



ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) MANUAL

Town of Parker Department of Public Works



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TOWN OF PARKER
DEPARTMENT OF PUBLIC WORKS
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ACRONYMS

BMP	Best Management Practice
GIS	Geographic Information System
GPS	Global Positioning System
IDDE	Illicit Discharge Detection and Elimination
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NOV	Notice of Violation
SIC	Standard Industrial Classification
SOP	Standard Operating Procedure

EPA	U.S. Environmental Protection Agency
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
WQCD	Water Quality Control Division of the CDPHE
CWA	Clean Water Act

CHAPTER 1 – INTRODUCTION

The Federal Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States. Though the CWA does not deal directly with groundwater or with water quantity issues, the statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into waterways, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters so that they can support the protection of watersheds. To further reduce the adverse effects of stormwater runoff, the U.S. Environmental Protection Agency (EPA) instituted its Stormwater Phase II Final Rule on December 8, 1999.

PHASE II STORMWATER PROGRAM ADMINISTRATION

As authorized by the CWA, the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The Phase II Stormwater Program is part of the EPA's NPDES program, which in Colorado is delegated to the Water Quality Control Division (WQCD) of the Colorado Department of Public Health and Environment (CDPHE) to administer.

PHASE II STORMWATER PROGRAM REGULATIONS

The Town of Parker's Municipal Separate Storm Sewer System (MS4) is a system that discharges stormwater runoff to surface water, or waters of the state. Phase II regulates discharges from small MS4s located in "urbanized areas" (as delineated by the Census Bureau in the most recent census) and from additional small MS4s designated by the WQCD. Phase II also regulates construction activities that disturb one (1) or more acres of land. In addition, the Phase II Final Rule ends the temporary exemption from Phase I requirements for some municipally- operated industrial activities.¹

THE ROLE OF ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) IN PHASE II STORMWATER

The EPA's Phase II rule specifies that permitting authorities (i.e., the WQCD) must issue general permits for "automatically designated" small MS4s by December 9, 2002. The rule requires that the Town of Parker apply for NPDES permit coverage within 90 days of permit issuance, and no later than March 10, 2003. To obtain this coverage, the Town of Parker must develop, implement, and enforce a stormwater management program that is designed to reduce the discharge of pollutants to the maximum extent practicable, protect water quality, and satisfy the applicable water quality requirements of the CWA. The EPA's Stormwater Phase II Final Rule states that this stormwater management program must include the following six minimum control measures:

¹ This temporary exemption was provided by the Intermodal Surface Transportation Act (ISTEA) of 1991.

- Public education and outreach on stormwater impacts,
- Public involvement and participation,
- **Illicit discharge detection and elimination (IDDE),**
- Construction site stormwater runoff control,
- Post-construction stormwater management in new development and redevelopment, and
- Pollution prevention and good housekeeping for municipal operations.

As part of our application for permit coverage, the Town of Parker must identify the best management practices we will use to comply with each of these six minimum control measures and the measurable goals we have set for each measure.

PHASE II STORMWATER EDUCATION

As reflected above, the Town of Parker, through the successful implementation of the six minimum control measures, provides stormwater education, including IDDE, to Town employees as well as the general public.

ABOUT THIS MANUAL

This Manual has been designed to give an overview of the processes used by the Town of Parker to meet the requirements of the Phase II Stormwater Program for IDDE as follows:

- Chapter 2 explains the IDDE requirements of the WQCD's Phase II regulations.
- Chapter 3 reviews the procedure for mapping the MS4 within the Town.
- Chapter 4 identifies the priority areas within the Town and discusses the inspection schedule of the MS4.
- Chapter 5 references the enforcement mechanisms for illicit discharges and lists prohibited discharges.
- Chapter 6 specifically addresses the Standard Operating Procedures (SOPs) for field staff in the areas of Scheduled Inspections of the MS4 and Random Reporting of MS4 Illicit Discharge events.
- Chapter 7 addresses the physical tracing of illicit discharges in the MS4 system as well as SOPs for data collection of these events.
- Chapter 8 provides the procedures for illicit discharge reporting and response by Town staff.
- Chapter 9 outlines the various procedure options for removing the sources of an illicit discharge.

- Chapter 10 reviews the annual reporting, evaluation, and updating process for this IDDE Manual.
- Chapter 11 provides a list of resources that can be accessed for more information regarding stormwater and illicit discharge issues.
- Chapter 12 includes a map of the Town of Parker outfalls and receiving waters from the Town GIS System.

CHAPTER 2 – THE TOWN OF PARKER IDDE PROGRAM

DEFINITION OF AN ILLICIT DISCHARGE

The term “illicit discharge” is defined in the WQCD’s Phase II Stormwater regulations as “any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to the Colorado Discharge Permit System (CDPS) permit and discharges resulting from fire-fighting activities.”

WHY ARE IDDE EFFORTS NECESSARY?

Discharges from MS4s often include wastes and wastewater from non-stormwater sources. Illicit discharges enter the MS4 through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to waters of the state. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

THE ELEMENTS OF AN IDDE PROGRAM

The WQCD’s Phase II regulations state that an IDDE program must incorporate the following four elements:

- Develop an MS4 map showing the location of all outfalls, and the names and locations of all waters of the state that receive discharges from those outfalls;
- Develop and implement a plan to detect and address illicit discharges, including illegal dumping, to the system;
- To the extent allowable under state, tribal, or local law, effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the MS4 and implement appropriate enforcement procedures and actions as needed; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The Town of Parker has incorporated all of these elements within this Manual, or through implementation of our Phase II Permit requirements. Application of the above elements will be addressed throughout the IDDE Manual.

NON-STORMWATER DISCHARGES* THAT THE TOWN OF PARKER'S IDDE PROGRAM NEED NOT ADDRESS

According to the WQCD's Phase II Stormwater regulations, an IDDE program need only address the following categories of non-stormwater discharges **if** the operator of a small MS4 (i.e., Town of Parker) identifies them as significant contributors of pollutants to the MS4 (**which we do not**):

- ◆ Water line flushing
- ◆ Landscape irrigation
- ◆ Diverted stream flows
- ◆ Rising groundwaters
- ◆ Uncontaminated groundwater infiltration
- ◆ Street sweeper wash water
- ◆ Foundation drains
- ◆ Flows from riparian habitats and wetlands
- ◆ Air conditioning condensation
- ◆ Irrigation return flow
- ◆ Springs
- ◆ Water from sump pumps
- ◆ Footing drains
- ◆ Dechlorinated swimming pool discharges
- ◆ Individual residential car washing
- ◆ Lawn watering
- ◆ Uncontaminated pumped groundwater

*NOTE: even if one of these discharges is not covered under the Phase II Stormwater Regulation, it may still require a state-issued permit, such as a Minimal Industrial Discharge (MINDI) Permit.

REFERENCES: CHAPTER 2

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. <http://www.epa.gov/npdes/regulations/phase2.pdf>

USEPA. 2000. EPA Stormwater Phase II Final Rule Fact Sheet 2.5: *Illicit Discharge Detection and Elimination Minimum Control Measure*, EPA 833-F-00-007. January 2000. <http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>

CHAPTER 3 – DEVELOPING AN MS4 MAP

INTRODUCTION TO THE TOWN OF PARKER STORMWATER GIS SYSTEM

In 2000, the Town of Parker's Stormwater Utility staff, along with Town GIS staff, began the development of a stormwater GIS System to address the WQCD's Phase II Regulations. Although it was unknown what would be required of the Town as it related to the Phase II Permit (issued in 2002), it was clear that storm outfall locations would most likely be necessary. Also, the Stormwater Utility was to provide maintenance assistance to certain drainage facilities within the Town of Parker (public and private). Therefore, a decision was made by the Public Works Department to map all existing drainage facilities within the Town of Parker. Each drainage facility (including outfalls) contains a unique facility identification number. This facility ID is contained in the GIS system. A copy of the Town's MS4 outfalls and receiving waters is located in Chapter 12 of this Manual.

MAPPING

Field Data Collection

Global Positioning System (GPS) was used to obtain the coordinates (longitude and latitude) for each outfall. The Town of Parker used a Trimble GeoExplorer GPS Receiver to map the drainage facilities. A variety of data was collected with each drainage facility (including outfalls), and logged using a data dictionary within the GPS receiver. This information was downloaded into the Town's GIS Database.

As-Built Data Collection

As-built drawings provide location as well as feature information in a concise manner. Currently, the Town of Parker requires that as-builts (electronic and mylars) be submitted for all new development drainage infrastructure (including outfalls). The electronic information is submitted to the Town's GIS Department, which is used to update the Stormwater GIS System. This allows the Town to maintain a mapping system that contains an accurate, current, and reliable source of information for storm outfalls. The map contained in Chapter 12 of this manual will have to be re-printed on an annual basis to account for new outfalls that have been constructed as a part of new development.

CAN A DITCH BE AN OUTFALL?

The paragraph below is an excerpt from EPA's Stormwater Phase II Final Rule (USEPA, 1999):

The term "outfall" is defined in 40 CFR 122.26(b)(9) as "a point source at the point where a municipal separate storm sewer discharges to waters of the United States." The term "municipal separate storm sewer" is defined at 40 CFR 122.26(b)(8) as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)." Following the logic of these definitions, a "ditch" may be part of the municipal separate storm sewer, and at the point where the ditch discharges to waters of the United States (State), it is an outfall. As with any determination about jurisdictional provisions of the CWA, however, final decisions require case-specific evaluations of fact.

REFERENCES: CHAPTER 3

Colorado Department of Public Health and Environment, Water Quality Control Division. 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal stormwater discharge permit.* <http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html>

Massachusetts Division of Fisheries, Wildlife, and Environmental Law Enforcement. 2002. *Storm Drain Mapping Project Field Manual (Draft).* <http://www.state.ma.us/dfwele/River/pdf/rivstormdrainmanual.pdf>

Oakland County, Michigan. 2002. *Illicit Discharge Elimination Program.* http://www.co.oakland.mi.us/drain/program_service/illicit_disch.html

Pitt, R., M. Lalor, R. Field, D.D. Adrian, and D. Barbe. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide.* USEPA Office of Research and Development. EPA/600/R-29/238. <http://www.epa.gov/clariton>

Rohrer, C.A., and Beckley, R.J. Undated. *Using GIS Tools to Implement an Illicit Discharge Elimination Program in Livonia, Michigan.* Rouge River Demonstration Project. <http://www.rougeriver.com/proddata>

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. <http://www.epa.gov/npdes/regulations/phase2.pdf>

CHAPTER 4 – LOCATING PRIORITY AREAS

IDENTIFYING PRIORITY AREAS

The Town of Parker staff will develop priority areas that are considered to be likely sources of illicit discharges. The following guidelines are considered while identifying priority areas for the Town:

- **Commercial/industrial areas.** These areas have been found in some communities' IDDE programs to (a) have significant numbers of illicit connections and/or (b) have discharges with a high potential to affect water quality (Tuomari, 1999 and Pitt et al., 1993). Specific business sectors can be prioritized (e.g., businesses subject to waste water pretreatment rules, businesses falling under certain Standard Industrial Classification [SIC] codes, or business sectors with a record of enforcement actions). Because the majority of Town's commercial properties are relatively new, and Parker Water and Sanitation District (District) implements stringent design and inspection requirements, it is not likely that illicit connections are present. Also, industrial areas are very limited within the corporate limits of Parker. However, some of these areas in Town that were developed over 20 years ago may have been constructed prior to the District's requirements (see below).
- **Older areas of the Town.** Older development may predate more stringent construction codes regarding illegal connections and may have deteriorating sanitary sewer and/or storm sewer infrastructure that can lead to infiltration problems.
- **Areas where there have been repeated complaints.** Areas where illegal dumping or apparently contaminated discharges have been reported are obvious priority targets. The Town's Service Request (CRM) system will assist with collecting data to support prioritizing areas where repeated complaints occur.
- **Locations identified from ambient water quality sampling data.** The locations of high levels of particular contaminants (e.g., bacteria) can help to target priority outfalls. Good resources for this information are the periodic water quality assessment reports ("305(b) reports") and lists of impaired water ("303(d) lists") that the CWA requires each state to prepare and submit to the EPA. These reports are prepared by the WQCD and are available to the public, on the State's web site <http://www.cdphe.state.co.us/wq/wqhom.asp>. Also, local watershed groups monitor many water bodies, particularly those in more developed areas (e.g., the Cherry Creek Basin Water Quality Authority). In addition to providing sampling data, these groups can often serve as valuable resources for information about a particular water body and potential problem areas. Other

possible sources of water quality data include the Tri-County Health Department and water districts or departments (e.g., Parker Water and Sanitation District).

PRIORITY AREAS IDENTIFIED BY THE TOWN OF PARKER

Using the guidelines provided above, the Town of Parker staff identified the following priority areas within the Town's Phase II Permit boundaries:

- Commercial Area between Dransfeldt Road and Parker Road, generally located north of Mainstreet and south of Lincoln Avenue

REFERENCES: CHAPTER 4

Clark County (WA) Public Works. 2000. *Illicit Discharge Screening Project: Annual Summary 2000*. <http://www.co.clark.wa.us/site/clean/download/2000rept.pdf>

Colorado Department of Public Health and Environment, Water Quality Control Division. October 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal stormwater discharge permit*. <http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html>

Donlon, A. 2001. *2000 Costal Illicit Connection Remediation Grant Program: Final Report*. New Hampshire Department of Environmental Services and New Hampshire Estuaries Project. R-WD-01-10. <http://www.des.state.nh.us/wmb/was/nhep2000.pdf>

Jewell, C. 2001. A Systematic Methodology for Identification and Remediation of Illegal Connections. Presented at the Water Environment Federation Specialty Conference 2001 *A Collection Systems Odyssey: Combining Wet Weather and O& M Solutions*. <http://www.wef.org>

North Central Texas Council of Governments. 2002. *Stormwater Management in North Central Texas: Illicit Discharge Detection and Elimination*. <http://www.dfwstormwater.com/Storm-Water-Bmps/illicit.html>

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance*. <http://www.projectcleanwater.org/html/model-programs.html>

Sargent, D. and W. Castonguay. 1998. *An Optical Brightener Handbook*. http://www.mvpc.org/services_sec/mass_bays/optical_handbook.htm

Tuomari, D. 1000. *Dos and Don'ts on Implementing a Successful Illicit Connection Program*. Rouge River Demonstration Project. <http://www.rougeriver.com/proddata>

CHAPTER 5 – PROHIBITING ILLICIT DISCHARGES

ILLICIT DISCHARGE ORDINANCE

As the WQCD'S guidance specifies, a municipal ordinance or other regulatory mechanism created to comply with Phase II regulations must include a *prohibition* of illicit discharges and an enforcement mechanism. Note that it is also essential for the Town to establish legal authority to inspect properties suspected of releasing contaminated discharges into the MS4. Consultation with the Town Attorney's Office, in conjunction with a review of existing bylaws and regulations, determined the procedures for prohibiting illicit discharges and the applicable enforcement mechanism currently exist in the Town of Parker Municipal Code. The Town of Parker has taken into account the legal authority granted to it under state law (as a home-rule municipality), the Phase II Permit requirements in Colorado, the enforcement methods the Town deems appropriate, and any other locality-specific considerations. Consequently, the Town is able to prohibit illicit discharges to our MS4, as well as enforce the elimination and mitigation of any illicit discharges that may occur, through the following **legal regulatory mechanism**:

Chapter 6.01 (Nuisances) of the Town of Parker Municipal Code, states, "a Public Nuisance includes any unlawful pollution or contamination of any surface or subsurface waters in the Town...." Litter is defined as "any liquid except clean water" Public or private property includes, but is not limited to, " the right-of-way of any road or highway, any body of water or watercourse, including frozen areas or the shores of beaches thereof, any park, playground or building, any refuge, any school grounds, school building or property used for school purposes."

Any person convicted of violating any provision of Chapter 6.01 shall, upon conviction, be punished by a fine of not more than four hundred ninety-nine dollars (\$499.00) for each separate offense. The Town may also seek an injunction, abatement, restitution or any other remedy to prevent or remove the violation. **Each day a violation of this Chapter continues shall constitute a separate offense.**

The Town Code Enforcement can obtain authorization by the Mayor or Chief of Police to inspect and examine any public or private property in the Town for the purpose of ascertaining the nature and existence of any nuisance.

PROHIBITED MS4 DISCHARGES

The following are considered to be illicit (illegal) discharges to the Town of Parker's MS4 (this list is not considered all inclusive):

Sanitary wastewater sources such as:

- Sanitary wastewater (usually untreated) from improper sewerage connections, exfiltration or leakage;
- Effluent from improperly operating or improperly designed septic tanks; and
- Overflows of sanitary sewer systems.

Automobile maintenance and operation sources such as:

- Untreated (e.g., through a well maintained oil/water separator) commercial car wash wastewaters;
- Untreated radiator flushing wastewaters;
- Untreated engine degreasing wastes;
- Improper oil, gasoline, and other automotive fluids disposal;
- Leaky underground storage tanks; and
- Untreated leaking of oils, gasoline and other automotive fluids for automobiles.

Landscape irrigation sources such as:

- Direct spraying of fertilizers, pesticides or herbicides onto impervious surfaces; and
- Over-application of fertilizers, pesticides or herbicides onto landscaping.

Other sources such as:

- Laundry wastes;
- Non-contact cooling waters;
- Metal plating baths;
- Dewatering of construction sites;
- Washing of concrete ready-mix trucks;
- Contaminated sump pump discharges;
- Improper disposal of household toxic wastes;
- Spills from roadway and other accidents;
- Chemicals, hazardous materials, garbage, and sanitary sludge landfills and disposal sites;
- Commercial use of soaps and detergents; use in cleaning pavement, vehicles and equipment;
- Sediment from lack of or improper maintenance of erosion and sedimentation controls;
- Latex/oil-based paints & solvents;
- Trash and debris: littering and dumping, household or construction waste; and
- Restaurant grease: Improper disposal.

REFERENCES: CHAPTER 5

BWSC. 2002. *Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains*.
<http://www.bwsc.org>

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851.

USEPA. 2002. *Model Ordinances to Protect Local Resources; Illicit Discharges*.
<http://www.epa.gov/owow/nps/ordinance/discharges.htm>

CHAPTER 6 – VISUAL INSPECTION OF THE MS4 – STANDARD OPERATING PROCEDURES (SOPs)

INTRODUCTION

The Town of Parker's Outfall Visual Inspection SOPs have been developed to comply with the WQCD's CDPS Stormwater Management Program Permit No. COR-080011. The Permit requires that a program be developed to address the discharge of illicit (non-stormwater) pollutants into the MS4.

The quality of stormwater entering the waters of the state within the Town relies heavily on a variety of Town staff visually monitoring the MS4. Town staff trained in the detection of pollutants can prevent and help eliminate sources of impurities to the waterways. To establish a program for routine inspection, as well as random reporting of illicit discharges by field staff, the following SOPs have been developed:

- SOP/IDDE 6-1 – Scheduled Inspections of the MS4.
- SOP/IDDE 6-2 – Random Reporting of MS4 Illicit Discharges.

TRAINING OF SOPs

The above SOPs will be included in training sessions for appropriate field staff. In addition, new staff will be trained by scheduling an appointment through the Stormwater Utility Manager. Annual refresher/update trainings will also be scheduled with field staff to address any changes to and/or concerns with these SOPs.

Following are the SOPs for Scheduled Inspection and Random Reporting of MS4 Illicit Discharges:

**Town of Parker SOP/IDDE 6-1
Scheduled Inspections of the MS4**

TOWN OF PARKER SOP/IDDE 6-1 SCHEDULED INSPECTIONS OF THE MS4

INTRODUCTION

The *Town of Parker Scheduled Inspections of the MS4* SOP has been developed to comply with the WQCD's CDPS Stormwater Management Program Permit No. COR-080011. The Permit requires that a program be developed to address the discharge of illicit (non-stormwater) pollutants into the Town's MS4.

The quality of stormwater entering the waters of the state within the Town relies heavily on assigned Town personnel monitoring the storm drainage systems. Town personnel trained in the detection of pollutants can prevent and help eliminate sources of impurities to the waterways. To establish a program for detecting pollutants in storm drain manholes, inlets, and outfalls, a standard procedure has been developed.

OUTFALL VISUAL INSPECTION RATIONALE

In most urban areas, the flow of water from a storm drain system is not a routine event during dry weather periods and, therefore, can be an indicator of illicit discharges (e.g., illegal dumping and unauthorized connections to a MS4). However, dry weather flows from an MS4 can be from other non-stormwater discharges that would not be considered an illicit discharge and are a normal event for some MS4 outfalls (depending on location). These non-stormwater discharges could include: groundwater infiltration into the storm sewer system, irrigation return flow, foundation drain discharges, etc.

Using the assumption that dry weather flows may not always be good indicators of possible illicit discharges in the Town MS4, outfall inspections will be conducted focusing on visually conspicuous evidence of possible illicit discharges to the MS4. Water quality sampling and analyses will not be conducted in this undertaking.

OUTFALL LOCATIONS

According to Section 61.2(49) of the CDPS Regulations, a municipal stormwater outfall means a point source "at the point where a municipal separate storm sewer discharges to state waters and does not include open conveyances which connect segments of the same stream or other state waters and are used to convey state waters". Also, per the Colorado Phase II Municipal Guidance, it can be assumed that a municipal stormwater outfall is the same as storm sewer outfall.

The Town of Parker has mapped the MS4 outfalls located within the corporate limits. This location information is kept in the Town's GIS System, along with other information pertaining to the outfall. The Public Works Department prints map booklets that contain all of the Town's drainage facilities (including outfalls), and are available to all Town staff upon request. As new outfalls are constructed as part of development or capital

projects, electronic as-built information, including geo-spatial data, will be used to update the GIS database.

For the purposes of this SOP, the terms “end-of-pipe” and “stormwater outfall” will be synonymous.

VISUAL INSPECTION OVERVIEW

This section contains an overview of major outfall visual inspections and inspection documentation procedures. Appendix 6-A contains the visual inspection form, its completion guidance, and a checklist for suggested field equipment.

Definition of an Illicit Discharge:

An illicit discharge is a release to a municipal storm sewer or drainageway that is not composed entirely of stormwater, unless permitted by the Colorado Discharge Permit System.

Illicit discharges can be categorized as either direct or indirect.

➤ Examples of direct illicit discharges:

- Sanitary wastewater piping that is directly connected from a home to the storm sewer,
- Materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin,
- A shop floor drain that is connected to the storm sewer, and
- A cross-connection between the sanitary sewer and storm sewer systems.

➤ Examples of indirect illicit discharges:

- An old and damaged sanitary sewer line that is leaking fluids into a cracked storm sewer line, and
- A failing septic system that is leaking into a cracked storm sewer line or causing surface discharge into the storm sewer.

Typical illicit surface discharges that may be observed by field personnel include:

- Overflows of sanitary sewerage systems;
- Untreated radiator flushing wastewaters;
- Untreated engine degreasing wastes;
- Over-application of fertilizers, pesticides or herbicides onto landscaping and impervious surfaces;
- Dewatering of construction sites;
- Improper washing of concrete ready-mix trucks;

- Commercial use of soaps and detergents: used in cleaning pavement, vehicles and equipment outside;
- Latex/oil-based paints and solvents disposed of in gutters or inlets;
- Restaurant grease: improper disposal;
- Private/Public utilities improperly storing chemicals or maintaining equipment;
- Leaking dumpsters;
- Car lots for used and new vehicles dripping fluids on the pavement;
- Fuel spills;
- Hazardous materials dumped along the roadway; and
- Unidentified substances dumped in secluded areas.

PROCEDURE

Training

Operations crew supervisors are responsible for arranging training for field crews. At a minimum, training shall consist of personnel reviewing the inspection form and guidance presented in Appendix 6-A.

Field staff shall be observant in their daily routines to watch for evidence of illicit discharges or unusual flows from the storm drain systems. Should a suspected discharge be discovered, it should be reported to the immediate supervisor. The supervisor will in turn relay the information to Stormwater Utility Manager at 303-840-9546.

The maintenance employee or the supervisor may fill out an Illicit Discharge Form regarding the discharge. If an illicit discharge is pin-pointed, the observer shall record, as applicable, the location, time, date, license plate number, and take photos. This information shall be turned over to the Stormwater Utility Manager. The Stormwater Utility Manager shall in turn perform a field verification of the discharge. The observer need NOT approach the potential violator at the time of the incident. However, if the violator is non-threatening, information for Part 3 of the Illicit Discharge Observation Form would be beneficial.

Safety

Keep safety considerations at the forefront of observation procedures at all times. Likely hazards should be anticipated and avoided. Never approach, contact, or sample a substance if the toxicity is at all suspect. The observation should be investigated in groups of two or more whenever possible. Never open a sealed container to check the contents. If a highly toxic or flammable substance is discovered, the field staff should leave the immediate area and contact the Parker Fire Protection District at 303-841-2608. If there is any question about a substance, contact a supervisor.

Potentially dangerous (e.g., fuel, chemicals, hazardous materials) spills are referred to the Parker Fire Protection District immediately for response by the Hazardous Materials

Division by either the maintenance employee or the field supervisor! The emergency contact number is 303-841-2608.

INSPECTION LOCATIONS

Field staff shall provide locations of the outfall through the use of subdivision, street, and descriptive location, and facility ID number (if available). The stormwater facility maps provided by the Public Works Department (see Chapter 12) should be utilized to assist the field staff in locating the outfalls.

OBSERVATION AREAS

Certain areas in the Town of Parker are more prone to illicit discharges than others. Areas to be more observant in can be identified from past reports and by the stormwater history. The following areas will typically have a higher potential for illicit discharges:

- Commercial/industrial areas,
- Older areas of town that predate more stringent construction codes regarding illegal connections, and
- Areas where illegal dumping or apparently contaminated discharges have been reported.

Field staff may observe dry-weather flows for odor, color, turbidity, and floatable matter. Unusual flows, pungent odors and discoloration or oil substances in the water, stains or waste residues in ditches, channels, or drain boxes are indicators of an illicit discharge. Observe outfalls for deposits and stains, vegetation, and damage to outfall structures.

ALLOWED DISCHARGES

NON-STORMWATER DISCHARGES THAT THE TOWN'S IDDE PROGRAM ALLOWS:

- ◆ water line flushing
- ◆ landscape irrigation
- ◆ diverted stream flows
- ◆ rising groundwaters
- ◆ uncontaminated groundwater infiltration
- ◆ uncontaminated pumped groundwater
- ◆ discharges from potable water sources
- ◆ foundation drains
- ◆ air conditioning condensation
- ◆ flows from riparian habitats and wetlands
- ◆ irrigation return flow
- ◆ springs
- ◆ water from crawl space pumps
- ◆ footing drains
- ◆ lawn watering
- ◆ individual residential car washing
- ◆ flows from riparian habitats and wetlands
- ◆ dechlorinated swimming pool discharges
- ◆ street wash water

FIELD INSPECTION FORMS

The Outfall Visual Inspection Form provides a record of each site visit. An Outfall Visual Inspection Form shall be filled out in the field for all listed outfalls. If a site cannot be inspected, field staff shall record an explanation of the circumstances on the form. The form and instructions for completion are presented in Appendix 6-A. A brief description of each part of the Visual Inspection Form follows:

General Information

This section identifies the outfall, lead field staff conducting the inspection, the date and time the outfall was inspected, and approximate days since the last rainfall. Field staff is also asked to verify the map to the location is accurate, and note any incorrect information on the map and inspection form.

End of Pipe Information and Visual Observations

In these sections, field staff record whether water is flowing from the end-of-pipe, the appearance of the water including color, turbidity (muddiness), the presence of petroleum product, and sediment or debris accumulation in the end-of-pipe or ditch. If debris has accumulated in the end-of-pipe, field crews are asked to estimate the amount and describe the type of debris in the Additional Information Section. Field staff will bring inspection forms to a supervisor's attention if a pipe or ditch is more than one-half filled with debris or sediment.

Additional Information

Explanations in response to visual inspection questions, and observations about the site not covered by the form questions, are recorded in this section.

FLAGGED VISUAL INSPECTION FORMS

Inspection forms for sites may be flagged if end of pipes or ditches are greater than 50% filled with sediment or debris. Flagged forms will be considered by the Stormwater Utility Maintenance Supervisor. Corrective maintenance will be performed on outfall sites as needed based on operations criteria. These maintenance activities will be tracked in the Stormwater Utility GIS System.

COMPLETED VISUAL INSPECTION FORMS

Field staff will turn in completed forms on a daily basis to their crew leader. The crew leaders will forward, upon completion, the completed inspection forms to the Stormwater Utility Manager for visual inspection data management.

***APPENDIX 6-A - Scheduled Inspection of the MS4
Observation Form***

**SCHEDULED INSPECTION OF THE MS4
OBSERVATION FORM**

PART 1 GENERAL INFORMATION

ADDRESS/LOCATION/FACILITY ID NO: _____

DATE: _____ TIME: _____ CREW LEAD: _____

HOW LONG SINCE LAST RAINFALL? Raining now; 0-2 Days; 3 or more Days; Unknown

PART 2 END-OF-PIPE INFORMATION & VISUAL OBSERVATIONS

END OF PIPE FLOWS INTO: Lake; Stream; Wetland; Ditch; Other _____

END OF PIPE SUBMERGED? No; Yes; If yes, how much? 25% or less; about 50%;
 more than 50%

END OF PIPE CRUSHED? No; Yes; If yes, how much? 25% or less; about 50%;
 almost closed

GRATE ON END OF PIPE? No; Yes; If yes, is grate locked? No; Yes; If yes, is grate
plugged? 25% or less; about 50%; more than 50%

WATER FLOWING FROM END OF PIPE? No; Yes
If yes, what does water look like? Clear; Colored, what color? _____; Muddy
If yes, are petroleum products present? No; Yes; If yes, in the form of: Floating globs (visible
product); Moving sheen

SEDIMENT ACCUMULATION IN PIPE? No; Yes
If yes, how much? 25% or less full; About 50% full*; More than 50% full*

DEBRIS ACCUMULATION IN PIPE? No; Yes
If yes, how much? 25% or less full; About 50% full*; More than 50% full*
Describe debris: _____

IF END OF PIPE FLOWS TO A DITCH, IS THERE (NEAR END OF PIPE):
Sediment accumulation in ditch? No; Yes
If yes, how much? 25% or less full; About 50% full*; More than 50% full*
Debris accumulation in ditch? No; Yes
If yes, how much? 25% or less full; About 50% full*; More than 50% full*
Describe debris: _____

IS EROSION OCCURRING AT THE END OF THE OUTFALL PIPE? No; Yes
If yes, describe: _____

PART 3 ADDITIONAL INFORMATION

DISCHARGER NAME: _____

DISCHARGER ADDRESS: _____

DISCHARGER LICENSE PLATE: _____ DISCHARGER VEHICLE: _____

COMMENTS: _____

Note: If the answer to a question has this * next to the entry, flag this form for a crew leader's attention by placing an "x" in the box to the right

INSTRUCTIONS FOR COMPLETION OF THE VISUAL INSPECTION FORM

A separate form must be filled out for each outfall. Answer all questions on the form.

PART I GENERAL INFORMATION

Map to Location: Verify the map guiding you to the outfall location is accurate. Make location corrections to the map and/or in the inspection form. If the outfall cannot be found based on inspection crew experience or map information, make a note and return the uncompleted form and map to crew leader.

Date, Time and Field Crew Lead. When you arrive at an outfall to conduct the inspection, write the outfall identification number on the inspection form. The outfall identification number can be found on the location map. Record the date and time the inspection is made. Fill in the name of the employee conducting the inspection.

How Long Since Last Rainfall? Check the box that best represents when the last rainfall occurred. "Rainfall" is defined as a rainstorm big enough to cause runoff from the streets to enter the local storm drains being inspected. Indicate if you do not know the date of the last rainfall.

PART 2 END OF PIPE AND VISUAL OBSERVATIONS

The "end-of-pipe" is defined as the open-end of a pipe discharging stormwater from a piped stormwater conveyance system into the environment.

Water Flowing from End-of-Pipe? Check the NO box if there is no water flowing out of the end-of-pipe. Note: If you see standing water in the end-of-pipe or the end-of-pipe is partially submerged in water and you cannot determine if the water is actually flowing out of the pipe, also check the NO box. Check the YES box only if water is flowing out of the end-of-pipe. If you checked the YES box, you also need to answer the questions about the quality of the water flowing out of the pipe. Check the appropriate boxes for the water quality questions.

If yes, what does water look like?

Clear (not colored): Imagine a glass of drinking water, you can see through the water and the water is not colored. Is this what the water flowing from the end-of-pipe looks like?

Colored: Imagine a glass of tea, you can see through the water, but the water is colored. Is this what the water looks like? Be careful not to let the color of subsurface objects fool you. For example, green algae under the water can give water the appearance of being green. Color can range from light to dark. If the water seems very lightly colored but you are in doubt, do not mark the "Colored" box.

Muddy: You cannot see through the water (it has a cloudy or muddy appearance).

If yes, are petroleum products present in water? Imagine pouring new or used motor oil into water. Do you see this effect in the water flowing from the end-of-pipe? Unless you see floating globs (visible product) or a moving sheen of oil in the water, mark NO.

Sediment Accumulation in Pipe? If you can see sediment in the pipe, check the YES box. Then estimate how much sediment is present in the pipe (less than ¼ full, about ½ full, or more than ½ full) and check the appropriate box. **Note:** If you checked the "about ½ full" or "more than ½ full" box, also check the box at the bottom of the page to flag the form for a supervisor's attention.

Debris Accumulation in Pipe? If you see any debris piled up in the pipe, check the YES box. Then estimate how much debris is present in the pipe (less than ¼ full, about ½ full, or more than ½ full) and check the appropriate box. **Note:** If you checked the "about ½ full" or "more than ½ full" box, also check the box at the bottom of the page to flag the form for a crew leader's attention.

If the "End of Pipe" Flows into a Ditch, is there (near end of pipe) Sediment Accumulation in Ditch? If you can see sediment in the pipe, check the YES box. Then estimate how much sediment is present in the pipe (less than ¼ full, about ½ full, or more than ½ full) and check the appropriate box. **Note:** If you checked the "about ½ full" or "more than ½ full" box, also check the box at the bottom of the page to flag the form for a crew leader's attention.

Debris Accumulation in Ditch? If you see any debris piled up in the pipe, check the YES box. Then estimate how much debris is present in the pipe (less than ¼ full, about ½ full, or more than ½ full) and check the appropriate box. **Note:** If you checked the "about ½ full" or more than ½ full" box, also check the box at the bottom of the page to flag the form for a crew leader's attention.

PART 3 ADDITIONAL INFORMATION

As needed, explain answers in Parts 1 and 2. Record anything unusual about the site not covered by the questions on the form.

FIELD EQUIPMENT CHECKLIST

Appropriate protective work clothing and boots Safety and communication equipment Outfall location maps
 Clipboard Visual Inspection Forms Pencil or Waterproof permanent ink pen

**TOWN OF PARKER SOP/IDDE 6-2
Random Reporting of MS4 Illicit
Discharges**

Town of Parker SOP/IDDE 6-2

Field Staff Random Reporting of MS4 Illicit Discharges

INTRODUCTION

The *Town of Parker Outfall Visual Inspection Field Staff Random Reporting of MS4 Illicit Discharges* SOP has been developed to comply with the WQCD's CDPS Stormwater Management Program Permit No. COR-080011. The Permit requires that a program be developed to address the discharge of illicit (non-stormwater) pollutants into the Town's MS4.

The quality of stormwater entering the waters of the state within the Town relies heavily on Town Operations/Field Staff monitoring the storm drainage systems. Town Operations/Field Staff trained in the detection of pollutants can prevent and help eliminate sources of impurities to the waterways. To establish a program for detecting pollutants in storm drain manholes, inlets, and outfalls, a standard procedure has been developed.

DEFINITION OF AN ILLICIT DISCHARGE

An illicit discharge is a release to a municipal storm sewer or drainage way that is not composed entirely of stormwater, unless permitted by the Colorado Discharge Permit System.

Illicit discharges can be categorized as either direct or indirect.

- Examples of direct illicit discharges:
 - Sanitary wastewater piping that is directly connected from a home to the storm sewer,
 - Materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin,
 - A shop floor drain that is connected to the storm sewer, and
 - A cross-connection between the sanitary sewer and storm sewer systems.

- Examples of indirect illicit discharges:
 - An old and damaged sanitary sewer line that is leaking fluids into a cracked storm sewer line, and
 - A failing septic system that is leaking into a cracked storm sewer line or causing surface discharge into the storm sewer.

Typical illicit surface discharges that may be observed by field personnel include:

- Overflows of sanitary sewerage systems;
- Untreated radiator flushing wastewaters;
- Untreated engine degreasing wastes;
- Over-application of fertilizers, pesticides or herbicides onto landscaping and impervious surfaces;
- Dewatering of construction sites;
- Improper washing of concrete ready-mix trucks;
- Commercial use of soaps and detergents: use in cleaning pavement, vehicles and equipment outside;
- Latex/oil-based paints and solvents disposed of in gutters or inlets;
- Restaurant grease: improper disposal;
- Private/Public utilities improperly storing chemicals or maintaining equipment;
- Leaking dumpsters;
- Car lots for used and new vehicles dripping fluids on the pavement;
- Fuel spills;
- Hazardous materials dumped along the roadway; and
- Unidentified substances dumped in secluded areas.

PROCEDURE

Training

Stormwater Utility Field staff will be given basic training on the types of illicit discharges that may occur. Field staff shall be observant in their daily routines to watch for evidence of illicit discharges or unusual flows from the storm drain systems. Should a suspected discharge be discovered, it should be reported to the immediate supervisor. The supervisor will in turn relay the information to the Stormwater Utility Manager at 303-840-9546.

The employee or the supervisor may fill out an Illicit Discharge Form regarding the discharge. If an illicit discharge is pin-pointed, the observer shall record, as applicable, the location, time, date, license plate number, and take photos. This information shall be turned over to the Stormwater Utility Manager. The Stormwater Utility Manager shall in turn perform a field verification of the discharge. The observer need NOT approach the potential violator at the time of the incident. However, if the violator is non-threatening, information for Part 3 of the Illicit Discharge Observation Form would be beneficial.

SAFETY

Keep safety considerations at the forefront of observation procedures at all times. Likely hazards should be anticipated and avoided. Never approach, contact, or sample a substance if the toxicity is at all suspect. The observation should be investigated in groups of two or more whenever possible. Never open a sealed container to check the contents. If a highly toxic or flammable substance is discovered, the maintenance personnel should leave the immediate area and contact the Parker Fire Protection District at 303-841-2608. If there is any question about a substance, contact a supervisor.

Potentially dangerous (e.g., fuel, chemicals, hazardous materials) spills are referred to the Parker Fire Protection District immediately for response by the Hazardous Materials Division by either the maintenance employee or the field supervisor! The emergency contact number is 303-841-2608.

OBSERVATION AREAS

Certain geographic areas in the Town of Parker are more prone to illicit discharges than others. Areas to be more observant in can be identified from past reports and by the stormwater history. The following areas will typically have a higher potential for illicit discharges:

- Commercial/industrial areas,
- Older areas of Town that predate more stringent construction codes regarding illegal connections, and
- Areas where illegal dumping or contaminated discharges have been reported.

Field staff may observe dry-weather flows for odor, color, turbidity, and floatable matter. Unusual flows, pungent odors and discoloration or oil substances in the water, stains or waste residues in ditches, channels, or drain boxes are indicators of an illicit discharge. Observe outfalls for deposits and stains, vegetation, and damage to outfall structures.

ALLOWED DISCHARGES

NON-STORMWATER DISCHARGES THAT COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION ALLOWS:

- ◆ water line flushing
- ◆ landscape irrigation
- ◆ diverted stream flows
- ◆ rising groundwaters
- ◆ uncontaminated groundwater infiltration
- ◆ uncontaminated pumped groundwater
- ◆ discharges from potable water sources
- ◆ foundation drains
- ◆ air conditioning condensation
- ◆ flows from riparian habitats and wetlands
- ◆ irrigation return flow
- ◆ springs
- ◆ water from crawl space pumps
- ◆ footing drains
- ◆ lawn watering
- ◆ individual residential car washing
- ◆ flows from riparian habitats and wetlands
- ◆ dechlorinated swimming pool discharges
- ◆ street wash water

ILLICIT DISCHARGE OBSERVATION FORM

The Illicit Discharge Observation Form provides a record of each field observation of an illicit discharge. An Illicit Discharge Observation Form will be filled out when a suspected illicit discharge event occurs. The form and instructions for completion are presented in Appendix 6-B. A brief description of each part of the Illicit Discharge Observation Form follows:

General Information

This section identifies the location, date, time and observer of the event. In addition, weather conditions for the area are recorded.

Description of Observation

In this section, field staff records a narrative of the suspected illicit discharge event, whether water is flowing from the end-of-pipe, the appearance of the water including color, turbidity (muddiness), and the presence of petroleum products.

Additional Information

If available, the discharger name, address, and vehicle information are recorded in this section. Any additional explanations in response to visual inspection questions, and observations about the site not covered by the form questions, are recorded in this section. Forms are handed in to department supervisors for review, sign off and distribution back to the Stormwater Utility Manager.

FOLLOW-UP INSPECTIONS

Follow up inspections will be conducted by the Stormwater Supervisor/Crew Leader. If additional maintenance activities are needed, appropriate maintenance staff will be contacted by Supervisor/Crew Leader and the maintenance activities will be tracked using the existing Stormwater maintenance program.

COMPLETED ILLICIT DISCHARGE OBSERVATION FORMS

If a potential illicit discharge is identified, field staff will contact a supervisor who will, in turn, contact either the Town Code Enforcement Officer or Stormwater Utility Manager for immediate follow-up. Field staff will turn in completed forms on a daily basis to their crew leader. The crew leaders will forward the completed inspection forms to the Stormwater Utility Manager for illicit discharge tracking data management.

APPENDIX 6-B - Illicit Discharge Observation Form

ILLICIT DISCHARGE OBSERVATION FORM

PART 1 - GENERAL INFORMATION

Address/Location/Facility ID No: _____

Date: _____ Time: _____ Observer: _____

How long since last rainfall? Raining now 0-2 days 3 or more days
 Unknown

PART 2 - DESCRIPTION OF OBSERVATION

Suspected Substance: _____

Discharge into: Storm Drain Stream Wetland Ditch
 Gutter
 Other: _____

Water flowing from end of pipe? Yes No

If yes, what does water look like? Clear Colored, what color? _____
 Muddy

Are petroleum products present? No Yes

If yes, in the form of: Floating globs (visible product) Moving Sheen

PART 3 - ADDITIONAL INFORMATION:

Discharger Name: _____

Discharger Address: _____

Discharger License Plate: _____ Discharger Vehicle: _____

Department Supervisor: _____

CHAPTER 7 – TRACING AND TRACKING AN ILLICIT DISCHARGE SOURCE – STANDARD OPERATING PROCEDURES

INTRODUCTION

Reporting of an illicit discharge in the Town of Parker MS4 will occur through citizen observation, Town staff, the stormwater hotline (Public Works Department), the Town of Parker Stormwater web-site, or other miscellaneous means. Once a report is received, the following steps will be addressed:

Reported in Mapped MS4 area

Reports received in a Town MS4 area that has been previously mapped can be traced using the stormwater facility map booklets. The map booklets will allow the user to move upstream or downstream from the sighting of the illicit discharge. The map booklets include all types of drainage facilities that can assist the user in tracing the source of an illicit discharge, or where the illicit discharge ultimately will travel within the storm system. Notes should be taken by field staff during the tracing/tracking of the illicit discharge that could then be transferred to the Illicit Discharge Observation Form (see Appendix 6-B).

Inactive Illicit Discharge Reporting

Through field observation or citizen reporting there may be the instance where an illicit discharge is untraceable or within drainage facilities that have not been mapped. There are a variety of techniques available for use in tracing an illicit discharge. In addition to the ones mentioned above, the following techniques may be considered: manhole observation, video inspection, smoke testing, dye testing, aerial infrared and thermal photography, and tracking illegal dumping. Procedures for these processes are discussed below.

OTHER TRACING OPTIONS

The following are possible options for tracing illicit discharges in the Town of Parker MS4:

MANHOLE OBSERVATIONS

A key tracing technique is to follow dry-weather flows upstream along the conveyance system to bracket the location of the source. This can be accomplished by taking the following steps:

- Consult the MS4 map for any information that may be available for the area.

- Check the next “upstream” manhole with a junction to see if there is evidence of discharge. Consider sampling each manhole that has a discharge.
- Repeat these steps until a junction is found with no evidence of discharge; the discharge source is likely to be located between the junction with no evidence of discharge and the next downstream junction.
- Be aware of the surrounding areas and look for water in gutters and streets.

Manhole observations can be time-consuming, but they are generally a necessary step before conducting other tests.

VIDEO INSPECTION

Mobile video cameras can be guided remotely through storm sewer lines to observe possible illegal connections into storm sewer systems and record observations on a videocassette or DVD. Town staff can observe the videos and note any visible illegal connections. This technique is time-consuming and expensive but thorough and usually definitive, and it does not require the intrusion on members of the public that some of the other methods do.

SMOKE TESTING

This technique involves injecting non-toxic smoke into storm sewer lines and then noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the storm sewer lines. The injection is accomplished by placing a smoke bomb in the storm sewer manhole below ground and forcing air in after it. Smoke-generating machines can also be used. Test personnel will be stationed at points of suspected illegal connections or cracks/leaks, noting any escape of smoke (indicating an illicit connection or damaged storm sewer infrastructure). Prior to performing this test, it is necessary to inform building owners and occupants in the area in advance. It is also advisable to inform the police and fire departments.

For a more thorough smoke-test program, the sanitary sewer lines can also be smoked. For houses that do not emit smoke during either the sanitary sewer or the storm sewer system tests, sewer gas may be venting inside, which is hazardous. Interviews with various IDDE program staff at other permitted MS4s suggest that the smoke-test method is more effective in infiltration/inflow investigations of the sanitary sewer system than in detecting illegal connections to the storm sewer system.

Smoke may cause minor irritation of respiratory passages; residents with respiratory conditions should receive special attention to determine if it is safe for them to be present for the testing. Smoke testing is typically used to survey an area all at once, in contrast to dye testing, which tests one building at a time.

DYE TESTING

This technique involves flushing non-toxic dye into toilets and sinks and observing storm sewer and sanitary sewer manholes and storm sewer outfalls for the presence of the dye. Prior to performing this test, it is necessary to inform building owners and occupants in advance and gain permission for entry. Local public health and state water quality staff should also be notified so that they will be prepared to respond to citizens calling about any dye observed in surface waters.

To perform the test, a crew of two or more people is needed (ideally, all with two-way radios). One person is inside the building; the others are stationed at the appropriate storm sewer and sanitary sewer manholes (which should be opened) and/or outfalls. The inside person drops dye into a plumbing fixture (i.e., toilet or sink) and runs a sufficient amount of water to move the dye through the plumbing system. The inside person then radios to the outside crew that the dye has been dropped, and the outside crew watches for the dye in the storm sewer and sanitary sewer, recording the presence or absence of the dye.

The test is relatively quick (about 30 minutes per test), effective (results are usually definitive), and cheap. Dye testing is best used when the likely source of an illicit discharge has been narrowed down to a few specific houses or businesses.

AERIAL INFRARED AND THERMAL PHOTOGRAPHY

Aerial infrared and/or thermal photography can be used to locate illicit discharges from outfalls and failing septic systems using temperature and vegetation as markers. This technique requires knowledge of aerial photo interpretation. When using aerial infrared or thermal photographs, do the following:

- For outfalls -
 - Note if discharge has a higher temperature than that of the stream; and
 - Note if algae growth is concentrated near an outfall.
- For potentially failing septic systems -
 - Note evidence of increased moisture in surrounding soil;
 - Observe vegetation located close to the potentially failing septic system, and note any increase in vegetation compared to the surrounding area; and

- Observe any increase in temperature readings at the septic system location.

This is still a developing technology and not commonly used for IDDE programs. Further tests may still be needed to determine specific houses/businesses with illegal connections. This technique has been used primarily for the detection of failing septic systems, which are only considered “illicit discharges” under the Phase II Stormwater program if they discharge into the storm sewer system.

TRACKING ILLICIT DISCHARGE EVENTS

The Town of Parker will track information provided through the various tracing options outlined in this chapter in a database format. This database will include information on date of inspection, type of discharge, location of facility, source of discharge, follow-up action needed, jurisdiction and maintenance responsibilities, type of mitigation used and comments on site. In addition, if available, costs of action taken will be included in the information collected.

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**TOWN OF PARKER SOP/IDDE 7-1
TRACING AND TRACKING SOP**

TOWN OF PARKER SOP/IDDE 7-1

TRACKING AN ILLICIT DISCHARGE EVENT

INTRODUCTION

The purpose of this SOP is to establish a procedure for tracking information gathered by the Town of Parker IDDE Program. Tracking the data will provide information that will assist in determining priority areas, tracing sources of illicit discharges and removing sources of illicit discharges. Tracking the data collected in the IDDE Program will play an important role in the evaluation and refinement of the Program. In addition, the tracking database will provide reporting information required by the WQCD.

It is important that the appropriate information be gathered and documented when responding to an illicit discharge report. In some cases, the incident may require legal action. Legal enforcement and/or penalties may depend upon the integrity of the information that is gathered at the scene.

In extreme, rare cases, the incident could become the focus of a judicial process that would require the first staff person on site to provide valuable information, and possibly testimony and evidence. For that reason, it is necessary to be as thorough as possible on the initial investigation.

PROCEDURE

Items that will be tracked in the IDDE database include:

- Number of inspections (routine and suspected illicit discharge),
- Number of traced illicit discharges, by method (routine inspection, public complaint, dye testing, etc.), and
- Number of illicit discharge sources eliminated.

The following items shall be collected and entered into the Inspection Form database:

- Date and time of inspection,
- Type of inspection (routine or suspected illicit discharge),
- Location of facility inspected,
- Presence of illicit discharge, including:
 - Type of illicit discharge,
 - Source of illicit discharge,
 - Action taken, and
- Maintenance (needed or provided).

The following additional items may be tracked if available:

- Entities involved in any actions taken,
- Cost of actions taken, and
- Cost of tracking illicit discharge, by method.

CONCLUSION

It is important to remember that the IDDE Inspection Report items being tracked represent only a small portion of the total information provided. All inspection forms shall be properly filed so that they can be retrieved for further analysis/comparison, legal evidence, or for a WQCD audit.

TOWN OF PARKER IDDE TRACING/TRACKING FORM

INTRODUCTION –This form is used to collect information received as a citizen report, stormwater hotline report, stormwater web site report, and for additional input from Field Staff who have reported an illicit discharge event.

Date of Report/Event _____ Location _____

Description of Alleged Illicit Discharge _____

Action Taken/Observation _____

Individuals Contacted

NAME

REPRESENTING

CONTACT INFO

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Photos taken? Yes; No Follow Visit Needed? Yes; No

Weather Conditions Dry; Wet; Precipitation within past 2 days; Unknown

Name of Person Reporting _____

Contact Information _____

Statement from Person Reporting _____

Staff Person Processing the Report _____

CHAPTER 8 – ILLICIT DISCHARGE REPORTING AND RESPONSE

INTRODUCTION

Reports for illicit discharges can be received from a variety of sources. Town staff, residents, and individuals passing through the area may report a potential illicit discharge in the Town. To respond to these reports, the following procedure has been developed.

PROCEDURE

Contact is made with the Public Works Department administrative staff from a citizen complaint, Parker Fire District's Office, Parker Water and Sanitation District Office, Police Department, or Town Staff reporting a potential Illicit Discharge. The Public Works Administrative Staff will take the initial information on the spill event and create a Service Request with the Customer Service Management System. The service request should be forwarded to the Stormwater Utility Manager. The reporter should be forwarded to the Stormwater Utility Manager. If the Stormwater Utility Manager is not in his office, he should be contacted immediately via radio/cell phone about the report. If the Stormwater Utility Manager is not available, the call can be forwarded to the Stormwater Supervisor, Stormwater Crew Leader, or Code Enforcement Officer.

Administrative staff receiving the call must fill out as much information as available on the form contained in SOP/IDDE 7-1. The initial paperwork completed by staff receiving the call will be forwarded to the Stormwater Utility Manager for completion and for data tracking purposes per SOP/IDDE 7-1.

Field verification will occur within the first 24 hours of the reported incident.

A reported incident that is perceived to be immediately dangerous to life or health will be acted upon immediately. This process shall include the following:

- Notification of Parker Fire Protection District**
- Notification of Parker Police Department**
- Notification of the Town of Parker Stormwater Utility Manager**
- Notification of Town of Parker Code Enforcement**
- Notification of Parker Water and Sanitation District (Operations)**

And may include the following:

- Notification of Tri-County Health.
- Notification of DC Public Works Department (Illicit Discharge Detection and Elimination) if located outside the Town of Parker Corporate Limits.

- Notification of other downstream water treatment facilities (besides PW&S).
- Notification of DCSO on-call Haz-Mat team personnel (if assistance is required)

Depending upon the situation, many other notifications and/or involvement may be required or appropriate. Examples of which include notifications to the National Response Center, Environmental Protection Agency, and the like. All of which should be considered.

Any incident involving the release of an unknown, hazardous material, or suspected hazardous material will be responded to immediately and the Parker Fire Protection District will be contacted immediately.

If the product in question does not pose an immediate threat to life, property, or the environment is not considered a hazardous material and no criminal activity is suspected, the Town may elect not to contact the Parker Fire Protection District or Parker Police Department. Field staff will do proper containment of the discharge and, if needed, proper disposal of the mitigation materials will occur. If the spill is too large for Field staff to contain, a contracted spill containment company will be contacted for mitigation. The incident shall be referred to the Stormwater Utility Manager for follow-up to ensure proper clean-up. In any event, the recipient will ensure that the agencies involved in the IDDE task force are notified of the report at the earliest opportunity.

Field staff responding to the incident/report must follow the procedures included in SOP/IDDE 6-2 and fill out the form contained in SOP/IDDE Appendix 6-B. The completed form must be forwarded to the Stormwater Utility Manager for data tracking.

Many times, the product dictates the response. However, the incident objectives remain the same:

- Life safety of the responder.
- Life safety of the public.
- Safety of property
- Protection of the environment.

The purpose of a response on the part of the Town of Parker staff shall be to ensure the safety of all persons, halt the spread of the substance whenever possible (if determined to be non-hazardous), issuance of a clean-up order/notice of violation, and documentation of events. The Town of Parker is not a cleanup company. An authorized cleanup contractor will complete cleanup activities.

If cleanup activities are warranted, a "Clean-Up Order Notice" will be served upon the responsible party by the Town of Parker and/or Parker Fire Protection District. If criminal activity is suspected, the Town of Parker Code Enforcement and Parker Police Department will be contacted for their involvement.

CHAPTER 9 – REMOVING THE SOURCE OF AN ILLICIT DISCHARGE

INTRODUCTION

Because there are various sources of illicit discharges to the storm sewer system, there are different kinds of actions the Town may have to take to remove those sources and prevent future illicit discharges. This chapter groups those actions into three categories: compliance assistance and enforcement for illegal connections to homes and businesses; proper construction and maintenance of MS4s; and responding to and preventing illegal dumping.

COMPLIANCE ASSISTANCE AND ENFORCEMENT FOR ILLEGAL CONNECTIONS TO HOMES AND BUSINESSES

There is a range of ways in which the Town may wish to handle the removal of illegal connections between homes or businesses and the storm sewer system. Enforcement measures are spelled out in the required IDDE enforcement mechanism (see Chapter 5), but the Town will use judgment about what mix of compliance assistance and enforcement actions is appropriate in a given situation. Typically, the Town responds to the discovery of an illegal connection in a graduated manner, beginning with efforts to obtain voluntary compliance and escalating to increasingly severe enforcement actions if compliance is not obtained.

Voluntary Compliance

Often, home or business owners are not aware of the existence of illegal connections between their buildings and the storm sewer systems. In these cases, providing the responsible party with information about the connection, its environmental consequences, the applicable regulations, and how to remedy it may be enough to secure voluntary compliance. The cost of removing the connection and reconnecting it to the sanitary sewer system can be an obstacle.

Enforcement

Based upon the findings of the Public Works Stormwater official it may be necessary to proceed with the following IDDE enforcement steps through the Town Of Parker's Code Enforcement Division as defined in the Town of Parker Municipal Code:

- *If the discharge of dumping has been deemed a threat to Public Health, Safety and/or Welfare, and/or poses a threat to public property based upon a Public Works Stormwater Official, the violation may be abated immediately without prior*

notification. The Town maintains the right to recoup any costs associated with the abatement of this violation. A summons to Municipal Court or criminal charges may also be issued.

- *Otherwise, a Notice of Violation will be personally served to the property owner, contractor and/or any parties responsible for creating the violation(s); and/or the property may be posted giving 24 hours or sooner to abate the violation. If there is no compliance within the time given, the Town of Parker may abate this violation at the expense of the property owner, contractor or parties creating the violation. A summons to Municipal Court or criminal charges may also be issued.*
- *If the discharge or dumping is not a threat to Public Health, Safety, and/or Welfare, or there is no threat to public properties a Notice Violation shall be sent certified mail to all responsible parties, including the property owner, contractor, and/or parties creating the violation. The Officer will then follow the procedures as defined in the Town of Parker Municipal Code and Code Enforcement standard procedures.*

In addition, the Town may seek enforcement action from Douglas County, State or Federal authorities *if the violation impacts other resources or the violation source is outside of the Town Boundaries.*

PROPER CONSTRUCTION AND MAINTENANCE OF MS4s

Some illicit discharge problems may be the responsibility of the Town and Special Districts. These problems include cross-connections between the sanitary sewer and storm sewer systems and infiltration into damaged or deteriorating storm sewer pipes.

Cross-connections between a Special District's sanitary sewer and the Town's MS4 may exist by mistake, because of deterioration over time, or as part of the design in an antiquated system. Complete and accurate maps of the sanitary sewer and storm sewer systems can help identify these cross-connections and prevent them during any new construction that takes place.

Contamination can infiltrate into a cracked or leaking MS4 from leaking sanitary sewer pipes, failing septic systems, or contaminated groundwater. To help prevent this, both MS4s and sanitary sewer systems should be inspected periodically and maintained properly to keep them in good repair.

PREVENTING AND RESPONDING TO ILLEGAL DUMPING

It is often difficult to identify and locate the individual(s) responsible for illegal dumping; therefore, a program to address illegal dumping should focus on education and prevention, backed up by enforcement to the extent possible.

The following key strategies can be used to prevent illegal dumping:

- **Site maintenance and controls.** Measures should be taken to clean up areas where illegal dumping has taken place, and controls such as signs or access restrictions should be used, as appropriate, to prevent further dumping.
- **Community outreach and involvement.** Outreach is the linchpin of an illegal-dumping prevention program and can include the following components:
 - Educating businesses, Town, Special District employees, and the general public about the environmental and legal consequences of illegally disposing of waste into the MS4.
 - Providing and publicizing ways for citizens to properly dispose of waste.
 - Providing opportunities for citizens to get involved in preventing and reporting illegal dumping.
- **Targeted enforcement.** This strategy includes Town prohibition against illegal dumping backed up by Parker Police Department, Parker Fire District personnel, and possibly field operations.
- **Program measurement.** Tracking and evaluation methods will be used to measure the impact of illegal-dumping prevention efforts and determine whether goals are being met.

Some specific methods that the Town might use to implement these strategies include the following:

- **Site maintenance and controls**
 - Storm-drain stenciling program.
 - Spill-response plans for hazardous-waste spills.
- **Community outreach and involvement**
 - The Stormwater Hotline (303-840-9546).
 - Outreach to business sectors that handle hazardous materials and/or have a history of illegal-dumping problems; outreach should include information on BMPs for spill prevention and proper waste disposal.
 - Printed outreach materials for the public.
 - Publicizing of waste-disposal options, such as used oil recycling and household hazardous waste collections.

➤ **Targeted enforcement**

- An illegal-dumping regulatory mechanism.
- Surveillance of known illegal-dumping locations.
- Business facility inspections.
- Training of Town employees, Parker Fire District employees, Special Districts employees.

➤ **Program measurement**

- Tracking of incident locations.
- Compilation of statistics (e.g., annual cleanup costs, facility compliance, arrests, convictions, fines, complaints).

REFERENCES: CHAPTER 9

California Coastal Commission. 2002. *Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities*.
<http://www.coastal.ca.gov/la/murp.html>

Center for Watershed Protection. *Pollution Prevention Fact Sheet: Illegal Dumping Control*.
http://www.stormwatercenter.net/Pollution_Prevention_Factsheets/IllegalDumpingControl.htm

North Central Texas Council of Governments. 2002. *Stormwater Management in North Central Texas: Illicit Discharge Detection and Elimination*. <http://www.dfwstormwater.com/Storm-Water.BMPs/illicit.html>

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance*.
http://www.projectcleanwater.org/html/model_programs.html

USEPA. 1997. *Guidance Manual for Implementing Municipal Stormwater Management Programs – Volume 1: Planning and Administration* (Draft). Office of Wastewater Management and Office of Research and Development. <http://www.epa.gov/npdes/regulations/phase2.pdf>

USEPA. 1999. National Pollution Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1000), pp. 68722-68851.
<http://www.epa.gov/npdes/regulations/phase2.pdf>

USEPA. 2002. Stormwater Phase II Menu of BMPs – *Illicit Discharge Detection and Elimination: Illegal Dumping*. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_3.cfm

USEPA. 2002. *Model Ordinances to Protect Local Resources: Illicit Discharges*.
<http://www.epa.gov/owow/nps/ordinance/discahrges.htm>

CHAPTER 10 - EVALUATION OF THE IDDE PROGRAM

INTRODUCTION

The WQCD recommends that the IDDE Manual include procedures for program evaluation and assessment. Program evaluation is the time to step back, look at what has been done, determine what worked and what didn't, and make adjustments to planned future actions as appropriate in the Town. This final component of the Town's IDDE Manual outlines how the Town will go about evaluating its IDDE Program.

EVALUATION STRATEGY

Evaluation procedures will include documentation of actions taken to locate and eliminate illicit discharges. Such documentation will include numbers of outfalls screened, complaints taken and investigated feet of storm sewers videotaped (if any), numbers of discharges eliminated, and number of dye or smoke tests conducted (if any). Note that this component of the IDDE Manual fits in with the overall Phase II requirements for identifying measurable goals for each BMP and reporting on progress toward achieving those goals. Annual reports are necessary during the first permit term, and in years two and four in subsequent terms.

Determining the impact of these actions is more of a challenge, but it is an important part of the overall process because the WQCD allows for adjustments to the stormwater management program over the life of the permit. Assessment of what worked and what didn't provides the information needed to make these adjustments to the Town's IDDE Program.

Some steps for assessing the effectiveness of the Town's IDDE strategies include:

- Evaluate the number of possible illicit discharges that were detected using different detection methods, to help determine which detection methods are most effective.
- Evaluate the number of discharges and/or quantity of discharges eliminated using different possible enforcement and compliance measures.
- Program evaluation will also include procedures for considering efficiency and feasibility. Questions to answer include:
 - How much staff time and expense did it take to achieve a given result?
 - Were practical difficulties encountered with this approach? What were they, and how much of a problem did they present?

The strategies listed above are only suggestions. Because the Town is allowed a great deal of flexibility in determining what procedures it will use for program evaluation and assessment, the procedures that will be most helpful in providing the information needed to move forward with the IDDE Program will be decided as the Program develops.

REFERENCES: CHAPTER 10

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharges; Final Rule. *Federal Register* vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. <http://www.epa.gov/npdes/regulations/phase2.pdf>

USEPA. 2000. EPA Stormwater Phase II Final Rule Fact Sheet 2.9: *Permitting and Reporting: the Process and Requirements*. EPA 833-F-011. January 2000. <http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>

USEPA New England. 2002. *NPDES General Permit for Stormwater Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MS4s)* (Draft). September 27, 2002. <http://www.eppa.gov/regiona01/npdes/ms4.html>

CHAPTER 11 - RESOURCES

WEB SITES AND PUBLICATIONS

Key Information Available on the EPA's Stormwater Web Site

Entry Point and General Information

<http://www.epa.gov/npdes>

→ click on "Stormwater"

→ click on "Municipal Separate Storm Sewer Systems" or "Phase II"

Stormwater Phase II Final Rule

<http://www.epa.gov/npdes/regualtions/phase2.pdf>

IDDE section of the Phase II Final Rule: see section II(H)(3)(b)(iii), pp.68756-68758

EPA's Fact Sheet Series

<http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>

Overview

1.0 *Stormwater Phase II Final Rule: An Overview*

Small MS4 Program

2.0 *Small MS4 Stormwater Program Overview*

2.1 *Who's Covered? Designation and Waivers of Small Regulated MS4s*

2.2 *Urbanized Areas: Definition and Description*

Minimum Control Measures

2.3 *Public Education and Outreach*

2.4 *Public Participation/Involvement*

2.5 *Illicit Discharge Detection and Elimination*

2.6 *Construction Site Runoff Control*

2.7 *Post-Construction Runoff Control*

2.8 *Pollution Prevention/Good Housekeeping*

2.9 *Permitting and Reporting: The Process and Requirements*

2.10 *Federal and State-Operated MS4s: Program Implementation*

Construction Program

3.0 *Construction Program Overview*

3.1 *Construction Rainfall Erosivity Waiver*

Industrial "No Exposure"

4.0 *Conditional No Exposure Exclusion for Industrial Activity*

Documents

Stormwater Phase II Compliance Assistance Guide

<http://www.epa.gov/npdes/pubs/comguide.pdf>

National Menu of BMPs for Stormwater Phase II

<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm>

Measurable Goals Guidance for Phase II Small MS4s

<http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>

Stormwater Web Sites

The Rouge River National West Weather Demonstration Project

<http://www.rougeriver.com>

(See specific information on IDDE at

<http://www.rougeriver.com/techtop/illlicit/overview.html>)

Center for Watershed Protection's Stormwater Manager's Resource Center

<http://www.stormwatercenter.net>

**The University of Tennessee's Municipal Technical Advisory Service
NPDES Phase II Stormwater Management BMP Toolkit**

<http://www.mtas.utk.edu/bmptoolkit.htm>

The Illicit discharge section provides a number of useful web links and downloadable PDFs.

Organization Web Sites

Colorado Department of Public Health and Environment – Nonpoint Source Program

<http://cdphe.state.co.us/wq/nps/npshom.asp>

Water Environment Federation

<http://www.wef.org>

American Public Works Association

<http://www.apwa.net>

Local Government Environmental Assistance Network

<http://www.lgean.org>

Center for Watershed Protection

<http://www.cwp.org>

The Boston Water and Sewer Commission

(the web site includes the BWSC's regulations, outreach information, and other useful items)

<http://www.bwsc.org>

Stormwater Manuals

California Coastal Commission. 2002. *Model Urban Runoff Program: a How-To Guide for Developing Urban Runoff Programs for Small Municipalities.*

<http://www.coastal.ca.gov/la/murp.html>

Colorado Department of Public Health and Environment, Water Quality Control Division. October 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal stormwater discharge permit.*

<http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html>

IDDE Manuals

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance.*

http://www.projectcleanwater.org/html/model_programs.html

Pitt, R., M. Lalor, R. Field, D.D. Adrian, and D. Barbe. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide.* USEPA Office of Research and Development. EPA/600/r-92/238. (Available on the Web via EPA's National Environmental Publications Information System,

<http://www.epa.gov/clariton>)

North Central Texas Council of Governments. 2002. *Stormwater Management in North Central Texas: Illicit Discharge Detection and Elimination.*

http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html

Information on Specific Topics

Ordinances

USEPA's Model Ordinances to Protect Local Resources: Illicit Discharges.

<http://www.epa.gov/owow/nps/ordinance/discharges.htm>

(The same information can be found at <http://www.stormwatercenter.net>)

Optical Brighteners

Sargent, D. and W. Castonguay. 1998. *An Optical Brightener Handbook.* Available at:

http://www.mvpc.org/services_sec/mass_bays/optical_handbook.htm and
<http://www.naturecompass.org/8tb/sampling/>

Dye Testing

NORLAB, Inc., Amherst, OH 1-800-247-9422. <http://www.norlabdyes.com>

Smoke Testing

Smoke testing equipment supplier used by a reviewer of this manual: Hurco Technologies, Inc., 1-800-888-1436; <http://www.hurcotech.com>

Outfall/Manhole Surveys

Massachusetts Division of Fisheries, Wildlife, and Environmental Law Enforcement. Storm Drain Mapping Project Field Manual (Draft). January 2002.
<http://www.state.ma.us/dfwele/River/pdf/rivstormdrainmanual.pdf>

Jewell, C. 2001. A Systematic Methodology for Identification and Remediation of Illegal Connections. Presented at the Water Environment Federation Specialty Conference *2001 A Collection Systems Odyssey: Combining West Weather and O&M Solutions*. (Available for purchase via the WEF Web Site, <http://www.wef.org>)

Outreach

Douglas County Household Chemical Roundup

2004 Roundup Events and Locations

June 5, 2004 – Parker Joint Services Center, 17801 E. Plaza Drive

July 24, 2004 – Shea Stadium, 3270 Redstone Park Circle

September 25, 2004 – Town of Castle Rock Maintenance Facility

Storm-Drain Stenciling

Earthwater Stencils, an organization that does storm drain stenciling:
<http://www.earthwater-stencils.com/>

The Ocean Conservancy's Storm Drain Sentries Program has a goal of having volunteers stencil one million storm drains with educational pollution prevention messages. The Ocean Conservancy supplies volunteers with a fact sheet about nonpoint source pollution tips on conducting a stenciling project, and stencils for volunteer organizations to use. In return, stenciling project leaders are asked to submit data about the number of storm drains they stenciled, the types of pollutants found near the storm drains, and potential pollutant sources. This information is added to a growing database maintained by the Ocean Conservancy. Contact the Ocean Conservancy's Office of Pollution Prevention and Monitoring at 757-496-0920 or stormdrain@oceanconservancyva.org.
<http://www.oceanconservancy.org/dynamic/getInvolved/events/sentries/sentries.htm>

Outreach Materials

EPA has prepared educational materials on different water topics each month as part of the year-long celebration of the 30th anniversary of the Clean Water Act. April 2003 was Stormwater Month. The public education kit includes:

- General Stormwater Awareness brochure
- Homeowner Guide (car washing, vehicle fluids changing, lawn & garden care, pet waste, septic system management)
- Small Construction Guide poster
- Press release
- Public service announcement for the radio
- Stickers
- Door hanger with illicit discharge message
- PowerPoint presentation

These items are available for download or order on EPA's Year of Clean Water Web site, <http://www.epa.gov/water/yearofcleanwater/month.html>.

CHAPTER 12 – TOWN MS4 OUTFALLS/RECEIVING WATERS MAPS