

JEFFERSON COUNTY STORM WATER COALITION

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM MANUAL

Policies and Procedures

JCSWCD
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SOP# JCSWC -1

Illicit Discharge Detection and Elimination Program Manual

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Section 1 – Introduction

1.1 Background

The Jefferson County Storm Water Coalition consisting of nine municipalities and Jefferson County has made a strong commitment to protect and manage the areas natural resources. The storm water coalition utilizing the Storm Water Management Plan (SWMP) seeks to minimize the negative effects of development and pollution, while maximizing environmental protection and conservation. Protecting and preserving the quality of the areas surface water is a key focus area of the SWMP.

According to the US EPA's 2000 National Water Quality Inventory, 39 percent of assessed river and stream miles, 46 percent of assessed lake acres, and 51 percent of assessed estuarine square miles do not meet water quality standards. The top causes of impairment include siltation, nutrients, bacteria, metals (primarily mercury), and oxygen-depleting substances. Polluted stormwater runoff, including runoff from urban/suburban areas and construction sites is a leading source of this impairment. To address this problem, EPA established the National Pollutant Discharge Elimination System (NPDES) program as part of the Clean Water Act to regulate stormwater discharges.

In the State of New York, EPA has delegated the NPDES program administration to the New York State Department of Environmental Conservation (NYSDEC) Division of Water (DOW). NYSDEC DOW issued a Phase II Municipal Stormwater Permit to the coalition members in 2014. The Phase II Permit requires the Coalition members to have a stormwater management program (SWMP) with five major conditions. One of those conditions requires “The SWMP shall include an ongoing program to detect and remove illicit connections, discharges as defined in 40 CFR 122.26(b)(2), and improper disposal, including any spills..., into the municipal separate storm sewers owned or operated by the Permittee.” (Permit Condition S5.C.3). The overreaching program goal is to prevent, locate, and correct illicit discharges.

The Coalitions IDDE program is managed by each of the nine municipalities Public Works Departments. Maintenance staff and construction site inspectors also play an important role identifying illicit discharge problems and responding to clean-up requests. However, all Public Works, Planning and Community Development, Parks, Police, and Fire staff will play a role in locating, identifying and reporting potential illicit discharges.

1.2 Summary of the IDDE Program

The Phase II Permit requires the permittees to develop an IDDE program encompassing the elements listed below. Each element is addressed in the sections of this IDDE Program Manual as noted below.

- Develop a municipal storm sewer system map (Section 2);
- Adopt an ordinance to prohibit non-stormwater, illegal discharges, and/or dumping into the storm sewer system (Section 3);

- Implement an on-going program to detect and address non-stormwater discharges, spills, illicit connections, and illegal dumping (Section 4, 5, 6);
- Educate employees, businesses, and the general public about illicit discharge concerns (Section 7);
- Adopt and implement procedures for program evaluation and assessment (Section 8);
- Maintain records of all IDDE program activities (Section 8); and
- Provide IDDE training for municipal staff (Section 9).

This manual is intended to assist staff in implementing the IDDE program. It is to be used as a guidance document for staff in their day-to-day activities related to IDDE. This document can also be used as a training tool to ensure that staff is following the same procedures in responding to illicit discharge concerns.

Section 2 – Storm Sewer System Map

2.1 Overview

The first major component of the Coalitions illicit discharge program is the mapping of the municipal stormwater drainage system. Maintaining an accurate map of the stormwater drainage system will make it easier for the Coalition members to track and locate the source of suspected illicit discharges. The NPDES Phase II Permit outlines minimum information that should be included in the Coalition municipal storm sewer system map:

- Location of all known municipal storm sewer outfalls, receiving waters, and structural BMPs owned, operated, or maintained by the Coalition members,
- Tributary conveyances (type, material, size) leading to outfalls that are 24-inches or larger (or have an equivalent cross-sectional area),
- Drainage areas and land use for the drainage basins contributing to outfalls that are 24-inches or larger (or have an equivalent cross-sectional area),
- Locations of new connections to the Coalition members storm water drainage system, and
- Drainage areas within the Coalition that do not discharge to surface water (closed depressions).

The map will be prepared in GIS format and housed on a Internet Portal to be made available to anyone upon request.

2.2 Mapping Procedures

In 2014, the Coalition partnered with The Jefferson County Soil and Water Conservation District (JCSWCD) to collect the appropriate data necessary to create the Drainage System Mapping.

JCSWCD crews located drainage features and recorded the locations and feature attributes using GPS receivers. The data was then downloaded and imported into the JCSWCD GIS map. Sketches of the drainage infrastructure are completed in the field. These sketches are used to verify or clarify the electronic mapping information downloaded from the GPS receiver.

Field crews begin at a downstream outfall location and then trace the tributary drainage system

upstream. Facility mapping is limited to public right-of-way areas.

The JCSWCD utilized suggested Standard Operating Procedures (SOPs) developed by NYSDEC to further clarify the steps involved in the mapping process. These SOPs will help ensure the data collected is consistent and accurate over time.

Section 3 – IDDE Ordinance

3.1 What is an Illicit Discharge?

An illicit discharge is defined as "...any direct or indirect non-stormwater discharge to the Coalitions storm drain system, except as expressly allowed by this chapter." Examples of illicit discharges include (but are not limited to) the following:

- Disposal of vehicle maintenance fluids into a storm drain;
- Hosing or washing loading areas in the vicinity of storm drain inlets;
- Leaking dumpsters flowing into a storm drain inlet;
- Old and damaged sanitary sewer line leaking fluids into a cracked or damaged storm sewer line.
- Pouring paints or stains into a storm drain;
- Allowing washwater with soaps or detergents into a storm drain inlet;
- Washing silt, sediment, concrete, cement or gravel into a storm drain; and
- A measurable flow during dry weather that contains pollutants or pathogens.

3.2 What is an Illicit Connection?

An illicit connection is defined as "Any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections." Examples of illicit connections include (but are not limited to) the following:

- Sanitary sewer piping that is connected directly from a building to the stormwater system;
- A basement or shop floor drain that is connected to the stormwater system; or
- A cross connection between the municipal sanitary sewer and the stormwater system.

3.3 IDDE Ordinance

In 2016 the Coalition members adopted Ordinances to address IDDE. A copy of the full ordinance is available at each member's municipal office. Lists of the adopted ordinances are attached in Appendix B.

Section 4 – Illicit Discharge Detection Procedures

4.1 Purpose

Illicit discharges and connections are identified through citizen reporting and/or other routine MS4 inspection activities. The Coalition members rely 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 storm water contact number for coalition members is documented in the SWMP and made to report concerns. This convenience encourages residents to participate in the reporting process and helps the coalition members receive timely information about problems like illegal dumping, spills, or strong odors. The coalition members 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

4.2.1 Contact Information

The coalition members have established storm water contact numbers 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 the appropriate coalition members to report the incident.

If the incident occurs after hours a message can be left on the coalition members storm water contact numbers voicemail, staff will follow-up with the caller during the next business day.

4.2.2 Problem Documentation

When water quality incident reports are received, the staff person receiving the information should complete a "Water Quality Incident Report & Response Form" (Appendix C.1) and submit it to the appropriate personnel for follow up. The report information will be tracked by the appropriate coalition member's storm water staff. Further, the report will be forwarded to the JCSWCD to be included in the SWMP MCM 3 IDDE tracking section.

Once recorded, incident information is referred to the appropriate coalition member's storm water staff for follow-up. 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 coalition member's storm water staff will conduct an Outfall Reconnaissance Inventory (ORI) to visually inspect outfalls from the coalition members' storm water 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 (potential illicit connection) or outfalls that have high turbidity, strong odors, or unusual colors.

If inspection staff encounters a transitory discharge, such as a liquid or oil spill, during inspection activities, the problem should be immediately referred to the appropriate agency (i.e. NYSDEC) for clean-up. Staff should also complete a Water Quality Incident Report & Response Form.

4.3.1 Prioritization Schedule

The coalition estimates that the storm drainage infrastructure includes 114 outfalls that discharge to multiple creeks and the Black River and eventually all drain to the Black River. Detailed mapping of the Coalitions storm water system is completed and included in the SWMP. Mapping includes outfall maps; storm sewer shed maps, and storm water system maps.

The Phase II Permit requires the coalition members to determine Water Bodies of Concern (WBOC) for visual inspection to identify the area's most likely to include illicit discharges. Receiving WBOC have been set based on drainage area characteristics. Details of the WBOC and Geographic Areas of Concern (GAOC) are included in the SWMP.

The Phase II Permit requires the coalition members to inspect the outfalls once every five years. All outfalls were inspected in 2014. The next planned inspection is in 2019. Details of inspection records are in the SWMP MCM 3.

4.3.2 Responsibility

Inspections are the responsibility of each municipality's staff within the coalition. Inspections may be performed by municipal staff or by outside contractors hired by coalition members. In either case, all field reports will be reviewed by JCSWCD and results documented in the SWMP under MCM 3. The "Outfall Inspection Form" is attached in Appendix C.2.

4.3.3 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 (avoid late spring when access may be hindered by heavy vegetation)

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

4.3.4 Equipment

Prior to conducting field work, crews 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. Field crews should prepare for consecutive days of field work when possible.

Table 4-1 Field Equipment for Outfall Inspections	
	Machete/Clippers
Safety Gear – vest, hard hat, cones	Flash light or headlamp
Field Notebook/Pencils	Tool Box–hammer, tape measure, duct tape, zip ties

Outfall Inspection Report Forms	Spray paint or other marker
Map or Aerial Photo of Inspection Area	First Aid Kit
GPS Unit	Clear sample bottles
Cell phone w/ charged battery	Wide mouth container
Digital camera w/ charged battery	Watch with second hand

After long periods of heavy rain, field crews should allow 3-4 days of an antecedent dry period before starting or resuming inspections, so that rainfall runoff has a chance to clear the storm drainage system.

4.3.5 Activities

During ORI field days, field crews should visually inspect each outfall and the immediate surrounding area, photograph the current conditions, and complete an Outfall Inspection Form.

Potential problems are indicated by outfalls that are flowing in dry weather and/or foul odors or discolored water in or around the outfall pipe. If an outfall with significant flow is encountered, field crews should attempt to first determine the source of the flow. If groundwater has been ruled out as the source of the flow, then a flowing outfall may indicate a potential illicit discharge concern.

When illicit discharge problems are identified, field crews will photograph the problem area and conduct a quick visual inspection of the surrounding area to identify any obvious pollution sources. For obvious illicit discharges, field crews should consider collecting samples of the discharge, if possible, and begin filling out the Water Quality Incident Report & Response Form. These simple actions can give valuable direction to the upcoming IDDE inspection. Field crews should file all outfall report forms, and update the record keeping database as appropriate. Additional record keeping information is included in Section 8.

During field inspections, crews should also note whether the outfalls have maintenance issues, such as trash around the outfall or damaged infrastructure that should be brought to the attention of the appropriate DPW staff. Observed spills or environmental hazards should be immediately reported to the NYSDEC Spill Response and the incident should be documented using the Water Quality Incident Report & Response Form. The appropriate municipal DPW staff will work with NYSDEC Spill Response to clean-up and properly dispose of the spilled material.

4.5 Follow-up Actions

When potential problem areas are identified, field crews should report the observations to appropriate DPW staff. Based on the severity of the problem, the appropriate DPW staff will direct staff to open a case log and begin the investigation procedures outlined in Section 5. The appropriate DPW staff will also determine if other outside agencies need to be involved.

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 Phase II Permit requires that a follow-up investigation be initiated within seven (7) days, on average. 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 municipality 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 municipal 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 municipal 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. According to the Phase II Permit, illicit discharge investigations should begin within seven days of identifying a problem. In most cases, the municipality strives to respond faster than the required timeline.

Priority Level	Suspected Pollutants	Response Time (Work Days)
1	<ul style="list-style-type: none"> • Alkalis • Automotive products • Bases • Cleaning products • Degreaser or solvent • Drain cleaner • Fertilizer • Flammable/explosive materials 	<ul style="list-style-type: none"> • Herbicide • Metals • Painting products • Pesticide • Petroleum • Process Wastewater • Sewage • Unknown chemicals
2	<ul style="list-style-type: none"> • Ammonia • Construction runoff (silt, 	<ul style="list-style-type: none"> • Detergents • Food waste (fats, oils,

	sediment, gravel)	grease) • Soap	
3	• Car washing • Pressure washing waste • Spa or pool water	• Steam cleaning waste • Yard waste	5-7
4	• Animal carcasses • Bacteria • Construction materials • Debris	• Foam • Rust • Trash • Other	Within 10 days

Priority levels were determined based on the potential public health and/or water quality threat posed by a given pollutant. The response time indicates a target time frame for opening a case log and initiating a source investigation as described in Section 5.3. Contact Emergency Services (911) immediately if the discharge poses a severe threat to human health or the environment.

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 through the ORI, field assessment/testing, or a complaint call. When the source of the non-stormwater discharge is not known, one of two primary methods can be used to locate the source of an illicit discharge:

- Method A – Storm Drain Network Investigations
- Method B – Drainage Area Investigations

The method used 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 Water Quality Incident Report & Response 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:

- Water Quality Incident Report & Response Form;
- Copy of Outfall Inspection Report;
- Photographs;
- Additional field notes;

- Lab testing results;
- Compliance letters sent and responses received;
- Correspondence (mail, email, telephone logs);
- Proof of corrected problems (contract and invoice or clean field investigation report).

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 Municipalities official record of the IDDE investigation. Additional record keeping information is included in Section 8.

5.3.2 Method A – Storm Drain Network Investigations

The source of some illicit connections or discharges can be located by systematically isolating the area from which the polluted discharge originates. This method involves progressive investigation at manholes in the storm drain network to narrow down the location where the illegal discharge is entering the drainage system. This method is best used to identify constant or frequent discharge sources such as an illicit connection from a sewer system or sink drain into the storm drainage network. One-time illegal discharges (such as a surface spill or intentional dumping into the storm drain system) should be investigated using Method B described later in this section.

Field crews should work progressively upstream from the outfall and inspect manholes until indicators reveal the discharge is no longer present. Manhole observations can be time-consuming, but they are generally a necessary step before conducting other tests. In particularly large storm drain systems, it may be helpful to first identify major branches of the system and test one manhole at the downstream end of each branch. This can help to reduce the area that must be investigated.

Storm drain network investigations include the following steps:

1. Consult the storm sewer system map and identify the major branches. If a drainage system map is not available or major branches cannot be identified, then manhole observations and probe readings must be done at each successive upstream manhole to map the drainage system and isolate the location of the polluted discharge entry. In such a case, field crews should also use the GPS unit to locate each observed manhole and add the location readings to the Municipalities storm sewer system map.
2. Starting from the outfall, observe and take probe readings at the next upstream manhole or junction to see if there is evidence of polluted discharge. As with the outfall inspections, field crews are looking for the presence of flow during dry weather, foul odors, colors or stained deposits, oily sheen, floatable materials, and/or unusual probe readings.
3. Repeat observations and probe readings at each upstream manhole or junction until a junction is found with no evidence of discharge; the discharge source is likely located between the junction with no evidence of discharge and the next downstream junction.

4. Work downstream from the “clean” manhole or junction to isolate the location where the polluted discharge is entering the storm drain system.
5. If discharge is evident from private property initiate private property site entry procedures.
6. Document all findings on the Water Quality Incident Report & Response Form and record all information in the database case log.

Figure 5-1 shows the observation steps to isolate the location where an illicit discharge is entering the storm drainage network.

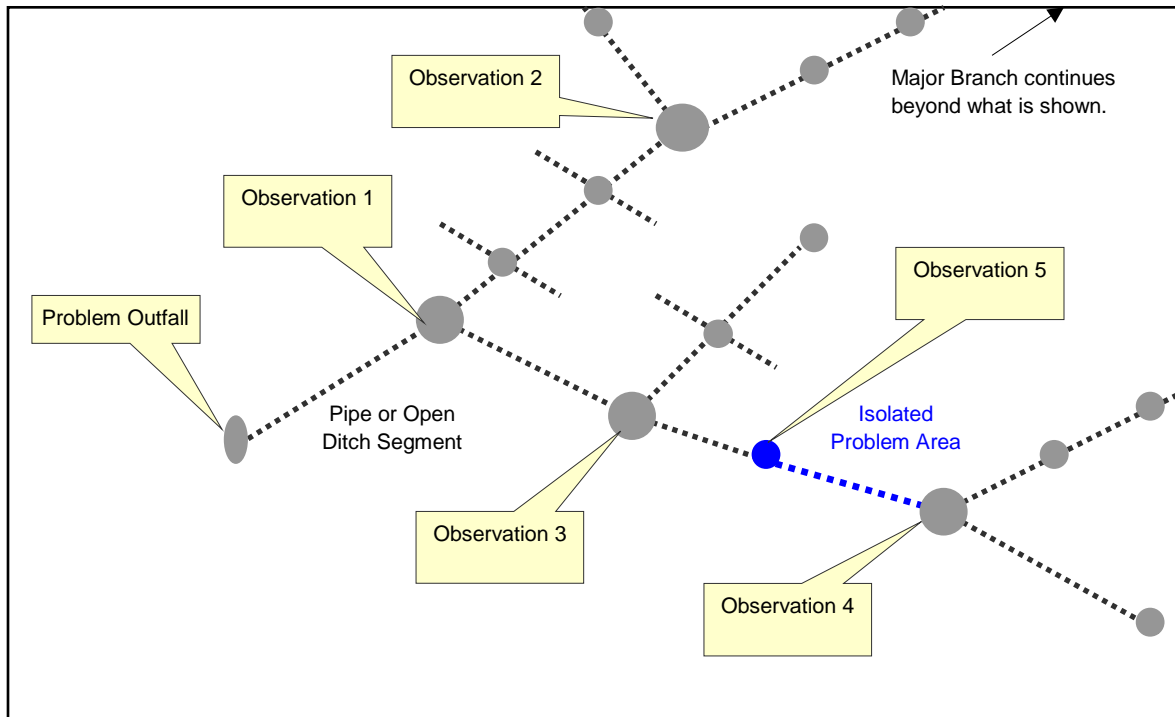


Figure 5-1. Storm Drain Network Observation Steps

When visual inspections are not enough to isolate the source of the illegal discharge, a number of additional field tests can be performed. These include:

- Dye testing,
- Video Testing/Camera-ing/TVing,
- Smoke testing,

The Center for Watershed Protection's *Illicit Discharge Detection and Elimination: A Guidance Manual* provides instructions for employing these testing techniques.

Confirmed illicit discharge sources should be referred to the follow-up actions and corrective action procedures described at the end of this section and in Section 6.

5.3.3 Method B – Drainage Area Investigations

The source of some illegal discharges can be determined through a survey or analysis of the drainage area of the problem outfall. Drainage area investigations are particularly useful when

the discharge observed at the outfall has a distinct or unique characteristic that can allow field crews to quickly determine the type of activity or non-point source that is generating the discharge. However, drainage area investigations are generally not helpful in tracing sewage discharges, since they are not related to a specific land use.

Drainage area investigations should begin with a discussion between the field crews, inspectors, engineers, and other knowledgeable Municipal staff to identify the type of site most likely to produce the observed discharge. Table 5-2 shows some of the activities or land uses most likely associated with specific discharge problems.

Table 5-2 Common Discharges and Potential Sources	
Observed Discharge	Potential Causes
Clogging Sediment	<ul style="list-style-type: none"> Construction activity without proper erosion and sediment controls Roadway sanding operations Outdoor work areas or material storage areas
Thick Algae Growth	<ul style="list-style-type: none"> Fertilizer Leak or Spill Landscaping operations Hydroseeding following Construction Failing or leaking septic system
Oil	<ul style="list-style-type: none"> Refueling operations Vehicle or machinery maintenance activities
Sudsy discharge	<ul style="list-style-type: none"> Power washing of buildings Vehicle or equipment washing operations Mobile cleaning crew dumping Laundry or Cleaner Household greywater discharge
Clogged Grease	Restaurant sink drain connection to stormwater system
Sewage	Failing or leaking septic systems

Maps of Geographic Areas of Concern and Pollutants of Concern can be overlaid with storm sewer system maps to determine areas to focus on. Field crews should then conduct a windshield survey of the drainage area to confirm and identify potential sources of the

discharge. Once potential discharge sites are identified, Municipal staff should conduct individual site inspections to locate the specific source of the illegal discharge. In some cases, dye testing may be needed to confirm that a suspected activity is actually draining into the storm drain network.

All drainage area investigations should be documented on the Water Quality Incident Report & Response Form and recorded with the database case log.

5.3.4 Equipment

Prior to conducting field work, crews should assemble all required equipment (see Table 5-3) and review the outfall inspection records or water quality incident reports from the area to become familiar with the background information and potential pollution sources.

Table 5-3 Field Equipment for Source Investigations	
	Machete/Clippers
Safety Gear –vest, hard hat, cones	Flash light or headlamp
Field Notebook/Pencils	Spray paint or other marker
Incident Response Forms	Pick or CB grate/cover remover
Map or Aerial Photo of Area	Field Test Kit
Cell phone w/ charged battery	First Aid Kit
Digital camera w/ charged battery	Tool Box – hammer, tape measure, duct tape, zip ties
GPS Unit	

5.3.5 Analytical Sampling (if needed)

If illicit discharge sources cannot be identified based on a storm drain network investigation and/or drainage area investigation, the investigator may request that water samples be collected from potential problem discharges and sent to the lab for analytical testing. The results of lab tests may isolate the source or type of illegal discharge. Lab tests may also be important for documentation in the event that an enforcement action must be taken against a tenant or property operator. Table 5-4 shows the recommended water quality testing parameters.

Table 5-4 Water Quality Test Parameters and Uses		
Water Quality Test	Field or Lab Test	Use of Water Quality Test

Table 5-4
Water Quality Test Parameters and Uses

Water Quality Test	Field or Lab Test	Use of Water Quality Test
Conductivity	Field	Used as an indicator of dissolved solids.
pH	Field	Extreme pH values (high or low) may indicate commercial or industrial flows. Not useful in determining the presence of sanitary wastewater (tends to have a neutral pH like uncontaminated base flows).
Temperature	Field	Sanitary wastewater and industrial cooling water can substantially influence outfall discharge temperatures.
Ammonia	Lab	High levels can be an indicator of the presence of sanitary wastewater
Surfactants	Lab	Indicate the presence of detergent (e.g. laundry, car washing)
Total Chlorine or Fluoride	Field	Used to indicate inflow from potable water sources. Not a good indicator of sanitary wastewater because chlorine will not exist in a "free" state in water for long (it will combine with organic compounds).
Potassium	Lab	High levels may indicate the presence of sanitary wastewater.
Bacteria	Lab	Sanitary wastewater or septic systems.

Results of any analytical testing should be recorded on the Water Quality Incident Report & Response Form. Testing results may lead to another round of field investigations using either Method A or B. All data shall be recorded in the database case log.

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 completes the Water Quality Incident Report & Response Form, and enters all information in the database case log to document the findings. The appropriate municipal staff can then begin working through the corrective action steps outlined in Section 6.

Section 6 – Corrective Action

6.1 Purpose

The municipality 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 Municipality 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 municipal 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 Municipality 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 Municipality may provide technical assistance throughout the process.

6.3 Enforcement Actions

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

Each Municipality will pursue follow-up in accordance with their specific laws, ordinances, and policies.

All enforcement actions will ultimately be the responsibility of the Principle Executive Officer as described in the SWMP. Table 6-1 and Figure 6-1 outline general enforcement steps. More serious violations or continued non-compliance may warrant more aggressive, enforcement-oriented approach than less serious violations.

<i>Table 6-1 Illicit Discharge Enforcement Steps</i>		
<i>Enforcement Step</i>	<i>Details</i>	<i>Responsibility</i>
<i>Step 1 – Initial Actions</i>	<ul style="list-style-type: none"> • <i>Provide educational materials</i> • <i>Encourage voluntary compliance</i> • <i>Provide summary letter* setting expected compliance date</i> • <i>Additional staff support or technical assistance</i> • <i>Request evidence of corrected problem (if applicable)</i> • <i>Site visit to verify compliance</i> 	<i>DPW Staff</i>
<i>Step 2 – Follow-up Actions</i>	<ul style="list-style-type: none"> • <i>Send “notice of violation” letter* to property owner regarding unresolved issues</i> • <i>Set second compliance date (determined on individual incident basis)</i> • <i>Site visit to verify compliance</i> 	<i>DPW Staff Code Enforcement Officer</i>
<i>Step 3 – Final Actions</i>	<ul style="list-style-type: none"> • <i>Send second “notice of violation” letter* indicating that unresolved issues will be referred to prosecutor</i> • <i>Municipality may correct problems and send bill to property owner</i> • <i>Levy fines following local law or outline community service requirements</i> 	<i>Code Enforcement Officer</i>

** Keep copies of all letters within the case log database*

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.

The Phase II Permit requires identified problems to be corrected and illicit connections removed within 180 days of identifying the source. If property owners are not addressing problems in a timely manner, the Municipality 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 Municipality for any costs occurred in correcting IDDE problems.

6.3.2 Potential Fines

Illicit discharge violations are subject to fines and penalties under Local IDDE Law. See each Municipalities Local Law for specifics.

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 and within the SWMP MCM3. Section 8 discusses illicit discharge record keeping in greater detail.

Section 7 – Public Education

The NPDES Phase II Permit requires the Coalition 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 Coalition has conducted outreach activities aimed at educating local residents about green infrastructure, rain gardens, MS4 process, SWPPP process, E&SC requirements, and storm water in general.

The Coalition intends to expand the education efforts and direct more focus to local officials, DPW staff, engineering firms, and contractors, with illicit discharge detection and elimination as the focus.

Over the long term, the education program will include three major components. The first will be a development and use of a storm water website to provide access to local residents with regard to the SWMP, Annual Reports, Policies and Procedures', and storm water basics. The second component is the development of brochures, fact sheets and other printed material made available through the website to the public. The third is continual construction site operator E&SC training which includes reducing the potential for illicit discharges (See SWMP).

Section 8 – Record Keeping

The NPDES Phase II Permit requires the Coalition 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 Water Quality Incident Report & Response Form
- **Outfall Inspections** – maintain Outfall Inspection Forms within the SWMP Plan, including photographs, each municipality will maintain open case logs for suspected problem areas.
- **Investigations** – retain Water Quality Incident Report & Response Form and document within the SWMP.
- **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).

8.1 Data Sources

Outfall Inspections – ORI data is captured using a GPS. Custom ArcPad forms are used to store attribute information obtained in the field. A simple procedure uploads new information to the project’s geodatabase. New maps are then created for inclusion with SWMP. Data is uploaded to the DANC portal for municipal retrieval and use.

Investigations – Illicit discharge investigation records utilize a compliant tracking number included in the SWMP Plan. A case log is created for each individual compliant call. The system tracks actions completed by the Investigator including: education opportunities, technical assistance, communications, sample collected and enforcement.

Storm Sewer Maps- Are updated and stored within the SWMP. Further, the data is available through the DANC Portal.

Total Storm Sewer System Maps- Are updated and stored within the SWMP. Further, the data is available through the DANC Portal.

8.2 Long Term Record Storage

The NPDES permit requires that all IDDE program records be retained for a minimum of five (5) years. This data will be maintained within the SWMP for five years.

Section 9 – Staff Training

The Coalition has a training schedule to meet the requirements of the NPDES Phase II Permit. Two primary trainings have been identified related to IDDE:

- Training for all staff that is routinely in 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.

These trainings are generally conducted by SWCD Staff using materials developed for the IDDE program. The Coalition has met the permit requirement of having all field staff trained, and the Coalition will schedule follow-up trainings as needed to keep the information fresh or introduce

new information acquired during implementation of the IDDE program.

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.

Appendix A – Outfall Mapping Field Guide

See EPA's publication "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment"

Appendix B – IDDE Ordinance

MS4			Law or Ordinance Location	Ability to Enforce	Written Directive
	Yes	No		IDDE Yes or No	from NOI Signatory Yes or No
Village of Dexter		X	Ex: LL 298 Vill Office	N	
Village of Brownville		X	NA	N	
Town of Watertown		X	NA	N	
City of Watertown		X	NA	N	
Town of LeRay		X	NA	N	
Village of Black River		X	NA	N	
Town of Rutland		X	NA	N	
Village of Carthage		X	NA	N	
Village of West Carthage		X	NA	N	
Jefferson County	Non-traditional	Non-traditional	Non-traditional	Non-traditional	Non-traditional

Appendix C – IDDE Reporting Forms

[Water Quality Incident Report & Response Form.pdf](#)

IDDE : Water Quality Incident Report & Response Form

MS4	Tracking ID	Outfall ID	Date Detected	How it detected	Date Source Identified	Source of IDDE	Date IDDE Eliminated	Method for Elimination	Enforcement Action	Add. Notes	
Example	Village of Carthage	V.O.C. IDDE 1	111	6/22/2017	5 yr Insp.	6/26/2017	Residents Gray Water	6/27/2017	Disconnect	Fine \$250	

[Outfall Inspection.pdf](#)

Outfall Inventory, ID, Description, and Inspection Record

Outfall ID	MS4	Easting		Type of	Material	Shape of	Dimension	Submerged	Submerged with	Inspection	Dry	Visible	Channel	Odor	Desc	Other Narrative results	Follow-up Action	Follow-up	Completion	
		UTM NAD 83	UTM NAD 83																	
1	Village of Brownville	421134	4873458	Closed Pipe	HDPE	Circular	15	Yes	Sediment Partially	6-10-14	None	None	Vegetated	None						
2	Village of Brownville	421288	4873001	Closed Pipe	PVC	Circular	10	No	none	6-10-14	None	None	Vegetated	None						
3	Village of Brownville	421273	4872959	Closed Pipe	CMP	Elliptical	24	No	none	6-10-14	None	Red/Orange	Bare Soil	None						
4	Village of Brownville	421521	4872824	Closed Pipe	HDPE	Circular	18	Yes	Sediment Partially	6-10-14	None	None	Bare Soil	None						
5	Village of Brownville	421297	4872815	Closed Pipe	HDPE	Circular	10	No	none	6-10-14	None	None	Vegetated	None						
6	Village of Brownville	421301	4872828	Open Drainage	none	none	0	Yes	Water Fully	6-10-14	None	Green Algae	Vegetated	None	needs to be analyzed					
7	Village of Brownville	421314	4872764	Closed Pipe	Concrete	Circular	6	No	none	6-10-14	None	Green Algae	Vegetated	None						
8	Village of Brownville	421314	4872761	Closed Pipe	Concrete	Circular	6	No	none	6-10-14	None	None	Vegetated	None						
9	Village of Brownville	420654	4872773	Closed Pipe	HDPE	Circular	15	No	none	6-10-14	None	None	Vegetated	None						
10	Village of Brownville	420351	4872639	Open Drainage	none	none	0	No	Water Fully	6-10-14	None	Green Algae	Bare Soil	None						
11	Village of Brownville	420727	4872522	Closed Pipe	Concrete	Circular	8	Yes	Sediment Partially	6-10-14	None	None	Vegetated	None	outfall is located under garage					
12	Village of Brownville	421146	4872561	Closed Pipe	Concrete	Circular	18	No	none	6-10-14	None	Red/Orange	Vegetated	None						
13	Village of Brownville	421373	4872510	Closed Pipe	Steel	Circular	24	Yes	Sediment Partially	6-10-14	None	None	Bare Soil	None						
14	Village of Brownville	421913	4872112	Closed Pipe	Concrete	Circular	0	Yes	Sediment Fully	6-10-14	None	None	Vegetated	None	further investigation during we					
15	Village of Black River	436350	4873481	Closed Pipe	CMP	Circular	12	No	none	6-10-14	None	None	Bare Soil	None						
16	Village of Black River	436346	4873481	Closed Pipe	HDPE	Circular	24	No	none	6-10-14	None	None	Bare Soil	None						
17	Village of Black River	436319	4873493	Closed Pipe	PVC	Circular	6	No	none	6-10-14	None	Green Algae	Bare Soil	None	county outfall not village					
18	Village of Black River	436305	4873502	Closed Pipe	HDPE	Circular	24	No	none	6-10-14	None	None	Bare Soil	None	part of county bridge infrastr					
19	Village of Black River	436302	4873499	Closed Pipe	Steel	Circular	8	No	none	6-10-14	None	Green Algae	Bare Soil	None						
20	Village of Black River	436288	4873435	Closed Pipe	HDPE	Circular	24	No	none	6-10-14	None	None	Bare Soil	None	part of county bridge infrastr					
21	Village of Black River	436247	4873346	Closed Pipe	HDPE	Circular	24	No	none	6-10-14	None	None	Bare Soil	None	part of sewer system believed					

Appendix D – Receiving Water Map and Prioritization

See SWMP and DANC Portal

Appendix E – IDDE Education and Outreach Program

See SWMP