

Illicit Discharge Detection and Elimination (IDDE) Plan Requirements

An IDDE Plan shall address how Warwick will screen and monitor the MS4 outfalls and interconnections, inspect the MS4 for illicit connections and non-stormwater discharges, respond to complaints, investigate areas of the MS4, and remove the sources of illicit connections and non-stormwater discharges.

The IDDE Plan shall include, but not be limited to, the following requirements, guidelines, procedures, and deadlines.

A. General Requirements:

1. A process for applying the ranking system for setting priorities for IDDE investigations, screening, and follow-up actions in each catchment of each outfall or discharge point in accordance with guidance provided herein.
2. Standard Operating Procedures (“SOPs”) that incorporate an IDDE inspection into the catch basin cleaning, inspection, and repair. During these activities, Warwick shall investigate the drainage system for signs of illicit connections and non-stormwater discharges, track and report evidence of illicit discharges, and coordinate appropriate follow up within Warwick. Appropriate follow-up actions may include: outfall, manhole or catch basin water sampling and testing, coordination of the removal of illicit discharges, inspection of adjacent properties, and reporting.
3. SOPs to complete the required dry weather surveys of MS4 outfalls during the correct time period to satisfy the General Permit requirements. Warwick must document visual and olfactory observations and include in these inspections sampling for the parameters listed in the General Permit and in Part B below.
4. SOPs for tracking IDDE investigations, schedules, priority ranking, and follow-up actions in a database.
5. Warwick staff roles and responsibilities for follow-up steps once a potential illicit discharge issue is identified.
6. The date of verification of an illicit discharge shall be the date that Warwick has identified a point of entry from a specific location or address that contributes wastewater or other illicit flow to the MS4.
7. Use of the IDDE screening thresholds in Part B below as guidelines for determining the necessity for further investigation, unless otherwise approved by the RIDEM.
8. Use of techniques consistent with Attachment G to the Consent Agreement.

B. Screening and Investigation Parameters:

Warwick must use the following IDDE screening thresholds as guidelines for determining the necessity for further investigation, unless otherwise approved by the RIDEM. Warwick must measure the flow of dry and wet weather discharges when feasible. At a minimum, Warwick must analyze dry and wet weather samples for the following parameters:

Bacteria:

Fecal coliform: in excess of 400 most probable number per 100 milliliters ;

Coliphage: equal to or greater than 50 plaque forming units per 100 milliliters;

Class AA, A, B, B1, B(a), or B1(a) waters- Enterococcus: greater than 61 colony forming units per 100 milliliters ("cfu/100 ml");

Class SA, SA(b), SB, SB1, SB(a), or SB1(a) waters- Enterococcus: greater than 104 cfu/100 ml;

Surfactants: equal to or greater than 0.25 milligrams per liter ("mg/l") via field kits, or 0.1 mg/l via laboratory analysis;

Ammonia: equal to or greater than 0.5 mg/l;

Chlorine: greater than non-detect (0.02 mg/l method detection limit);

pH: less than or equal to 5 standard units or greater than 9.0 standard units;

Conductivity: greater than or equal to 2,000 micro Siemens per centimeter;

If Warwick determines other parameters (different from the ones provided above) to be the most appropriate to identify the source, Warwick must provide a narrative justification that explains why the parameter(s) was chosen. This narrative must be included in the report required in Attachment F.

C. Ranking and Prioritization of Stormwater Infrastructure for IDDE Investigations and Re-Screening:

Warwick must rank stormwater infrastructure, including outfalls and interconnections, with the purpose of prioritizing screening of infrastructure, and investigating potential illicit discharges as follows:

1. High Priority: Warwick must classify as high priority any stormwater infrastructure with known or suspected discharges based upon any of the following information:
 - a. Stormwater infrastructure with screening results that indicate sewer input or industrial discharges based on olfactory or visual evidence, including but not limited to olfactory or visual evidence or observations encountered during the dry weather surveys of outfalls and inspections of catch basins, and/or sampling results that exceed thresholds in Part B above, as follows:

- i. Bacteria **and** any of the other listed thresholds (with the exception of pH and conductivity) are exceeded; or
 - ii. Bacteria threshold is exceeded and pharmaceuticals have been detected in elevated concentrations or visual evidence of sewer or excessive odor have been observed; or
 - iii. Surfactants or ammonia thresholds are exceeded and chlorine has been detected; or
 - iv. Conductivity and pH thresholds are exceeded.
- b. Citizen complaint of illicit discharge as appropriate;
 - c. Notification by the RIDEM, the EPA, or an interconnected MS4 of presence of suspect illicit discharge as evidenced by criteria listed in Part C.1.a above;
 - d. Evidence of potential illicit discharges discovered as a result of other activities including but not limited to: mapping, construction, maintenance, and cleaning and repair of catch basins and manholes.

Upon classification as high priority, Warwick must initiate an IDDE investigation in accordance with the deadlines in Part E of this Attachment.

2. Priorities for additional outfall and system screening: Warwick must classify as priority any outfalls or interconnections with previously identified dry weather flows where the results of the analysis cannot conclusively determine that the dry weather flow consisted only of stormwater, or where one or more of the System Vulnerability Factors listed in Table 1 below exist within the catchment area. Where either of these conditions exist, Warwick must conduct screening as follows:
 - a. Re-visit outfalls and interconnections during dry weather conditions and sample at a minimum for the parameters listed in Part B above when a flow is observed; and
 - b. Where flow is not observed during the dry weather re-visiting, Warwick must inspect and sample the outfall and interconnections during wet weather conditions, for the parameters listed in Part B above.

Table 1: System Vulnerability Factors
<ul style="list-style-type: none"> • History of Sanitary Sewer Overflows (SSOs), including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages • Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs • Inadequate sanitary sewer level of service resulting in regular surcharging, customer back-ups, or frequent customer complaints • Common or twin-invert manholes serving storm and sanitary sewer alignments • Common trench construction serving both storm and sanitary sewer alignments • Crossings of storm and sanitary sewer alignments • Sanitary sewer alignments known or suspected to have been constructed with an underdrain system

- Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations
- Areas formerly served by combined sewer systems
- Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance)
- History of multiple RIDEM actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance)

D. Investigation Scheduling Considerations: Warwick must consider the following information when developing schedules for prioritizing the investigations of high priority infrastructure and screening of priority outfalls, catch basins, manholes, and interconnections. Warwick may consider the schedules in Paragraph C(4)(a)(ix) and (xiii) of the Consent Agreement when developing schedules for follow-up actions.

- a. Water bodies that receive a discharge from the MS4 and are drinking water supplies, shell fishing areas, beaches or waters used for contact recreation.
- b. Water quality limited waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to Warwick, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment.
- c. Density of generating sites - Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
- d. Age of surrounding development and infrastructure – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
- e. Sewer conversion – Catchments that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.
- f. Historic combined sewer systems – Catchments that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential.
- g. Density of aging septic systems – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.
- h. Catchments with documented SSOs.
- i. Culverted streams – any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.

E. Deadlines:

1. Initiate and assess an IDDE investigation within 60 days of identifying or being made aware of the presence of a potential illicit discharge into or from the MS4 based upon receiving any of the information listed above in Parts C.1.a through C.1.d above as criteria for high priority.
2. Investigations must be completed within 180 days of initiation by identifying a point of entry from a specific location or address that contributes wastewater or other illicit flow to the MS4 or documenting that an illicit discharge does not exist, unless not feasible. If an IDDE investigation is not completed within 180 days of initiation of the investigation, Warwick must establish a schedule for completing the IDDE investigation as expeditiously as possible.
3. Identify and notify all parties responsible for any illicit discharge and the RIDEM within 14 calendar days of the date of verification of the source, and require immediate cessation of improper disposal practices in accordance with its legal authorities.
4. Illicit discharges to the MS4 shall be eliminated within 120 days of the date of verification. Where elimination of an illicit discharge within 120 days of its verification as an illicit discharge is not possible, take all reasonable and prudent measures to minimize the discharge of pollutants to and from its MS4 and establish an expeditious schedule for its elimination.
5. Complete dry weather and wet weather monitoring for the parameters identified in Part B above within 120 days of removal of the source after a verified illicit discharge to the MS4 has been eliminated to confirm that all illicit discharges have been eliminated.