



City of Chattanooga

*Department of Public Works
Development Resource Center
1250 Market Street
Chattanooga, Tennessee 37402-2713
Administration*

July 21, 2009

RECEIVED

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Enforcement/Compliance

Dr. Richard Urban, Manager
Division of Water Pollution Control
Chattanooga Field Office
Tennessee Department of Environmental and Conservation
540 McCallie Avenue, Suite 550
Chattanooga, TN 37402

RE: Corrective Action Plan (CAP)
Notice of Violation
NPDES Permit Number TNS068063

Dear Dr. Urban:

The City of Chattanooga (City) received your letter dated June 5, 2009 and the Notice of Violation (NOV) letter from your office dated June 22, 2009 regarding the City NPDES MS4 permit. The issues in the June 5, 2009 letter and the June 22, 2009 NOV are addressed below. The City Water Quality Program (WQP) had taken actions to address the issues brought up during the Compliance Inspection Evaluation (CEI) that your staff conducted in September 2008.

The following is a description of the City Corrective Action Plan (CAP) and a response to your CEI findings.

The table below illustrates the City Corrective Action Plan (CAP):

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part I.D.2.a.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report. The City will add 2 more sections explicitly listing 1) Major Findings and 2) Strength/Weakness of the WQP.
Part I.D.2.b.	Monitoring Data	Sampling Parameters and Methodology	The City had revised the Monitoring Plan (<i>attached</i>) and is conducting Additional Training.
Part I.D.2.c.	Implementing System-Wide Program Elements	Adhering to SOPs	The City is reviewing all SOPs, MOUs, Manuals and Inspection Forms and creating a SOPs/Manuals revision tracking system.
Part II.C.1.a.i.	Stormwater System Inventory completion	Missing Structures	The City had completed the As-Found project in September 08 and redefined all the Outfalls (see <i>attached</i> outfalls map) and will continue to identify new structures as they are constructed. See <i>attached</i> CD containing updated MS4 Inventory.
Part II.C.1.a.iv.	Stormwater System Inventory in GIS	Inaccurate	This is an on-going task. The City will continue to update the SW system in GIS. See <i>attached</i> CD containing updated MS4 Inventory.
Part II.C.1.f.iii.	Monitoring and Evaluation of MS4 Maintenance	No Available Data	The City is developing an MS4 PM Manual that would include methodology for MS4 PM monitoring and evaluation. Also, a description of the MS4 PM monitoring plan is included in the Comprehensive Monitoring Plan.
Part II.C.3.a.	Vehicle Emissions and Discharge	Recommendations to Reduce Emissions	The City will develop an Educational Brochure for Discharge from Municipal Facilities and it will develop a MOU with TDOT. The WQP would recommend to the Air Pollution Board to continue their emission control practices.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part II.C.3.b.	Deicing Operations	Deicing Storage	Saline tanks have been labeled and will be bermed. Salt storage outside (front) area will be retrofitted to discharge into the sanitary sewer.
Part II.C.3.e.	Road Design and Construction Manual	Presence of Manual	The City approved a Design and Construction Standards in 1999 and developed and adopted a BMP Manual (revised in 2007). The City is including language on pollution prevention practices to incorporate the BMP Manual as reference to be attached to our Design and Construction Standards.
Part II.C.3.e.	City Yards SWPPP	SWPPP Revision Yards Housekeeping	Yards SWPPP will be revised. Implemented new inspection and maintenance measures at the Yards.
Part II.C.4.	Evaluating Flood Controls	Retrofitting Needs	The City will evaluate Annually Retrofitting needs and present documentation of on-going retrofitting projects.
Part II.C.5.	Monitoring Municipal Facilities	Monitoring additional Facilities	The City is evaluating municipal facilities monitoring program as part of the municipal facilities SWPPP review. The municipal facilities monitoring plan will be later incorporated with <i>attached</i> Comprehensive Monitoring Plan.
Part II.C.5.b	Inspecting Municipal Facilities	Municipal Facilities Guidance	The City is updating all Municipal Facilities SWPPPs and developing a BMP Guidance for Facilities that do not have a SWPPP.
Part II.C.5.d.	MOUs with other City Divisions	Define financial responsibility for CSO.	MOU with Mocc Bend will be revised to clarify financial responsibility of the CSO. Other MOUs will be revised to reflect condition changes for proper implementation.
Part II.C.6.e.	PHF Monitoring Program	Inadequate sampling protocol	The City revised the PHF sampling plan (See <i>attached</i> Monitoring Plan). The PHF Guidance Document will also be revised for proper implementation.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part II.C.7.a.	Illicit Discharge Program	Failure to implement ID Program	The City had developed and continues to implement the SLAP. The City is developing an ID SOP.
Part II.C.7.c.ii.	Field Screening Training	Inadequate training	The City had conducted one-one FS training and will provide annual training and proper records.
Part II.C.7.d.ii	Notifying TDEC of Illicit Discharges	Not providing written notification	The City has been copying (see 37 <i>attached</i> letters for 2006-07 permit year) and will continue to copy TDEC on all illicit discharges as required by the MS4 permit.
Part II.C.7.d.iii.	Illicit Discharge Inspectors Training	Improper Training	The City has conducted one-one ID training and will continue to provide annual training and would maintain records for on-going training.
Part II.C.7.h.ii.	Prioritization of Sanitary Sewer seepage corrective actions	Failure to follow prioritization to correct sanitary sewer leakage	The City had developed and continues to implement the SLAP which is based on prioritized corrective actions. See <i>attached</i> excerpt from Citico Ck Watershed Plan that describes the prioritization scale (IDP Score).
Part II.C.7.h.iii.	Sanitary testing in Field Screening and Illicit Discharge	Not including E. coli testing for presence of sanitary waste	The City is incorporating E. coli in FS procedures and will include E. coli testing for ID when necessary. The City will include such procedures in the appropriate manuals.
Part II.C.7.h.iv.	Reporting to TDEC Sanitary Discharges	Failure to identify SSO locations in the annual report	The City has provided and will continue to provide TDEC the locations of the SSOs along with WQP SSOs inspection results in the Annual Report. (See <i>attached</i> SSO map showing all SSO locations from Oct. 04 to present).
Part II.C.8.a.	Monitoring Industrial and Municipal Facilities	Inadequate Analysis	The City is including all parameters in Part II.C.8.e. (See <i>attached</i> Monitoring Plan).
Part II.C.8.b.	Updating Industrial Facilities database	Provide annually a list of new facilities to TDEC	The City will generate a list that will include the newly added industrial facilities in the annual report.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part II.C.8.c	Industrial and Municipal Facilities inspections	Failure to develop an adequate industrial and municipal inspections program	The City is developing a BMP Guidance for Municipal Facilities to assist in the management of the industrial and municipal inspections and monitoring program.
Part II.C.8.c.i.	Systematic Inspections of Industrial and Municipal facilities	Not able to perform inspections on a 3-year cycle.	The City is training additional inspectors to increase the number of industrial facilities inspection to meet this requirement.
Part II.C.8.c.iv.	Annual Training for Industrial Facilities inspectors	No Training Records	The City had conducted one-one industrial inspection training. The City is developing a system to keep track of all WQP training requirements. The City would maintain such training records.
Part II.C.8.d.	Industrial Facilities guidance	Industrial runoff educational materials	The City had developed, mass distributed and is continuing to distribute the Industrial Monitoring brochure (<i>attached</i>) and continues to provide technical assistance and BMPs recommendation for industrial facilities.
Part II.C.8.e.	Industrial Monitoring	Failing to analyze certain Industrial Monitoring parameters	The City has revised the industrial monitoring program (See <i>attached</i> Monitoring Plan).
Part II.C.8.e.	Industrial Monitoring	Inappropriate Industrial Sampling Procedures	The City has revised the industrial sampling procedures (See <i>attached</i> Monitoring Plan).
Part II.C.8.e.	Industrial Monitoring	No Training Records	The City is developing a system to keep track of all WQP training requirement. The City would maintain such training records.
Part II.C.9.e.iii.	Construction Site Runoff	No Annual Training	The City has conducted one-one training and will be conducting formal annual training. The City is developing a system to keep track of all WQP training requirement. The City would maintain such training records.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part II.H.	Program Resources	Inadequate Resources	The City is proposing new Water Quality Rate Structure that will generate additional resources.
Part V.A.2.a.	Wet Weather Monitoring	Monitoring Parameters	The City has revised and will be implementing a new Wet Weather Monitoring Program (See <i>attached</i> Monitoring Plan).
Part V.A.2.b.	Wet Weather Monitoring	Sampling Methodology	The City has revised and will be implementing a new Wet Weather Monitoring Program (See <i>attached</i> Monitoring Plan).
Part V.A.3.	Seasonal Loadings	Seasonal Loadings data source	The City had used data sources as indicated in the permit Part V.A.3.c. New Seasonal Loadings will be generated for newly defined major outfalls using available data sources.
Part V.B.1.	Ambient Monitoring	Monitoring Parameters	The City has revised and will be implementing a new Ambient Monitoring Program (See <i>attached</i> Monitoring Plan).
Part V.B.2.	Biological Monitoring	Monitoring Parameters	The City has revised and will be implementing a new Biological Monitoring Program (See <i>attached</i> Monitoring Plan).
Part V.C.	Watershed Characterization	Monitoring Procedures	The City developed a Priority (Citico) Watershed Plan and implemented it accordingly. Modeling was conducted using sound assumptions and data sources. Modeling results correlated with monitoring results. Proper corrective measures has been taken (and resulted in improvement) based on this plan. There has been noticeable improvement in E. coli levels. Next Priority Watershed will be Friar Branch (see <i>attached</i> Monitoring Plan).

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part VI.A.2.b.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report. The City will add 2 more sections explicitly listing 1) Major Findings and 2) Strength/Weakness of the WQP.
Part VI.A.2.c.i.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report.
Part VI.A.2.d.i.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report. Additional requirements would be addressed in the 2007-09 Report.
Part VI.A.2.d.ii.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report. Additional requirements would be addressed in the 2007-09 Report.
Part VI.A.2.e.i.	Annual Report Format	Annual Report Format	The City had revised the format and addressed this in the 2007-08 Report. Additional requirements would be addressed in the 2007-09 Report.
Part VI.A.2.e.f.	Monitoring Modification in Annual Report	Annual Report Format	The City will include in its Annual Report if any Monitoring Modification had occurred during that permit year.
Part VI.A.2.e.g.	Fiscal Analysis	Fiscal Analysis for Each Program Element	The City will include in its Annual Report fiscal analysis for the last and current fiscal years indicating the budget and funding sources. Some program elements will be itemized. Per a phone conversation with TDEC Permit Section Manager on 7/8/09, Fiscal Analysis for Each Program Element is not required.
Part VI.A.2.h.i.	Annual Reporting for Fifth Year of the Permit	Presenting Monitoring Analytical Data as a Appendices	The City had revised the format of the Annual Report for 2007-08 and included all monitoring data in one consistent section.
Part VI.A.2.h.ii.	Annual Reporting for Fifth Year of the Permit	Presenting Illicit Discharges and Field Screening results a Appendices	The City had revised the format of the Annual Report for 2007-08 and included all ID and FS data in one consistent section for each element.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part VI.A.2.h.iii.	Annual Reporting for Fifth Year of the Permit	Presenting Data requested by TDEC in Appendices	The City will be including all information requested by TDEC in the Appendices.
Part VII.E.	Proper Operation and Maintenance	Improper Sampling QA/QC	The City has revised the Monitoring Plan (<i>attached</i>), evaluated its QA/QC procedures and incorporated new QA/QC measures such as sampling/inspection field sheet reviews. The City will be conducting training session on the new Monitoring Plan including QA/QC measures. The City will also be drafting a Sampling QA/QC Plan.
Part VII.J.1.	Monitoring Records	Representative Samples	The City has revised the Monitoring Plan (<i>attached</i>), evaluated its QA/QC procedures and incorporated new QA/QC measures such as sampling/inspection field sheet reviews. The City will be conducting training session on the new Monitoring Plan including QA/QC measures. The City will also be drafting a Sampling QA/QC Plan.
Part VII.J.3.b.	Monitoring Records	Sampling Personnel and Measurements	The City has revised the Monitoring Plan (<i>attached</i>), evaluated its QA/QC procedures and incorporated new QA/QC measures such as sampling/inspection field sheet reviews. The City will be conducting training session on the new Monitoring Plan including QA/QC measures.
Part VII.J.3.c.	Monitoring Records	Analytical Analysis Date	WQP is working with Mocc Bend to resolve this.
Part VII.J.3.d.	Monitoring Records	Individual Performing Lab Analysis	WQP is working with Mocc Bend to resolve this.

MS4 Permit Section	Requirement	CEI Issues	Corrective Actions/Comments
Part VII.J.4.	Monitoring Records	pH Testing Procedures	The City has revised the Monitoring Plan (<i>attached</i>), evaluated its QA/QC procedures and incorporated new QA/QC measures such as sampling/inspection field sheet reviews. The City will be conducting training session on the new Monitoring Plan including QA/QC measures. The City will also be drafting a Sampling QA/QC Plan.

Chattanooga MS4 Inventory:

The City continues to update the MS4 inventory through continuous GIS updates of newly constructed structures and maintenance of the existing inventory. The City has completed the inventory using a mixture of survey grade GPS and mapping grade GPS with a very high accuracy. The City also has implemented a MS4 preventative maintenance (PM) program by using GIS and Cityworks database to track all inspected and cleaned stormwater pipe and structures in each Basin. Any structural anomalies (e.g. if pipe sizes are identified in the field as being different from what is found in the GIS) is being corrected in a timely manner by the City GIS Staff. The City GIS Stormwater dataset is one of the most highly accurate stormwater data sets in Tennessee and in the Southeast U.S. ESRI, a major GIS vendor, and other professional GIS consultants have all pointed out to that fact. Our stormwater GIS datasets meet and exceed the National Mapping Accuracy Standard which requires a 90% accuracy of data to be spatially within +/- 5 foot. Our stormwater inventory GIS data accuracy is at approximately 98%. We continue to improve our accuracy as problems are identified in the field or in the office. The stormwater inventory GIS data is also suitable for hydrological modeling. Such data is being used by the City Hydrologist and private consultants to perform complex modeling in ESRI ArcHydro to produce advanced hydrological modeling impossible to do before with the old data. Our current MS4 GIS inventory has approximately 93,000 storm water structures and 1,900 miles of pipe. The GIS data is continually being updated by GIS staff as new structures are added and as existing structures are modified. When data errors are found and identified, corrections are being made to help improve the accuracy and consistency of the stormwater GIS datasets. Due to the size and complexity of this system there will be anomalies with attributes, typos, and minor discrepancies that need attention on a daily basis. This is a normal ongoing cycle and work process that is just part of the Life Cycle of any GIS dataset.

Chattanooga Water Quality Monitoring Program:

The City of Chattanooga is revising its monitoring plan (see *attached* Monitoring Plan). Critical issues associated with the City's monitoring program (including monitoring parameters and quality assurance/quality control for the wet weather and ambient monitoring program, field screening, and industrial monitoring) are being addressed through the revised monitoring plan. Additionally, City staff will be trained on appropriate monitoring procedures and document management.

Chattanooga Water Quality Inspection Program:

The City of Chattanooga is training additional individuals to conduct additional industrial inspections to meet the permit requirement. The City is reevaluating the municipal facilities inspection and monitoring program by revising municipal facilities SWPPPs and drafting a guidance document that will assist staff in performing this requirement.

Chattanooga Water Quality Training Program:

The City is developing a system to keep track of training needs and records. The City had identified the gaps in the training program and is conducting the proper measures to correct the training issue.

Chattanooga Water Quality Rate Structure Revision:

The City is revising the Water Quality Rate structure to provide additional resources to the Water Quality Program (WQP). The new rate structure is based on impervious area. The additional resources generated by the new billing system will ensure that enough financial resources are available to meet the City MS4 permit requirement.

Feel free to contact me or my staff if you have any question about the CAP or the City of Chattanooga response to any item in your June 22, 2009 letter.

Sincerely,



Steve Leach
Administrator
Department of Public works

CC: TDEC-WPC, Enforcement & Compliance Section, 6th Floor, L&C Annex, 401 Church St., Nashville, TN 37243-1534 (*certified*)
TDEC-WPC, Permit Section, 6th Floor, L&C Annex, 401 Church St., Nashville, TN 37243-1534
Ken Kwan, P.E., EPA, Clean Water Act Enforcement Section, Atlanta Federal Center, 61 Forsyth St., SW, Atlanta, GA 30303
Ron Littlefield, Mayor
William C. Payne, P.E., City Engineer (e-copy)
Mounir Y. Minkara, Ph.D., P.E., Water Quality Manager (e-copy)

Attach. MS4 GIS Inventory (CD)
Proposed City of Chattanooga Comprehensive Monitoring Plan
Chattanooga Outfalls Map (also in the CD)
2006-07 Permit Year Illicit Discharge notifications (37 letters previously submitted to TDEC Chattanooga Field Office)
SSO Locations (Aug. 2004 to Present)
Industrial Monitoring Brochure
Excerpt from Citico Creek Watershed Plan

