspection: 8/14/12
Inspector: Perry

5. Sedimentation Conditions Satisfactory

<i>Description</i>	<i>Location</i>	<i>~ Measurement</i>	<i>Photograph #s</i>
Low Flow Width at Downstream Control Structure	Confluence with Sand Creek	150 ft	# 81
Narrowest Width of Low Flow	Throughout reach. Photo at drop structure under E. Colfax Bridge	30 ft	# 28
Average Sediment Depth	Throughout reach.	6 inches	# 20

- a. Sediment islands move through the reach. Low flows/dry weather exposes.

6. Erosion/Scour Conditions Satisfactory

- a. Side bank erosion / scour intermittent throughout. Photo, typical, #50

7. Vegetation Conditions Satisfactory

- a. Russian Olive trees pervasive throughout. Photo, typical, #69
b. Tree, "at" Colfax bridge; "at" drop structure. Photo #30

8. Structure Conditions Conditions Satisfactory

9. Outfall Conditions Conditions Satisfactory

- a. New outfall under construction. Near Fitzsimons Pkwy and 17th Pl. bridge. Assumed yet to complete the excavation cut out so to have proper flow from outfall to the creek. Creates a 12 inch blockage to flow. No project design detail nor schedule are confirmed. Photo #22; 25.
b. Storm / street outfall extended past embankment. Near 17th Pl. Bridge. Photo #48.

10. Utility Conditions Conditions Satisfactory

11. Equipment/Maintenance Accessibility Conditions Satisfactory

- a. Access intermittently challenged by private property, embankments, roadway bridges, etc. Photo # 9

12. Other

- a. Construction project in progress. Assumed to be CDOT. No information confirmed. Cursory inspection indicates conditions satisfactory. Photo #8.

13. Supervisory Review / Safety Issues

Attachment B
Table 7 – Summary of Statistically Significant Trends between 2002-2005 data and
2006-2010 data
Wet Weather Water Quality Monitoring Trend Analysis
March 23, 2012

Table 7 - Summary of Statistically Significant Trends between 2002–2005 data and 2006–2010 data

	South Platte River below Union Ave.	South Platte River at Denver	Tollgate Creek above 6th Avenue	Sand Creek at Mouth - Near Commerce City	South Platte River at Henderson
	trend from 2002-2005 data to 2006-2010 data (if significant)				
pH, lab	△	△	△	△	
Specific conductance, field			△		▼
Hardness, as CaCO ₃	▼			▼	▼
Calcium, dissolved				▼	
Magnesium, dissolved					▼
Residue on evaporation at 105C			▼		▼
Nitrogen, ammonia + organic, total as N		▼	▼	▼	▼
Nitrogen, ammonia, dissolved as N	▼	▼	▼	▼	▼
Nitrogen, NO ₂ +NO ₃ , dissolved as N		▼	△		▼
Phosphorus, ortho, dissolved as P	▼	▼	▼	▼	▼
Phosphorus, total as P		▼	▼		▼
Carbon, organic, dissolved as C		▼			
Copper, dissolved	▼				
Copper, total recoverable			▼		▼
Lead, dissolved		▼			▼
Lead, total recoverable			▼		▼
Manganese, dissolved		▼		▼	▼
Manganese, total recoverable			▼		▼
Zinc, dissolved		▼		▼	▼
Zinc, total recoverable		▼	▼	▼	▼

▼ Indicates a significantly downward trend

△ Indicates a statistically significant upward trend