



Illicit Discharge Detection and Elimination (IDDE) Procedure

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Background

Radford University is the owner / operator of registered small municipal separate storm sewer system (MS4) and has been authorized to discharge stormwater from its municipal separate storm sewer system (MS4) by having coverage under the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems.

Purpose of Procedure

The purpose of this procedure is to provide for the protection of the environment at Radford University, and the surrounding areas, through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal, state, and local law. This procedure establishes MS4 in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process, as implemented through the Virginia Stormwater Management Program (VSMP) permit for Radford University. The objectives of this procedure are as follows:

- A.** To prevent or minimize to the maximum extent practicable, the discharge of pollutants from University properties and operations into the storm drainage system.
- B.** To develop, implement and enforce a program to detect and eliminate illicit discharges, as defined by 9VAC25-890-20 D and 9VAC25-890-30, into the regulated small MS4.
- C.** To comply with the requirements of Radford University's stormwater general permit: VAR040136.

Definitions

Best Management Practices (BMPs): means schedules of activities, prohibitions of practices, general housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Contractor: means any individual or company, including a subcontractor, hired to perform services on university property.

Hazardous substance: means any substance designated under the Code of Virginia or 40 CFR Part 116 pursuant to § 311 of the Clean Water Act (CWA).

Illicit discharge: means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a VPDES or VSMP permit (other than the VSMP permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400 D 2 c (3). **Municipal separate storm sewer (MS4):** means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains:

- 1) Owned or operated by a federal, state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction or delegated authority for erosion and sediment control and stormwater management, or a designated and approved management agency under § 208 of the CWA that discharges to surface waters;
- 2) Designed or used for collecting or conveying stormwater;
- 3) That is not a combined sewer;
- 4) That is not part of a publicly owned treatment works.

Municipal Separate Storm Sewer System (MS4): means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems or designated under 9VAC25- 890-30. **Municipal Separate Storm Sewer System Management Program or MS4 Program:** means a management program covering the duration of a permit for a municipal separate storm sewer system that includes a comprehensive planning process that involves public participation and intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA and regulations and the Virginia Stormwater Management Act and attendant regulations, using

management practices, control techniques, and system, design and engineering methods, and such other provisions that are appropriate.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit: means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC §1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater discharge: means any discharge to the storm drain system that is not composed entirely of stormwater.

Outfall: means, when used in reference to municipal separate storm sewers, a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

Point source: means any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant: means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Source: means any building, structure, facility, installation, or activity from which there is or may be a discharge of pollutants.

State waters: means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands (Virginia Code § 62.1-44.3).

Stormwater: means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Wetlands: means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (Virginia Code § 62.1-44.3).

Visitor: means a person who is not enrolled at, compensated by, or an affiliate of the University.

Applicability

This procedure is applicable to all students, faculty, staff, contractors, and visitors of the University. This procedure shall apply to all water entering the storm drain system generated on any lands owned or operated by the University.

Responsibility for Administration

The University shall administer, implement, and enforce the provisions of this procedure.

Compatibility with Other Regulations

This procedure is not intended to modify or repeal any other procedure, ordinance, rule, regulation, or other provision of law. The requirements of this procedure are in addition to the requirements of any other procedure, ordinance, rule, regulation, or other provision of law, and where any provision of this procedure imposes restrictions different from those imposed by any other procedure, ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

Severability

The provisions of this procedure are declared to be severable. If any provision of this procedure is held invalid, this determination will not affect the other provisions or application of this procedure.

Illicit Discharges

No Radford University employee, student, visitor, contractor, or department shall cause or allow discharges into the University's storm drainage system which are not composed entirely of stormwater, except for the allowed discharges provided in the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870). The spilling, dumping, or disposal of materials other than stormwater to the storm drainage system are strictly prohibited.

Prohibited discharges include, but are not limited to:

- Oil;
- Anti-freeze;
- Grease;

- Chemicals;
- Wash water;
- Paint;
- Animal waste;
- Garbage;
- Litter; and,
- Landscaping debris.

Allowed Discharges

The following discharges to the storm drainage system are allowed, as per 9VAC25-870-400 (D)(2)(c)(3), as they are considered to be not significant contributors of pollutants to the MS4:

- Discharges that are covered under a separate individual or general VPDES or VSMP permit for non-stormwater discharges.
- Discharges or flows which are not significant contributors of pollutants to the municipal separate storm sewer system:
 - Water line flushing;
 - Landscape irrigation;
 - Diverted stream flows;
 - Uncontaminated groundwater infiltration;
 - Uncontaminated pumped groundwater;
 - Discharges from potable water sources;
 - Foundation drains;
 - Air conditioning condensation;
 - Irrigation water;
 - Springs;
 - Water from crawl space pumps;
 - Footing drains;
 - Lawn watering;
 - Individual residential car washing;
 - Flows from riparian habitats and wetlands;
 - Dechlorinated swimming pool discharges;
 - Street wash water;
 - Discharges or flows from firefighting activities; and,
 - Flows that have been identified in writing by the Department of Environmental Quality as de minimis discharges that are not significant sources of pollutants to state waters and not requiring a VPDES permit.

Procedures

Inspections

Radford University shall, at a minimum, visually inspect all outfalls once per year during dry weather conditions to evaluate the physical condition of the outfalls and to ensure that there no flows present from potential illicit discharges. In the event a flow is observed, or evidence suggests that illicit discharges may exist, further investigation shall be administered by any of the following methods:

1. Tracing discharge up the storm sewer system;
2. Sampling of a discharge for analysis in order to determine if a pollutant is present and to identify the pollutant;
3. Implement BMPs to eliminate illicit discharges;
4. Scheduling of follow up observations; and,
5. Any other appropriate measures deemed necessary.

Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be tested. Test parameters may include but are not limited to ammonia, detergent, chlorine, phosphorus, nitrogen, pH, conductivity, turbidity, temperature, and dissolved oxygen. The results of the inspections and testing shall be maintained in a format to allow tracking of outfall locations, inspection dates, chemical tests conducted, and follow-up procedures implemented to correct any detected illicit discharge. The physical condition of the outfall shall also be noted during the inspections. Illicit discharge data will be used in the preparation of the annual report to the Virginia Department of Environmental Quality.

Notification of Spills and Illicit Discharges

Once a spill or illicit discharge has been observed, the incident shall be immediately reported to the University MS4 Program Coordinator. In the event the program coordinator is unavailable, any member of the Stormwater Pollution Prevention Team may be notified. Failure to provide notification of the incident shall be a violation of this procedure. The MS4 Program Coordinator, or designee, shall conduct an initial investigation within one business day of receiving notification. The MS4 Program Coordinator shall determine appropriate measures taken in order to prevent further discharge(s) and to begin remediation of pollution.

Tracking

Field surveys and instances of illicit discharges or spills shall be tracked in a database. Data fields to be included shall be:

1. Date discharge observed/reported;
2. Location of discharge;
3. Summary;
 - a. Results of investigation;
 - b. Any follow-up to investigation;
 - c. Resolution of investigation; and,
4. Date investigation closed.

*An example of Outfall inspection form is located on Pages 8-11 on this document

Enforcement and Penalties

Whenever the University finds that a violation of this Procedure has occurred, Radford University may order compliance by written notice to the responsible party. Such notice may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of prohibited discharges or connections;
3. Cessation of any violating discharges, practices, or operations;
4. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
5. Payment of any fee, penalty, or fine assessed against Christopher Newport University to cover remediation cost;
6. The implementation of new stormwater management practices; and
7. Disciplinary action up to and including dismissal, where appropriate. The listed requirements will be at the expense of the responsible party. In the event that adequate measures are not initiated, the University may issue work orders to correct the violation and bill the responsible party for expenses incurred.

Training and Education

A training program for Stormwater Pollution Prevention/Good Housekeeping and IDDE is presented to applicable employees upon hire and on an annual basis. Educational materials for Stormwater Pollution Prevention and IDDE are distributed through various forms of media to the members of the University.

Outfall Inspection Form Example



OUTFALL INSPECTION

Section 1: General Data

Outfall ID: _____ GPS Location: 37.13579, -80.53761
 Date: _____ Time: _____
 Temperature: _____ Rainfall (in): Last 24 hours 0 Last 48 hours 0
 Inspector: _____ Time of last rain: <24 hrs <48 hrs <72 hrs >72 hrs
 Photo #s: _____

Outfall Photograph	Location Map

Piped Outfalls only:

Pipe Flow: <input type="checkbox"/> None <input type="checkbox"/> <1/4 Pipe <input type="checkbox"/> <1/2 Pipe <input type="checkbox"/> <3/4 Pipe <input type="checkbox"/> Full <input type="checkbox"/> Trickle
Pipe Submergence: <input type="checkbox"/> None <input type="checkbox"/> <1/4 Pipe <input type="checkbox"/> <1/2 Pipe <input type="checkbox"/> <3/4 Pipe <input type="checkbox"/> Full
Comments:

Section 2: Physical Conditions/Indicators

Indicator	Check if present	Description	Comments
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	

Poor Pool Quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Suds <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other	
Pipe Benthic Growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other	
Sediment	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Full	
Rip-rap/Energy Dissipation	<input type="checkbox"/>	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A	
Other Observations:			

Skip Sections 5 and 7 if no flow is present.

Section 3: Quantitative Characterization for flowing outfalls ONLY

FIELD DATA FOR FLOWING OUTFALLS				
Parameter		Result	Unit	Equipment
<input type="checkbox"/> Flow #1	Volume		Quarts	Bottle
	Time to Fill		Sec	
<input type="checkbox"/> Flow #2	Flow Depth		In	Tape Measure
	Flow Width		Ft, in	Tape Measure
	Measured Length		Ft, in	Tape Measure
	Time of Travel		Sec	Stop Watch
Temperature			° F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Section 4: Physical Characteristics/Indicators for flowing outfalls ONLY

Indicator	Check if present	Description	Relative Severity Index (1-3)
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Other	<input type="checkbox"/> 1-Faint <input type="checkbox"/> 2-Easily Detected <input type="checkbox"/> 3-Noticable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other	<input type="checkbox"/> 1-Faint colors in sample bottle <input type="checkbox"/> 2-Clearly visible in sample bottle <input type="checkbox"/> 3-Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	Severity	<input type="checkbox"/> 1-Slight Cloudiness <input type="checkbox"/> 2-Cloudy <input type="checkbox"/> 3-Opaque
Floatables (Do not include trash*)	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet paper, etc) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (Oil sheen) <input type="checkbox"/> Other	<input type="checkbox"/> 1-Few/Slight <input type="checkbox"/> 2-Some <input type="checkbox"/> 3-Some; Origin Clear

Comments:

Section 5: Data Collection

Sample Collected: Yes No

Sample ID: _____

Sample for Lab: Yes No

If Yes, Collected From: Flow Pool

Section 6: Overfall Outfall Characterizations

Overall Conditions: Good Fair Poor Critical

Definitions: Good: No damages or indicators present. Fair: Presence of two or more indicators with low severity. Poor: One or two indicators with a severity of 3. Critical: More than two indicators with severity of 3.

Illicit Discharge: Unlikely Potential Suspect Obvious

Definitions: Unlikely: Non-flowing outfalls with no physical indicator. Potential: Presence of two or more indicators. Suspect: Flowing outfalls with high severity on 1 or more indicators. Obvious: Discharge does not require sample collection confirmation.

Section 7: Recommendations

Investigate Illicit Discharge Corrective Action: _____ Priority: 1 2 3

Infrastructure Repairs Needed Corrective Action: _____ Priority: 1 2 3

Debris Removal Needed Corrective Action: _____ Priority: 1 2 3

Priority 1: Immediate action is required. Priority 2: Needs attention. Priority 3: Regular Maintenance.

Comments:

Notes:

*Trash is not an indicator of illicit discharges, but it should be noted.



OUTFALL RECONNAISSANCE INVENTORY

Entry Date:		
Form Completed by:		
Investigator:		

Section 1: General Information			
Outfall ID:		GPS Location:	
Stream:		Community:	
Origin of Discharge:		Outfall on Map:	<input type="checkbox"/> Yes <input type="checkbox"/> No

Outfall Photograph	Location Map

Section 2: Outfall Description

Type	Material	Shape	Dimensions	Submerged
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Height (in): _____ Width (in): _____ Diameter (in): _____	<input type="checkbox"/> No <input type="checkbox"/> Partially In water: <input type="checkbox"/> Full
<input type="checkbox"/> Open Drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Vshaped <input type="checkbox"/> Other: _____	Depth (ft): _____ Top Width (ft): _____ Bottom Width (ft): _____	Water Depth (ft): _____ Height from invert to stream flow (ft): _____
<input type="checkbox"/> Outfall Protection	Length= _____	Width= _____	Size of Rip-rap= _____	

Invert Elevation: _____

The information provided has been field verified by the investigator to the best of his/her knowledge and judgement.

Investigator's Signature: _____