



ILLICIT DISCHARGE
DETECTION AND ELIMINATION
PROGRAM MANUAL

2017

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Section 1- Introduction

1.1 What is IDDE

Illicit Discharge Detection and Elimination (IDDE) program is managed by the public works department where we look for different kinds of pollutants from entering the storm water system. The storm water system impacts the Missouri river as well as the surrounding lakes like crystal cove and Gateway Lake. This is to assist anyone whom may be in in the stormwater program to assist in training or procedures on responding to an illicit discharge.

Section 2 – Stormwater system map

2.1 Overview

The main component to stormwater program is mapping. A correct map will help with cleaning and maintenance to ensure that Storm Water quality is at its best. To accurately help find sources of IDDEs and keep pollution out of our beloved lakes and river. The storm water team has located and mapped out different types of system features such as outfalls, inlets, open ditches, manholes, pipe sizes, material type, and new locations add-on's.

Section 3 – IDDE Ordinance

3.1 What is an Illicit Discharge?

The term “illicit discharge” has many meanings but we use a four-part definition.

1. Illicit discharges are defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens. A storm drain with measurable flow but containing no pollutants is simply considered a discharge.
2. Each illicit discharge has a unique frequency, composition and mode of entry in the storm drain system.
3. Illicit discharges are frequently caused when the sewage disposal system interacts with the storm drain system. A variety of monitoring techniques is used to locate and eliminate illegal sewage connections. These techniques trace sewage flows from the stream or outfall, and go back up the pipes or conveyances to reach the problem connection.
4. Illicit discharges of other pollutants are produced from specific source areas and operations known as “generating sites.” Knowledge about these generating sites can be helpful to locate and prevent non-sewage illicit discharges. Depending on the regulatory status of specific “generating sites,” education, enforcement and other pollution prevention techniques can be used to manage this class of illicit discharges.

3.3 IDDE City Ordinance

Sec. 95-4. - Illicit discharges prohibited.

(a) No person shall cause the discharge of non-storm water runoff to enter the municipal separate storm sewer system unless the discharge is one of the following:

- (1) Authorized by a NPDES permit issued by EPA, or NDEQ;
- (2) Caused by or resulting from one of the following:
 - a. Firefighting activities, where such discharges or flows contain no significant sources of pollutants;
 - b. Landscape irrigation;
 - c. Diverted stream flows;
 - d. Rising ground waters;
 - e. Uncontaminated ground water infiltration, as defined at 40 CFR 35.2005(20);
 - f. Uncontaminated pumped ground water;
 - g. Discharges from potable water sources;
 - h. Foundation drains;
 - i. Air conditioning condensation;
 - j. Irrigation water;
 - k. Springs;
 - l. Water from crawl space pumps;
 - m. Footing drains;
 - n. Lawn watering;
 - o. Individual residential car washing;
 - p. Flows from riparian habitats and wetlands;
 - q. Dechlorinated swimming pool discharges;
 - r. Street wash water.

(3) Authorized by the City of South Sioux City.

(b) All exempt discharges, as listed above, must be in conformance with all other provisions of this Code.

(Ord. No. 2006-4, 7-24-06)

Sec. 95-5. - Prohibition of illicit connections.

No person shall install, maintain, or use any connection to the municipal separate storm sewer system that may result in an illicit discharge to the municipal storm sewer system. All connections to the municipal storm sewer system that provide for an illicit discharge from inside a building are prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. For illicit connections made in the past, a plan to remedy the illicit connection shall be submitted to the director.

l. No. 2006-4, 7-24-06)

3.2 What is an Illicit Connection?

Illicit connection means a connection to a municipal separate storm sewer system or connection to a combined sewer system without proper authority, or any connection that results in discharge that is not composed entirely of unpolluted stormwater runoff. Such as basement, shop floor drains or sanitary sewer.

Section 4 – Illicit Discharge Detection Procedures

4.1 Purpose

Illicit discharges and connections are identified through citizen reporting, interdepartmental or interagency referral, or other routine MS4 inspection activities. The City relies on local citizens, field staff, and inspections to detect potential problem areas quickly, so that they can be addressed before they cause significant water quality degradation.

A water quality incident/spill/trouble call number (402-494-7573) is available to report concerns. This convenience encourages residents to participate in the reporting process and helps the City to receive timely information about problems like illegal dumping, spills, or strong odors. The City's related MS4 maintenance activities provide opportunities to document and identify potential problems that may not be obvious to the general public.

4.2 Incident Reporting

Via phone: 402-494-7573

Via email: stormwater@southsiouxcity.org

Via website:

<https://www.southsiouxcity.org/department/division.php?structureid=65>

4.2.1 Contact Information

The City has established a “hotline” to handle water quality incident reports. Citizens, field personnel, and outside agencies that suspect an illicit discharge, an illicit connection, or an illegal dumping action can call *402-494-7573* to report the incident.

After hours, emergency water quality incidents should be reported through the police department or emergency management committee. Residents that encounter a non-emergency incident are encouraged to report the problem the next business day.

4.2.2 Problem Documentation

When water quality incident reports are received, the staff person receiving the information should complete an Incident Report Form or other form and submit it to the appropriate personnel for follow up. Once recorded, incident information is referred to the appropriate City department and/or staff person for follow-up.

In most cases, IDDE problems should be referred to the Environmental Engineering Assistant for further investigation. Staff will either follow the investigation procedures in Section 5 to identify the source of the problem or, if the source is known, the corrective action procedures outlined in Section 6 will apply.

4.3 Outfall Inspection Procedures

The City will conduct an Outfall inspection. Outfalls from the City’s stormwater drainage system to identify areas of obvious pollution or non-stormwater discharges. Outfall inspections can locate potential problem areas without the need for in-depth laboratory analysis. Potential problem discharges can be identified by outfalls that are flowing during dry weather or outfalls that have high turbidity, strong odors, or unusual colors.

If inspection staff encounters a discharge, such as a liquid or oil spill, during inspection activities, the problem should be immediately referred to the appropriate agency or response contractor for clean-up. Staff should also complete an Inspection Form.

4.3.1 Responsibility

Inspections are the responsibility of the Stormwater management team. Inspections may be performed by City staff or by outside consultants hired by the City.

4.3.2 Timing

Timing is important when scheduling ORI field days. The preferred conditions for outfall inspections include:

- Dry season – preferably in summer or early fall
- No run-off producing rainfall within previous 48 hours
- Low vegetation

The preferred conditions allow detection of flows when there should be none and prevent the dilution of pollutants.

4.3.3 Equipment

Prior to conducting field work, individuals should assemble all necessary equipment (see Table 4-1) and review records from prior inspections in the same area to become familiar with the outfall locations and any potential inspection challenges.

Outfall Inspection Report Forms	Spray paint or other marker
Safety Gear – vest, hard hat, cones	Flash light or headlamp
Field Notebook/Pencils	Tool box
Cell phone w/ charged battery	First Aid Kit
Map or Aerial Photo of Inspection Area	Clear sample bottles
Digital camera w/ charged battery	Watch with second hand

Section 5 – Investigation Procedures

5.1 Purpose

Potential illicit discharge problems can be revealed through outfall inspections or reports from staff, tenants, or the public as described in Section 4. When a complaint is reported, The follow-up investigation could include a site visit to look at the problem area, review of mapping information, review of past complaints or investigations at the location, or other data collection and review. Once a problem has been verified (either through a routine outfall inspection or follow-up to a called-in complaint) the City will begin an official illicit discharge investigation, following the procedures outlined in this section.

When an illegal dumping or illicit discharge problem is directly observed by a member of the City staff, it is generally not necessary to follow these investigation procedures. In those scenarios, the source of the problem discharge is already known. Problems revealed through direct observation are referred directly to the corrective action information in Section 6. In the event that a reported problem does not have a defined source, the procedures in this section should be followed to trace the source of the illicit discharge.

5.2 Source Investigation Priority Levels

Table 5-1 outlines the priority levels to assist City staff in determining the appropriate response time for initiating a source investigation after a problem is identified in the field. Priority levels are based on the suspected pollutant source(s) of a reported problem

Table 5-1 Source Investigation Priority Levels			
Priority Level	Suspected Pollutants	Response Time (Work Days)	
1	Alkalis Automotive products Bases Cleaning products Degreaser or solvent Drain cleaner Fertilizer Flammable/explosive materials	Herbicide Metals Painting products Pesticide Petroleum Process Wastewater Sewage Unknown chemicals	<1
2	Ammonia Construction runoff (silt, sediment, gravel)	Detergents Food waste (fats, oils, grease) Soap	1-2
3	Car washing Pressure washing waste Spa or pool water	Steam cleaning waste Yard waste	2-3
4	Animal carcasses Bacteria Construction materials Debris	Foam Rust Trash Other	<3

5.3 Tracing the Source

This section outlines the basic tools that can be used to trace the source of a suspected illicit discharge. Source tracing begins when a suspected problem area is identified or a complaint call. When the source of the non-stormwater discharge is not known, one of two ways that can be used to locate the source of an illicit discharge 1. Storm Drain Network Investigations 2. Drainage Area Investigations

The way we determine will depend on the type of information collected or reported, level of understanding of the drainage network, and existing knowledge of operations and activities on the surrounding properties. All source tracing investigations should be documented and recorded on the Incident Response report form or other form.

5.3.1 Open a Case Log

When problems are identified, a case log should be opened, and assigned a case number, creation date, case description and the primary staff contact/investigator. A work order is created listing the property name, person responsible, and tracking all information related to the observed or suspected problem. The investigator assigned to the case shall keep an accurate log of labor, materials and costs associated with the investigation for invoicing the responsible party. The case log should be opened prior to completing any additional field work unless the nature of the discharge necessitates immediate response. The file should include copies of the following, if applicable:

Copy of Outfall Inspection Report, Incident Response field forms, Photographs, Additional field notes, Lab testing results, Compliance letters sent and responses received, Correspondence, Proof of corrected problems.

Any field investigations, photographs, corrective actions, or other activities associated with the suspected problem area should be documented in the case log. This becomes the City's official record of the IDDE investigation. Additional record keeping information is included in Section 8.

5.4 Follow-Up Actions

Once the source of an illicit discharge has been identified, the investigator should initiate private property site entry procedures (if needed), notify the property owner or operator of the problem, and provide the appropriate educational materials and/or a copy of the IDDE ordinance. This is an important first step in the corrective action process. The investigator complete the Incident Response report form or other form, and enter all information in the database case log to document the findings. The Code Enforcement Officer or Environmental Engineering Assistant can then begin working through the corrective action steps outlined in Section 6.

Section 6 – Corrective Action

6.1 Purpose

The City will respond to identified illicit discharges, illicit connections, or illegal dumping activities using progressive enforcement actions. Corrective actions will focus first on education to promote voluntary compliance and escalate to increasingly severe enforcement actions if voluntary compliance is not obtained.

6.2 Voluntary Compliance

The preferred approach to address illicit discharge problems is to pursue voluntary compliance through property owner or responsible party education. Often, business operators and property owners are not aware of the existence of illicit connections or activities on their properties that may constitute an illegal discharge. In these cases, providing the responsible party with information about the connection or operation, the environmental consequences, and suggestions on how to remedy the problem may be enough to secure voluntary compliance.

Education begins during the site investigation when the operation or connection is first confirmed. Property owners and operators should be notified that the problems must be corrected in a timely manner and that the City will be conducting a follow-up site visit to verify compliance. Field staff should also provide the property operator with an educational brochure describing illicit discharge violations and a copy of the applicable City code. Field staff should also remind property owners of their obligation to report discharges to the proper agencies.

6.2.1 Operational Problems

Property owners are responsible for correcting operational problems that are leading to illegal discharges to the storm drainage system. This could include moving washing activities indoor or undercover, covering material storage areas, locating an appropriate discharge location for liquid wastes, or other operational modifications. Through site visits and education, the City can provide technical assistance to aid property owners in identifying the required modifications.

6.2.2 Structural Problems

Most illicit connection problems will require a structural modification to correct the problem. Structural repairs can be used to redirect discharges such as sewage, industrial, and commercial cross-connections. Such cross-connections must be re-routed to an approved sanitary sewer system. Correcting structural problems is the responsibility of the property owner, though the City may provide technical assistance throughout the process.

6.3 Enforcement Actions

When voluntary compliance does not produce the desired result, the City is required to pursue follow-up enforcement action.

6.3.1 Enforcement Timeline

The timeline of corrective action procedures is highly dependent on the nature of the violation and the responsiveness and cooperation from the person(s) responsible. The urgency of addressing identified problems will be based on the nature of the pollutant in question and potential impacts to downstream waters. Compliance dates should be included in all violation notices. If property owners are not addressing problems in a timely manner, the City may step in and perform the repairs necessary to remove an illicit connection, eliminate an illicit discharge, and/or clean-up a dumping incident. Property owners will also be responsible for reimbursing the City for any costs occurred in correcting IDDE problems.

6.3.2 Potential Fines

Sec. 95-25. - Penalty; recovery of damages.

Any person who is found to have violated an order provided for in this article, or who willfully or negligently failed to comply with any provisions of this article and the rules and regulations issued hereunder, shall be deemed guilty of a misdemeanor and shall be fined an amount that does not exceed \$500.00 under this chapter. Each day any such violation or failure to perform such act shall continue, shall constitute a separate offense, unless otherwise specifically provided. Except as prohibited by the state of [or] federal constitutions, a prosecution under this chapter, shall not be the exclusive penalty for such acts or omissions. (Ord. No. 2006-4, 7-24-06)

6.3.3 Record Keeping

Effective enforcement procedures require comprehensive record keeping and documentation to demonstrate all program steps have been followed. Throughout the problem investigation and corrective action activities, all information related to the incident or property in question should be documented in the case log. Section 8 discusses illicit discharge record keeping in greater detail.

Section 7 – Public Education

The NPDES requires the City to conduct outreach activities to educate the public and business community about water quality protection. Outreach activities focus on reducing pollutants at the source by educating the public and businesses about their ultimate impact on the natural environment. Many members of the community are apt to modify behaviors once they understand the potential negative consequences.

To date, the City has a newsletter every month and an educational outreach aimed at educating local residents about Preventing Stormwater Pollution, Used Oil Collection, Protecting drinking water, Household Hazardous Waste, Water Conservation, Lawn Care, Rain Barrels. These programs have been well received by the general public.

The City intends to expand the education efforts and direct more focus to the construction industry with illicit discharge detection and elimination as the focus.

Over the long term, the education program will include two major components. The first will be a business education program focused on informing business owners and their employees of their responsibilities related to water quality protection. The second, longer term, component is the development of a business recognition program aimed at promoting those businesses that are taking active steps to protect water quality (including reducing potential for illicit discharges).

The City's public education will include a prioritization of target businesses, suggested outreach strategies, schedule of activities, and sample outreach materials. The materials will also include a conceptual description of the business recognition program that can be used as a framework for developing the program when funding and staff are available.

Section 8 – Record Keeping

The NPDES requires the City to keep records of all stormwater program activities. Thorough record keeping is particularly important for a successful IDDE program. Records of past problems can help focus an investigation in the right direction or identify repeat offenders. Thorough record keeping is also critical to the enforcement process. Examples of the different types of information to be retained are included below:

Citizen Complaints – retain Incident Report Forms

Outfall Inspections – maintain Outfall Inspection Forms, catalog and organize photographs, enter open case logs for suspected problem areas.

Investigations – retain Incident Response forms, photographs, conversation records, and lab testing results.

Corrective Action – in addition to the information collected during the investigation process, retain copies of compliance letters, correspondence with property owners, and proof of corrected problems (contract and invoice for completed work or clean field investigation report).

Section 9 – Staff Training

The City has developed a comprehensive training schedule to meet the requirements of the NPDES Permit. Training for all staff that is routinely in the out of the field to educate them on what constitutes an illicit discharge problem and how to report suspected problems. Training for illicit discharge responders on proper identification, investigation, clean-up, disposal, and reporting techniques for illicit discharges.

Training for illicit discharge responders will primarily include distribution and review of this procedures manual as well as a refresher on City spill response procedures. Follow-up trainings for illicit discharge responders may take the form of debriefings following significant IDDE incidents. Debriefings allow staff to review the actions taken and identify what worked well and what should be modified for future responses.

Section 10 – References

Illicit Discharge Detection and Elimination Program Manual, City of Bainbridge Island, April 2010.

Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed protection and Robert Pitt (University of Alabama), October 2004.

Illicit discharge Detection and Elimination Manual: A Handbook for Municipalities, New England Interstate Water Pollution Control Commission, January 2003.

Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide, Robert Pitt, et al, EOA publication 600/R-92/238, January 1993.

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