

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



HANCOCK COUNTY, INDIANA

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NPDES PHASE II

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN UPDATE

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ILLCIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

This appendix contains Hancock County's strategy to detect and eliminate illicit discharges to the MS4 conveyance system in accordance with the County'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 County's MS4, and a master implementation schedule.

STORM SEWER MAP DEVELOPMENT

As required by 327 IAC 15-13-14, Hancock County has mapped 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 twenty-four (24) inches or larger bottom width within the first five (5) year permit term. Hancock County 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 stormwater between at least two (2) points, including piping, ditches, swales, curbs, gutters, catch basins, channels, storm drains, and roadways.

As defined by IDEM in 327 IAC 15-13-5, receiving waters are waterbodies that receive a discharge from an outfall. This definition does not include private drains, unnamed conveyances, retention and detention basins, or constructed wetlands used as treatment.

The County utilized 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 size criterion were mapped utilizing mapping-grade GPS technology. All outfall locations were then incorporated into the County's mapping system. **In 2009, all outfalls were photographed and numbered for reference purposes. Outfalls were numbered according to their associated receiving stream and their location upstream.**

The County requires developers to submit electronic copies of as-built plans for new stormwater conveyance systems and the associated outfalls that discharge into the County's designated receiving waters. These plans must be submitted in a format that compliments the County's mapping system, which is ESRI shape files. For consistency with Rule 13, the County requires developers to provide the latitude and longitude coordinates of outfalls in decimal degrees or by using, at a minimum, mapping grade GPS technology. County staff will inspect the as-builts for compliance with the County's SWQMP. Once approved, the new conveyance system and outfall locations will be incorporated into the County's mapping system.

ILLCIT 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.

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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), Hancock County’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 County will not consider those items listed in **Table 1** as illicit discharges. However, if in the future the County determines any of these activities to be illicit discharges, the County 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	

DRY WEATHER OUTFALL SCREENING

As required by Rule 13, Hancock County has performed dry weather screening of 100% of the known stormwater outfalls 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-year permit term. **It is anticipated that this comprehensive screening will be conducted once per permit term. Additional screenings during the subsequent permit terms may be conducted depending upon the results of the initial inspections. The County will also conduct outfall screening in response to community complaints, as deemed appropriate.**

The County will perform screening only during dry weather. The County 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. Depending upon the

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contributing land uses, samples may be collected and evaluated in a laboratory for the following parameters: E. coli, oil and grease, phosphorus, ammonia, etc. The outfall inspector will utilize the outfall inspection checklist in **Appendix 1**. 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.	YSI 85 Meter or equivalent.
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)	Oakton pHTestR3 or equivalent
Temperature	Sanitary wastewater and industrial cooling water can substantially influence outfall discharge temperatures. This measurement is most useful during cold weather.	YSI 85 Meter or equivalent

*Those required/stated in rule, other parameter is optional

SOURCE IDENTIFICATION

Hancock County will attempt to determine the source of all dry weather discharges. However, recognizing that most dry weather discharges will not be constant, the County 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, County staff 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 may 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 County may 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 for presence of the dye. Prior to testing, the County will contact building owners and occupants to obtain access to the buildings. The County Health Department and IDEM's Office of Water Quality will also be notified so they will be prepared to respond to citizen calls and/or questions. Dye will be dropped into a plumbing fixture and run a sufficient amount of

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water to move the dye through the plumbing system. County staff will then watch for the dye and record the presence or absence of dye.

Smoke Testing

If dye tests prove unsuccessful, the County may opt to conduct smoke testing. A smoke 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 into the system. County staff will be stationed at points of suspected illegal connections or cracks/leaks, noting any escape of smoke. Prior to performing tests, the County 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, Hancock County 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 Hancock County's MS4 area that are known to discharge into a County MS4 conveyance are listed in **Table 3**. This information will be updated annually by the County Surveyor's Office to ensure the list is accurate and current. The table will assist County 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	Street Address	Mailing Address	Telephone Number (317)	SIC Code
Armstrong & Son Hauling Svc	6844 W Stinemyer Rd New Palestine, IN 46163	6844 Stinemyer Rd New Palestine, IN 46163	861-6324	4212
Browns Vibratory Feeder Bowl	646 S. 600 W. New Palestine, IN 46163	646 S. 600 W. New Palestine, IN 46163	894-4610	3559
Gem Self Storage LLC	4943 W US Highway 40 Greenfield, IN 46140	4943 W US Highway 40 Greenfield, IN 46140	894-7738	4225
Greenfield Feeders Inc.	3599 W US Highway 40 Greenfield, IN 46140	3599 W US Highway 40 Greenfield, IN 46140	462-6363	3535
Hammons Equipment Co. Inc	3282 W US Highway 40 Greenfield, IN 46140	3282 W US Highway 40 Greenfield, IN 46140	462-0095	4213
Impressions	5839 W US Highway 40 Greenfield, IN 46140	5839 W US Highway 40 Greenfield, IN 46140	894-0492	3993
J & B Storage Inc	5774 W US Highway 52 New Palestine, IN 46163	5774 W US Highway 52 New Palestine, IN 46163	861-8777	4226
TSE Brakes Inc	3511 W US Highway 40 Greenfield IN 46140	3511 W US Highway 40 Greenfield IN 46140	462-7633	4225

(Indiana Chamber of Commerce, verified by Hancock County Surveyor's Office, 2010)

ELIMINATING ILLICIT DISCHARGES

The goal of Hancock County's IDDE Plan is to address 100% of the illicit discharges identified. The County 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 County will attempt to enforce and eliminate all identified illicit discharges in accordance with the County'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 County's IDDE Plan ranging from mapping, outfall screening, source identification, and enforcement. All activities associated with this plan will be documented and submitted to IDEM with the County's Annual SWQMP Report.

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IDDE EDUCATION AND OUTREACH

The County, along with partnering agencies and offices, will continue to attempt to educate public employees, businesses, and the public within the MS4 area about the hazards associated with illicit discharges and the improper disposal of waste. It is anticipated that information on these issues will continue to be provided through brochures, newsletters, and relevant websites.

POLLUTION PREVENTION PROGRAM

To help facilitate the County's IDDE Plan, the County has implemented a Pollution Prevention Program to field complaints from the public on illegal dumping, illicit discharges, poor erosion control, and other activities that negatively impact stormwater quality. Citizens have the opportunity to submit such complaints by obtaining and filling out a *Problems of Concern* form in the Surveyor's Office. Citizens are made aware of the availability of the form through the County's website. The County has also developed a procedure for handling and follow-up with relevant concerns.

A database has been created that is specific to citizen's complaints that identifies the details of each complaint along with the subsequent actions taken by the County as a result. The Health Department will develop a database on illegal dumping and illicit discharges that will be incorporated into the program. All of this information will continue to be compiled and included in the County's Annual Reports.

IDDE PLAN REVIEW AND UPDATE

Every five (5) years, the Hancock County IDDE Plan will be reviewed for adequacy and accuracy and updated as necessary. The County will attempt to include relevant County personnel in this process.

Appendix 1

Outfall Screening Checklist

Outfall #: _____ Receiving Water: _____
 Date: _____ Time: _____ Air Temperature: _____ Sunny ___ Cloudy ___
 Inspector: _____
 Last Rainfall ≥ 0.10 " : _____
 Land Use in Drainage Area: _____

Physical Observations

Flow rate: Trickle 1/4 Flow 1/2 Flow 3/4 Flow Full Flow
Discharge Color: none yellow brown green red gray other
Turbidity: none cloudy
Floatables: none petroleum sheen sewage other _____
Deposits/stains: none sediment oily other _____
Vegetation conditions: normal excessive growth inhibited growth
Damage to outfall structures: none cracking spalling peeling paint metal corrosion
Other damage: _____

Analyses

Parameter	Tested	Results	Equipment Used
Temperature (°C)			
pH			
Conductivity (uS/cm)			

Comments:
