

**NPDES PHASE II
ILLICIT DISCHARGE DETECTION AND ELIMINATION
(IDDE) PLAN**



TOWN OF CEDAR LAKE, INDIANA

PERMIT # INR040075

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NPDES PHASE II
ILLCIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

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Illicit Discharge Detection and Elimination (IDDE) Plan

This appendix contains the Town of Cedar Lake's strategy to detect and eliminate illicit discharges to the MS4 conveyance system in accordance with the Town's Stormwater Quality Management Plan (SWQMP) as required by 327 IAC 15-13 (Rule 13). This plan includes a storm sewer mapping plan and schedule, illicit discharge definitions, an outfall screening procedure, a source identification procedure, a list of active industrial facilities that discharge into the Town's MS4, and a master implementation schedule.

STORM SEWER MAP DEVELOPMENT

As required by 327 IAC 15-13-14, Town of Cedar Lake must map all known stormwater outfall conveyance systems under the MS4 Operator's control with a pipe diameter of twelve (12) inches or larger and open ditches with a two (2) foot or larger bottom width within the first five (5) year permit term. The Town of Cedar Lake defines "outfall" and "conveyance" according to the definition provided by the IDEM in 327 IAC 15-13-5 (52) and 327 IAC 15-13 (10) respectively. Outfall is defined as a point source discharge via a conveyance of storm water run-off into a water of the state. Conveyance is defined as any structural process for transferring storm water between at least two (2) points, including piping, ditches, swales, curbs, gutters, catch basins, channels, storm drains, and roadways.

The Town of Cedar Lake, as of March 2005, has approximately 0% of their separate storm sewer system mapped via a series of as-built drawings. The Town of Cedar Lake will map the remaining 100% of the storm sewer system by 2009. The Town of Cedar Lake may opt to consolidate all of their storm sewer system maps into a master storm sewer map in the future if electronic data is available and available funding allows.

The Town of Cedar Lake's stormwater outfalls that discharge into the Town's receiving waters will also be mapped by 2009. The Town of Cedar Lake defines "receiving waters" according to the definition provided by the IDEM in 327 IAC 15-13-5. Receiving waters are defined as a waterbody that receives a discharge from an outfall. The definition does not include private drains, unnamed conveyances, retention and detention basins, or constructed wetlands used as treatment.

The Town will utilize GPS technology with at least five-meter accuracy to map all outfalls with a pipe diameter of twelve (12) inches or larger and open ditches with a twenty-four (24) inch or larger bottom width. The longitude and latitude coordinates for each outfall that meets the above criterion will be mapped utilizing mapping-grade GPS technology. All outfall locations will then be incorporated into the Town's mapping system and/or database. All outfalls will be photographed and numbered for reference purposes.

The Town will require developers to submit electronic copies of as-built plans for new stormwater conveyance systems and the associated outfalls that discharge into the

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Town’s designated receiving waters. These plans must be submitted in a format that compliments the Town’s mapping system. For consistency with Rule 13, the Town will require developers to provide the latitude and longitude coordinates of outfalls in decimal degrees or by using, at a minimum, mapping grade GPS technology. Town staff will inspect the as-builts for compliance with the Town’s SWQMP. Once approved, the new conveyance system and outfall locations will be incorporated into the Town’s mapping system and/or database.

ILLICIT DISCHARGE

The term “illicit discharge” is defined in IAC 327 15-13-5 (28) as any discharge to an MS4 conveyance system that is not composed entirely of stormwater, except naturally occurring floatables, such as leaves or tree limbs. The definition provides examples of illicit discharges as sanitary wastewater, septic tank effluent, car wash wastewater, oil disposal, radiator flushing disposal, laundry wastewater, roadway accident spillage, and household hazardous wastes.

Illicit discharges can be categorized as either direct or indirect. Examples of direct illicit discharges include sanitary wastewater; piping 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; or a cross-connection between the sanitary sewer and storm sewer systems. Examples of indirect illicit discharges include a damaged sanitary sewer line that is leaking into a storm sewer line or a failing septic system that is leaking into a storm sewer line or causing surface discharge into the storm sewer.

As stated in IAC 327 IAC 15-13-14 (d), the Town of Cedar Lake’s SWQMP need not address the following categories of non-storm water discharges or flows unless the MS4 operator identifies them as significant contributors of pollutants to the MS4 conveyance system. Therefore, in the interim, the Town will not consider those items listed in **Table 1** as illicit discharges. However, if in the future the Town determines any of these activities to be illicit discharges, the Town will update its IDDE Plan accordingly.

**Table 1
Exempted Non-stormwater Discharges**

Water Line Flushing	Irrigation Water
Landscape Irrigation	Springs
Diverted Stream Flows	Water from Crawl Space Pumps
Rising Ground Waters	Footing Drains
Uncontaminated Ground Water Infiltration	Lawn Watering
Uncontaminated Pumped Ground Water	Individual Residential Car Washing
Discharges from Potable Water Sources	Flows from Riparian Habitats and Wetlands
Foundation Drains	Dechlorinated Swimming Pool Discharges
Air Conditioning Condensation	Street Wash Water
Discharges from Firefighting Activities	

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DRY WEATHER OUTFALL SCREENING

As required by Rule 13, Town of Cedar Lake will perform dry weather screening of 100% of its stormwater outfalls with a pipe diameter of twenty-four (24) inches or larger and open ditches with a two (2) foot or larger bottom width within the first five-year permit term. Additional screenings may be required depending upon the results of the initial inspections. The Town will also conduct outfall screening in response to community complaints, as deemed appropriate. Outfall inspectors will begin screening outfalls in those areas of the Town that contain significant industrial facilities as well as those areas of the Town that rely upon on-site wastewater treatment (septic systems).

The Town will perform screening only during dry weather. The Town defines dry weather as a period in which there has been no rainfall or no more than one-tenth (0.1) of an inch of rain within a seventy-two (72) hour period. The inspector will conduct and document physical observations at each outfall. For those outfalls proceeded by a retention pond, the inspector will conduct and document physical observations of the conveyance that leads to the pond.

In the event an outfall or pond conveyance system is discharging during dry weather and the physical observations warrant, the inspector will conduct and document a series of in-field water quality tests. If physical observations and in-field tests suggest water quality problems, the inspector may choose to collect a sample for further laboratory analyses. The outfall inspector will utilize the outfall inspection checklist in their ASIST software. The water quality parameters to be tested are listed in **Table 2**.

**Table 2
Water Quality Test Parameters and Uses**

Water Quality Test	Reason for Parameter Test	Method
Conductivity	Used as an indicator of dissolved solids.	Conductivity Meter in Field
pH	Extreme pH values (low or high) may indicate commercial or industrial flows; not useful in determining the presence of sanitary wastewater (which, like uncontaminated baseflows, tends to have a neutral pH)	pH Meter In Field
Ammonia-Nitrogen	High levels can be an indicator of the presence of sanitary wastewater.	Field Test Kit
Temperature	Sanitary wastewater and industrial cooling water can substantially influence outfall discharge temperatures. This measurement is most useful during cold weather.	Temperature Meter
Phosphorus	Used to indicate the presence of sanitary wastewater.	Field Test Kit
E. coli	Used to indicate the presence of sanitary wastewater.	Coliscan Easygel

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Water Quality Test	Reason for Parameter Test	Method
Optical Brighteners	Used to indicate the presence of laundry detergents (which often contain fabric whiteners, which cause substantial fluorescence).	Untreated cotton pad surrounded by mesh bag placed in storm drain outlet, manhole, or catch basin; left for 5-7 days. Then, cotton pad placed under UV lamp.

SOURCE IDENTIFICATION

The Town of Cedar Lake will attempt to determine the source of all dry weather discharges. However, recognizing that most dry weather discharges will not be constant, the Town understands that identifying the source of 100% of all illicit discharges is unlikely.

For each dry weather discharge suspected of being illicit, the inspector, utilizing a map of the storm sewer system, will follow the drainage ditch or identify the most up-pipe manhole with a junction in an attempt to identify the general location from which the discharge originates. The inspector may opt to collect additional field and laboratory samples as he or she make their way upstream or up-pipe in order to compare the outfall sample results with the in-line results in hope of identifying similarities between the sites. If, from following the drainage ditch or inspecting the manhole, the inspector can determine the direction from which the discharge originates, he or she will then continue upstream or to the next up-pipe manhole until he or she can pinpoint the source or the general vicinity from where the discharge is originating. If the inspector cannot identify the specific source through visual observation, a dye test, smoke test or video inspection will be necessary to determine the source of the discharge.

Dye Testing

If an inspector is able to narrow down the likely source of a discharge to a reasonable number of homes or businesses, the Town will perform a dye test one building at a time. Non-toxic dye will be flushed into toilets, sinks and other non-stormwater sources. Storm sewer outfalls will be observed to check for presence of the dye. Prior to testing, the Town will contact building owners and occupants to obtain access to the buildings. The IDEM's Office of Water Quality will also be notified so they will be prepared to respond to citizen calls and/or questions. Two or more Town staff will be equipped with two-way radios with one person inside the suspected building and the others stationed at appropriate manholes and/or outfalls. The inside person will drop dye into a plumbing fixture and run a sufficient amount of water to move the dye through the plumbing system. The inside person will then radio the outside crew so they can watch for the dye and record the presence or absence of dye.

Smoke Testing

If dye tests prove unsuccessful, the Town may opt to conduct smoke testing. A smoke

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test 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 will be done by placing a smoke bomb in the storm sewer manhole below ground and forcing air in after it. Town staff will be stationed at points of suspected illegal connections or cracks/leaks, noting any escape of smoke. Prior to performing tests, the Town will inform building owners and occupants in the area, as well as, police and fire departments.

Video Inspection

Video inspections involve filming the storm sewer system and tracking a discharge to its source. Due to the expertise and technology required to conduct such investigations, the cost associated can be high. In addition, the firms that provide such services may not be readily available to conduct a video inspection increasing the chances that the discharge may cease before it can be thoroughly investigated. Therefore, the Town of Cedar Lake will only rely upon video inspections if smoke testing and/or dye testing prove insufficient in the identification of a discharge.

IDENTIFICATION OF ACTIVE INDUSTRIAL FACILITIES IN THE MS4 AREA

All active industrial facilities located within Town of Cedar Lake's MS4 area that discharge into a Town MS4 conveyance are listed in **Table 3**. This information will be updated annually by the Town to ensure the list is accurate and current. The table will assist Town personnel with identifying potential pollutants of concern as well as the potential sources of illicit discharges.

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**Table 3
Active Industrial Facilities in the MS4 Area**

Facility Name	Mailing Address	Mailing Town	Zip Code	Telephone Number	SIC Code	Locational Address	Locational Town
M M & M Electrical Supply	PO Box 376	Cedar Lake	46303	219-374-9944	3621	10501G W 133rd Ave	Cedar Lake
M M & M Electrical Supply	PO Box 2026	Cedar Lake	46303	219-374-9360	3599	10501 W 133rd Ave	Cedar Lake
Sterling Machine Co Inc	13220 Lindberg Pl	Cedar Lake	46303	219-374-7487	3599	13220 Lindberg Pl	Cedar Lake
Sterling Machine Co Inc	PO Box 2026	Cedar Lake	46303	219-374-9360	3599	10501 W 133rd Ave	Cedar Lake
Vanco Machine & Engineering Co	PO Box 376	Cedar Lake	46303	219-374-9944	3621	10501G W 133rd Ave	Cedar Lake
Vanco Machine & Engineering Co	13220 Lindberg Pl	Cedar Lake	46303	219-374-7487	3599	13220 Lindberg Pl	Cedar Lake

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ELIMINATING ILLICIT DISCHARGES

The goal of Town of Cedar Lake's IDDE Plan is to address 100% of the illicit discharges identified. The Town understands, however, that for a variety of reasons, immediate elimination of 100% of identified discharges is not likely due to the political and socioeconomic circumstances that can play a role in such issues. The Town will attempt to enforce and eliminate all identified illicit discharges in accordance with the Town's Illicit Discharge Elimination Ordinance.

Illicit Discharge Detection and Elimination Reporting

The inspectors responsible for outfall screening and identifying illicit discharges will maintain a database that documents all activities associated with the Town's IDDE Plan ranging from mapping, outfall screening, source identification and enforcement. All activities associated with this plan will be documented and submitted to the IDEM with the Town's Rule 13 Annual Reports.

IDDE Education and Outreach

The Town will rely on NIRPC to educate public employees, businesses, and the general public within the MS4 area about the hazards associated with illicit discharges and the improper disposal of waste. NIRPC will provide relevant education through brochures, newsletters, website, newspaper articles, etc. as their Public Education and Outreach and Public Participation Program evolves.

NIRPC Public Complaint ("Report-A-Polluter") Program

By November 2006, NIRPC will implement a program to field complaints from the public on illegal dumping, illicit discharges, poor erosion control, and other activities that negatively impact stormwater quality. Citizens will have the opportunity to submit such complaints by filling out a form through both e-mail and in person at the NIRPC office. Then NIRPC will contact the Town if further follow up is needed. Fielding public complaints in this manner will improve public involvement and will serve as an education tool to inform the public about hazards of illicit discharges and illegal dumping.

The associated NIRPC e-mail address and in person forms will be advertised on the Town's web site and through stormwater brochures to be developed as part of the Town's Stormwater Program. NIRPC will document the number of brochures distributed, use a web counter to track the number of times the web page is viewed, the number of complaints received, and document follow up on citizen reports, corrections taken, etc. The Town will use their ASIST (or equivalent) software to track citizen's complaints received by NIRPC and will identify the details of each complaint and the subsequent actions taken by the Town as a result. All of this information will be compiled and included in the Town's Rule 13 Annual Reports.

IDDE Plan Review and Update

Every five (5) years, beginning in 2009, the Town of Cedar Lake IDDE Plan will be reviewed for adequacy and accuracy and updated as necessary. The Town will attempt to include relevant Town personnel in this process.

(will use ASIST software checklist)