



# Illicit Discharge Detection and Elimination (IDDE) Program Manual

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## Virginia Tech Policy and Procedures

***Virginia Tech, Site & Infrastructure Development Department  
6/17/2019***

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## Introduction

This Manual presents the standard protocol which Virginia Tech (VT) will utilize to implement its Illicit Discharge Detection and Elimination (IDDE) Program. This manual outlines prohibition discharge and allowable discharge policies. Additionally, this manual provides written procedures designed to detect, identify, and address unauthorized non-stormwater discharges into Virginia Tech's Municipal Separate Storm Sewer System (MS4).

## Purpose

The purpose and intent of this policy is to ensure the health, safety and general welfare of the students, staff, and faculty of Virginia Tech and to protect and enhance the water quality of water courses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act (CWA) (33 U.S.C. §1251 et seq.) and Virginia Tech's MS4 Program by reducing stormwater runoff pollutants to the maximum extent practicable (MEP) and by prohibiting non-stormwater discharges to the storm sewer system.

## Acronyms

<b>BMP</b>	Best Management Practices
<b>CWA</b>	Clean Water Act
<b>DEQ</b>	Virginia Department of Environmental Quality
<b>EHS</b>	Environmental Health and Safety
<b>EPA</b>	Environmental Protection Agency
<b>GIS</b>	Geographic Information System
<b>IDDE</b>	Illicit Discharge Detection and Elimination
<b>MEP</b>	Maximum Extent Practicable
<b>MS4</b>	Municipal Separate Storm Sewer System
<b>NPEDES</b>	National Pollutant Discharge Elimination System
<b>ORI</b>	Outfall Reconnaissance Inventory
<b>SID</b>	Site & Infrastructure Development
<b>SWPPP</b>	Stormwater Pollution Prevention Plan
<b>VAC</b>	Virginia Administrative Code
<b>VDOT</b>	Virginia Department of Transportation
<b>VPDES</b>	Virginia Pollutant Discharge Elimination System
<b>VSMP</b>	Virginia Stormwater Management Program
<b>VT</b>	Virginia Tech

## 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 material storage.

**“Hazardous Substance”** means any substance designed under the Code of Virginia or 40 CFR Part 116 (2000) pursuant to § 311 of the CWA.

**“Illicit Discharge”** means any discharge to a MS4 that is not composed entirely of stormwater, except discharges pursuant to a Virginia Pollution Discharge Elimination System (VPDES) or Virginia Stormwater Management Program (VSMP) Permit (other than the VSMP permit for discharges from the municipal separate storm sewer), discharges resulting from fire-fighting activities, and discharges identified by and in compliance with 4VAC50-60-1220 C 2. (See definition *National Pollutant Discharge Elimination System (NPDES)*).

**“Municipal Separate Storm Sewer System (MS4)”** means a conveyance or system of conveyances otherwise known as 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 CWA that discharges to surface waters;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a publicly owned treatment works.

**“Municipal Separate Storm Sewer System Management Program”** or “MS4 Program” means a management program conveying 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) Stormwater Discharge Permit”** means a permit issued by the Environmental Protection Agency (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 sewer system that is not composed entirely of stormwater.

**“Outfall”** means any source of stormwater exiting one separate storm sewer system to different water body or another MS4. Some examples of outfalls include, but are not limited to, discharges to from pipes, ditches, swales and other stormwater conveyances.

**“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; nonhazardous 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, or installation from which there is or may be a discharge of pollutants.

**“Stormwater”** means any surface flow, runoff, and drainage consisting entirety of water from any form of natural precipitation, and resulting from such precipitation.

## **Discharge Prohibitions**

### **Prohibition of Illicit Discharges**

No University employee, student, visitor or contractor, or department shall cause or allow discharges into the University’s storm sewer system which are not composed entirely of stormwater, except for the allowable discharges provided in the VSMP Permit Regulations (4VAC50-60). Prohibited discharges include but are not limited to: oil, anti-freeze, grease, chemicals, washwater, paint, plaster, animal waste, debris, garbage, and litter. The spilling, dumping, or disposal of materials other than stormwater into the storm sewer system is prohibited by this Policy.

### **Allowable Discharges**

Discharges from the following activities will not be considered a source of pollutants to the storm sewer system and to waters of the United States when properly managed to ensure that no potential pollutants are present, and therefore they shall not be considered illegal discharges unless determined to cause a violation of the provision of the CWA or this Policy:

- Potable water line flushing;
- Uncontaminated pumped groundwater and other discharges from potable water sources;
- Landscape irrigation and lawn watering;
- Diverted stream flows; rising groundwater;
- Groundwater infiltration to the storm sewer system;
- Uncontaminated foundation and footing drains;
- Uncontaminated water from crawl space pumps;
- Air conditioning condensation;
- Uncontaminated nonindustrial roof drains;
- Springs;
- Individual residential and occasional non-commercial car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Flows from firefighting.

The above prohibitions shall not apply to any non-stormwater discharge permitted under the an NPDES permit issued to the discharger and administered by the State of Virginia under the authority of the Federal EPA, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted by Virginia Tech Site and Infrastructure Development (SID) for any discharge to the storm sewer system.

### **Prohibition of Illicit Connections**

The construction, use, maintenance, or continued existence of illicit connections to the storm sewer system is prohibited. This prohibition expressly includes without limitation, illicit connection made in the past, regardless of whether the connection was permissible under law of practices applicable or prevailing at the time of connection.

### **Waste Disposal Prohibitions**

No Person shall throw or be permitted to throw, deposit, leave in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or water of the United States, any refuse, debris, garbage, litter, or other discarded or abandoned objects that may cause or contribute to stormwater runoff pollution. Wastes deposited in proper waste receptacles for the purpose of collection are exempt from this prohibition.

## **Discharge in Violation of Industrial or Construction Activity NPDES Stormwater Discharge Permit**

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit.

### **Discharge Detection**

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from leaking sanitary systems, spills collected by drain inlets, or paint or used oil dumped directly into a drain). Common indicators of illicit discharges include:

- Unusual color or cloudiness;
- Dead vegetation or inhibited growth;
- Surface scum or foam;
- Dead animals;
- Algae;
- Floating debris;
- Stains on channel bottom or sides;
- Strong, pungent or musty odor;
- Pipe corrosion; or
- Oil sheen.

### **Priority Areas**

The operator shall develop and implement specific stormwater pollution prevention plans for all high-priority, high-potential facilities identified. Inspector(s) of sites are responsible for filling out a High Priority Facility Identification Form (Appendix A)

Priority areas refer to facilities, and/or land areas that have the potential to pollute the storm sewer system. These areas may contain hazardous chemicals, store exposed materials, etc. SID has established and documented Virginia Tech's priority areas in a binder labeled "IDDE Priority Areas." The following are outlined in the MS4 Permit to help define priority areas:

- Areas where residuals from using, storing or cleaning machinery or equipment remain are exposed to stormwater;
- Materials or residuals on the ground or in stormwater inlets from spills or leaks;
- Material handling equipment (except adequately maintained vehicles);
- Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);



- Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in discharge of pollutants);
- Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks and similar containers;
- Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
- Application or disposal of process wastewater (unless otherwise permitted); or
- Particulate matter or visible deposits of residuals from roof stacks, vents or both not on otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

### **MS4 Interconnections**

The Operator shall notify in writing the downstream MS4 of any known physical interconnection.

Virginia Tech's MS4 is interconnected with both the Town of Blacksburg and the Virginia Department of Transportation (VDOT). The interconnection points with VDOT are still being determined. All interconnection points will be considered IDDE Priority Areas.

Areas linking Town of Blacksburg's high-traffic downtown areas and Virginia Tech's high pedestrian/traffic areas are a priority. One area is between the Top of the Stairs Restaurant and the Squires Student Center parking lot. Stroubles Creek runs directly under this area with inlets collecting runoff directly over the creek. Another known interconnection is on Otey Street.

Triangle Park, also called "Engineer's Park" adjacent to the Surge Space Building serves an additional point of interest since Stroubles Creek collects discharge from the Power Plant as well as from the Town of Blacksburg, specifically an older section of the Town of Blacksburg, near the creek's headwaters.

### **High Priority-High Potential Areas**

Within 12 months of state permit coverage, the operator shall identify all municipal high-priority facilities. These high-priority facilities shall include (I) composting facilities, (II) equipment storage and maintenance facilities, (III) materials storage yards, (IV) pesticide storage facilities, (V) public works yards, (VI) recycling facilities, (VII) salt storage facilities, (VIII) solid waste handling and transfer facilities, and (IX) vehicle storage and maintenance yards.

In order to properly evaluate areas of concern around the Virginia Tech campus (according to VAR04 regulations), SID created a check sheet to rank the facilities on campus. All areas that do not need a SWPPP according to check sheets will then be considered IDDE Priority

Areas and will be monitored for potential stormwater pollution. Facilities determined to need SWPPP will be inspected/monitored based on established SWPPP requirements for the individual facility.

## **Outfall Screening**

As a minimum effort to identify illicit discharge occurrences from the VT MS4 Program, annual outfall screening is required by the Program Plan under the MS4 Permit. In the case that potential illicit discharges are observed at specific outfalls, subsequent screening at a higher frequency may be necessary if the source is not identified and eliminated.

An ORI standard operating procedure was established in April 2012 intended for use in the SID Department. Primary investigators are Virginia Tech students interning with the SID Department. Their academic and experiential backgrounds vary. The procedure intends to regularize the process by which outfalls are annually inspected and documented. Field maps and GIS show the outfalls that Virginia Tech will annually inspect for interns and employees to take on inspections. SID also has a field binder for interns and employees to take on inspections. When conducting an ORI, SID staff should stay alert for any suspected illicit discharges. Upon arrival to the site, the investigator will note the time and date of the inspection, as well as take a photo of the outfall site for documentation. The investigator should then determine the material of the outfall, the shape, dimensions, and presence of sediment or water. The outfall should also be assessed for the presence of any flow.

The sections mentioned in the throughout this portion refer to the sections of the Outfall Reconnaissance Inventory/Sample Collection Field Sheet (Appendix B). If flow was present at the site, physical indicators, covered in Section 4, should be completed. Section 5 is to be completed for both flowing and non-flowing outfalls. The investigator must then decide upon the overall outfall characterization. This is based upon the presence of concerning indicators. If no physical indicators are present, it would be considered unlikely. With the presence of additional indicators, the overall outfall characterization increases from unlikely, to potential, to suspect, and finally to obvious in the ranking of Section 6.

## **Dry Weather Outfall Screening**

Outfall screening shall be performed during dry weather using the Outfall Reconnaissance Inventory/Sample Collection Field Sheet (Appendix B). Completion of the form serves as the appropriate documentation that the required outfall screening has been performed and should be retained on file for a minimum of 3 years. Outfalls that are flowing during dry weather may indicate an active pollution issue, depending on if rain has occurred during the last 24 to 48 hours. Special attention should be paid to outfalls that are flowing and when no rain has occurred within the last 48 hours.

The ORI Form (Appendix B) includes the following sections, which are to be completed with each annual outfall screening:

- Section 1: Background Data – Requires general information regarding when and where the screening was performed, weather conditions at the time of the screening, and reference to photos taken.
- Section 2: Outfall Description – Requires a description of the outfall and determination if flow is present during dry weather. If flow is not present, the inspector can skip to Section 6 of the form.
- Section 3: Quantitative Characterization for Flowing Outfalls – Requires quantitative information of the flow present at the outfall, including information to determine an estimate of the flow rate. The pH and ammonia levels require the use of test strips. The purpose of this information is to help identify the source of the discharge.
- Section 4: Physical Indicators for Flowing Outfall – Requires the observance of physical indicators in the flow, such as odor and color, to assist with identifying the source of the discharge.
- Section 5: General Physical Indicators for All Outfalls – Requires physical indicators be noted that are not related to flow, such as abnormal vegetation and staining, which can indicate that an intermittent discharge has occurred in the past, even if not currently flowing.
- Section 6: Outfall Severity Index – Requires the assignment of a severity score for prioritizing outfall follow-up investigation, if necessary. The severity of concern at an outfall is best judged by the outfall inspector. The rating system provided on the form is intended to provide consistency and guidance; but the intuition of the inspector overrides the scoring rules. Outfalls can be characterized as:
  - ✓ Unlikely to be subject to an illicit discharge. No further action is necessary.
  - ✓ Potential illicit discharge occurring at the outfall.
  - ✓ Suspect illicit discharge occurring at the outfall.
  - ✓ Obvious illicit discharge occurring at the outfall.
- Section 7: Data Collection – The inspector should note if a sample from the outfall was collected for the lab and if they set up an intermittent flow trap.
- Section 8: Any Non-Illicit Discharge Concerns – The inspector performing the outfall screening should note any other concerns such as trash, overgrowth prohibiting flow, or structural concerns of the outfall (e.g. collapsed pipe).

### **Wet-Weather Screening**

While dry-weather screening events can identify possible illicit interconnections that are continuous, wet-weather screening events may identify pollutant discharges that are temporary and/or likely to result from improper storage of polluting materials or inadequate cleanup of off-site pollutant releases. Wet-weather screening may be

appropriate if dry weather screening identifies physical indicators from Sections 4 and 5 of the ORI Form.

## Investigation & Elimination Procedures

An illicit discharge or potential source for an illicit discharge may be reported by any individual, including those who are not trained or authorized to perform necessary actions, such as students, faculty, other campus staff, or contractors. These individuals may recognize a potential illicit discharge after learning about pollution in stormwater runoff through VT's public education and outreach efforts, or by other means. If staff is otherwise notified, the appropriate action should be taken, and if an illicit discharge is potentially occurring, the Environmental Compliance Officer shall be notified. Figure 1 illustrates the proper response procedure following detection of an illicit discharge.

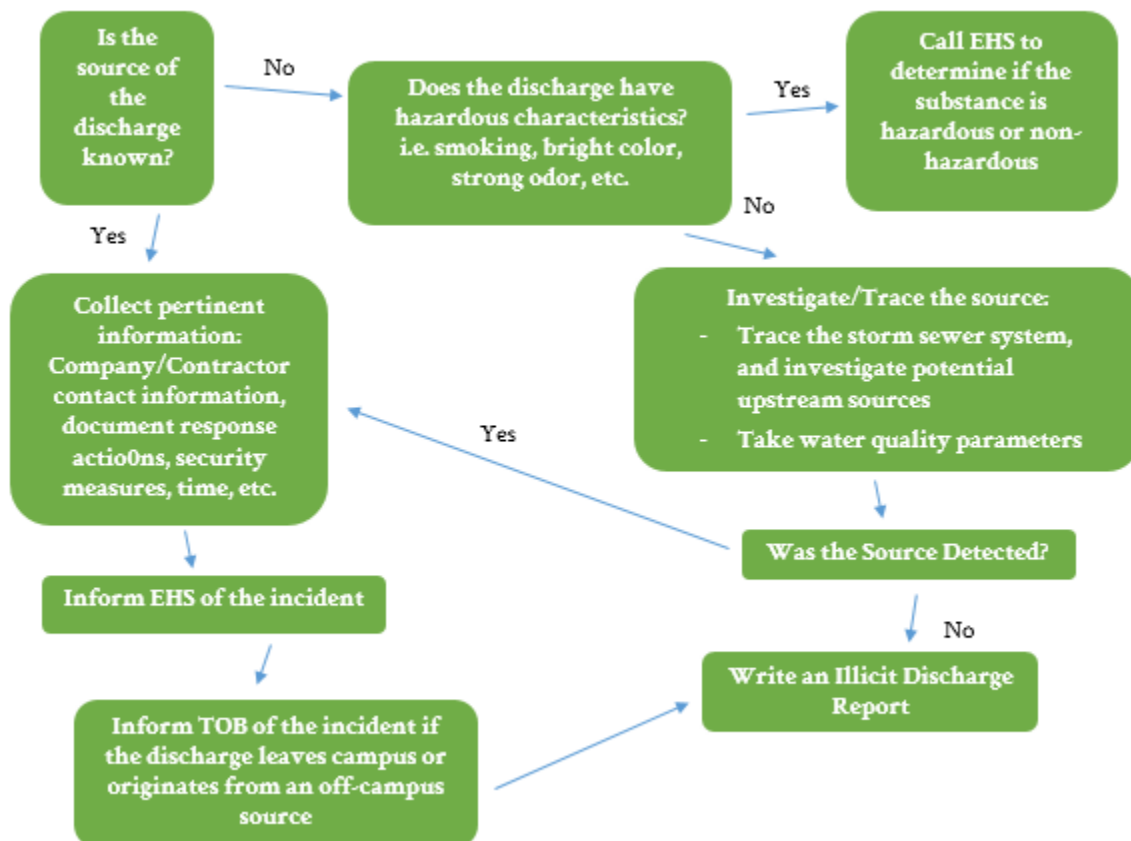


Figure 1. SID response procedure flow chart

## Illicit Discharge Reporting

Illicit discharges that are referred to or discovered by SID employees are investigated within 24 hours or within one business day of the initial contact in the case the contact is made after business hours or on the weekend. Any operator of a small MS4 who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or hazardous substance or oil in an amount equal to or in excess of a reportable quantity that occurs during a 24-hour period into or upon surface waters; or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters, shall notify the Department of Environmental Quality of the discharge Immediately upon discovery of the discharge. A written report of the unauthorized discharge shall be submitted to the Department of Environmental Quality within five days of discovery of the discharge.

A key component of the IDDE Program is detecting unlawful dumping, damaged infrastructure, and addressing community stormwater issues. Staff, faculty, and students are key in discovering these areas of concern and bringing them to the attention of Virginia Tech. The following goals are meant to better establish the reporting program that Virginia Tech community members are able to quickly access and utilize. As of now, it is unclear to community members what entity to submit information to regarding stormwater discharges. For this reason, SID would like to establish a dual reporting system with Environmental Health and Safety so both organizations are simultaneously notified. In time, greater organization will allow Virginia to enter larger notification systems like Appalachian Waterwatch so those outside of Virginia Tech are informed about any significant spills or significant sources of nonpoint source pollution into the storm sewer system.

If the discharge is reported to SID via a phone call, the Spills/Illicit Discharge-Initial Contact Form should be completed so SID is prepared to appropriately respond to the incident. Pending the severity of the incident, SID has the responsibility of informing other entities of the spill that has the potential to impact interconnected storm sewer systems. If any hazardous chemicals are present, all procedures are provided by the Environmental Health and Safety (EHS) Department.

Once the discharge is reported, the SID investigator is responsible for compiling a narrative memorandum detailing the location of the illicit discharge, potential activities that contributed to the illicit discharge and general observations as to the severity of the incident. The SID investigator must then fill out an Illicit Discharge Reporting Form (Appendix C). The investigator holds responsibility in collecting sound information about the incident including the time, persons involved, contact information, cleanup techniques utilized, and mitigation techniques to prevent future incidents. The official STRUCTUREID from the ArcGIS 10 layer UTL. StormInlet or UTL. StormEW attribute table shall be utilized in all IDDE reports to specify the discharge point in question.

All discharges (hazardous and non-hazardous) shall be included in each MS4 Annual Report.

### **Written Report**

A written report of all hazardous discharges of a reportable quantity shall be submitted to the DEQ within 5 days of discovery of the discharge. The written report shall include:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing; what is the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate, and prevent a recurrence of the present discharge or any future discharges not authorized by the Clean Water Act.

Include the date, approximate time of notification, and parties involved in the content of the illicit discharge report.

- “Parties Involved” may include: Contractor, Project Manager, EHS representatives, Environmental Engineer, Individual that reported the incident, etc.

Use the official STRUCTUREID from the ArcGIS10 layer UTL.StormInlet or UTL.Storm EW attribute table in IDDE report to specify the outfall in question.

The Virginia Tech memorandum template should be used to relay all official discharge/incident notifications as well as IDDE reports to the SID Department. Include a carbon copy at the close of the memorandum to ensure the information is appropriately communicated to all DIS full-time staff members and any other applicable personnel.

## **Regulations and Requirements**

### **Notification Requirements**

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation or any person responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges of pollutants discharging into stormwater, the storm sewer system, or water of the United States from said facility, said person shall take all necessary

steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of a *hazardous* material, said person shall immediately notify emergency response officials of the occurrence via emergency dispatch (911) and Virginia Tech Environmental Health and Safety (EHS) at (540) 231-3600. In the event of a release of *non-hazardous* materials, said person shall notify SID at (540) 231-3716 in person or by phone or email or fax no later than 5:00 p.m. on the next business day. Notifications in person or by phone shall be confirmed by Illicit Discharge Initial Contact Form. SID will retain all documentation regarding discharge activity and cleanup/mitigation efforts in Sterrett Facilities Complex for a three year period.

### **Responsible Parties**

The University shall administer, implement, and enforce the provisions set forth in this Policy.

### **Inspection and Monitoring**

Whenever necessary to make an inspection to enforce any provision of this Policy, or whenever SID has cause to believe that there exists, or potentially exists, a violation policy, SID employees may enter such premises on Virginia Tech property at all reasonable times to inspect and take any samples and perform any testing deemed necessary to aid in the investigation. In the event the owner or occupant refuses entry after a request to enter and inspect has been made, SID is hereby empowered to seek assistance from the VT Police in obtaining such entry.

### **Public Education/Involvement**

Campus and community members are important in detecting illicit discharges. With an education and involvement aspect to the IDDE Program, SID can expand advocacy groups and increase the likelihood of detecting illicit discharges and illegal dumping activity. SID aims to educate and engage the public. SID education initiatives may include distributing business cards, stickers, or magnets to students that would inform them of the program and the crucial part they might play in protecting the creek. Storm drain marking is another way to engage students and community members about stormwater runoff pollution.

### **Public Notice**

As a public entity, all records of illicit discharges are available to the public upon request.

### **Enforcement**

#### **Notice of Violation**



If SID finds that a person has violated a prohibition or failed to meet the requirement of this Policy, SID will send a written notice of violation to the responsible person. If violation persists, SID will notify DEQ. Such notice may require:

- (a) The performance of monitoring, analysis, and reporting;
- (b) The elimination of illicit connections or discharges;
- (c) That violating discharges, practices, or operations shall cease and desist;
- (d) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and
- (e) Payment of a fine to cover administrative and remediation costs; and
- (f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be managed by SID and the expense thereof shall be charged to the violator.



## ***Appendix A***

### ***High Priority Facility Identification***

## Inspector(s) Name(s): \_\_\_\_\_

Inspector Phone Number: \_\_\_\_\_

Inspector Email: \_\_\_\_\_

Date: \_\_\_\_\_

Site Name: \_\_\_\_\_

Location: \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

Contact Person Phone Number: \_\_\_\_\_

Contact Person Email: \_\_\_\_\_

[illegible][illegible]

Facility/Parcel size: \_\_\_\_\_ (acres)

Impervious Acres: \_\_\_\_\_ (acres)

**Part Two: Permit Coverage**

Is this site currently covered under another stormwater permit? ☐ YES ☐ NO

If **yes**, please list the permit type and number: \_\_\_\_\_

Does this site have a nutrient management plan? ☐ YES ☐ NO ☐ N/A

**Part Three: Storage**

Are pesticides and/or fertilizers stored at this location? ☐ YES ☐ NO

If **yes**, please describe:

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Are equipment and/or vehicles staged at this location? ☐ YES ☐ NO

If **yes**, please describe:

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Are storage areas covered by a roof? ☐ YES ☐ NO ☐ N/A

Does all stormwater runoff bypass the storage area? ☐ YES ☐ NO ☐ N/A

If **no**, please explain:

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Is any waste stored at this location? ☐ YES ☐ NO

If **yes**, please describe (Is it stored in containers, covered areas, etc.):

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If **yes**, how is waste transported to this location?

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If **yes**, how is waste disposed of?

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Are dumpsters covered? ☐ YES ☐ NO ☐ N/A

Is there any storing/stockpiling of materials at this location?

Stockpile Material	Likely to be Present at this Site?
Salt	<input type="checkbox"/> YES <input type="checkbox"/> NO
Topsoil	<input type="checkbox"/> YES <input type="checkbox"/> NO
Gravel	<input type="checkbox"/> YES <input type="checkbox"/> NO
Mulch	<input type="checkbox"/> YES <input type="checkbox"/> NO
Sand	<input type="checkbox"/> YES <input type="checkbox"/> NO

Are any other materials stored/stockpiled? ☐ YES ☐ NO ☐ N/A

If **yes**, please explain:

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If there is any stockpiling of materials, how are they transported to and from this location?

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If there is any stockpiling of materials, how are they stored at this location and for what period of time are they stored here?

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**Part Four: General Stormwater Questions**

Does composting take place at this location? ☐ YES ☐ NO

If **yes**, please describe:

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Are all sanitary drains connected to the sanitary sewer system? ☐ YES ☐ NO

If **no**, please describe:

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Are all floor drains connected to the sanitary sewer system? ☐ YES ☐ NO

If **no**, please describe:

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Are written procedures or SPCC Plans in place to prevent and respond to leaks, spills, and other discharges?

Written Procedures	Is there a written procedure for this site?
Waste Disposal	<input type="checkbox"/> YES <input type="checkbox"/> NO
Washwater and Wastewater Disposal	<input type="checkbox"/> YES <input type="checkbox"/> NO
Spill Response (oil, gas, etc.)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Illicit Discharge Response	<input type="checkbox"/> YES <input type="checkbox"/> NO

Are vehicles/equipment washed at this location? ☐ YES ☐ NO

If **yes**, please describe:

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Does vehicle/equipment maintenance take place at this location? ☐ YES ☐ NO

If **yes**, please describe:

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Are vehicles regularly checked for leaks? ☐ YES ☐ NO

Please describe.

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How are vehicle/equipment leaks handled? Please describe.

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\_\_\_\_\_

Is water pumped from utility construction and/or maintenance activities at this location?

☐ YES ☐ NO

If **yes**, please describe:

\_\_\_\_\_

\_\_\_\_\_

Is there potential for discharge of sediment from this site? ☐ YES ☐ NO

If **yes**, please describe:

\_\_\_\_\_

\_\_\_\_\_

Have any spills or leaks been reported in the past 3 years? ☐ YES ☐ NO

If **yes**, please describe:

\_\_\_\_\_

\_\_\_\_\_

Are any of the following stormwater structures or controls at this site? (Check all that apply)

- ☐ Dike/Berm
- ☐ Drop Inlet/Curb Inlet
- ☐ Detention Pond
- ☐ Retention Pond
- ☐ Bioretention Facility
- ☐ Stormwater Conveyance Channel (e.g., ditch, trench, perimeter drain, swale, etc.)
- ☐ Outlet Protection for nearby storm drains and culverts
- ☐ Culvert
- ☐ Other type of ground-disturbing stormwater control: \_\_\_\_\_

**Part Five: Documentation**

If possible, please provide the following documents for review (check all that apply):

- ☐ Drainage Network Map
- ☐ Map that delineates the site boundaries
- ☐ Aerial Photograph (Google Earth or GIS)
- ☐ Photographs from Inspection
- ☐ Building Plans
- ☐ Other: \_\_\_\_\_

**Site Notes:**

## ***Appendix B***

### ***Outfall Reconnaissance Inventory/Sample Collection Field Sheet***

## OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

### Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Industrial  <input type="checkbox"/> Ultra-Urban Residential  <input type="checkbox"/> Suburban Residential  <input type="checkbox"/> Commercial         </div> <div style="width: 50%;"> <input type="checkbox"/> Open Space  <input type="checkbox"/> Institutional            Other: _____            Known Industries: _____         </div> </div>			
Notes (e.g., origin of outfall, if known):			

### Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	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: _____ <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully  With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<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"/> Other: _____	Depth:  Top Width:  Bottom Width:	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

### Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
<input type="checkbox"/> Flow #1	Volume		Liter	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		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip



## Outfall Reconnaissance Inventory Field Sheet

### Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

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"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable 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"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does 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, origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

### Section 5: Physical Indicators for both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

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"/> Oil Sheen <input type="checkbox"/> Suds <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:	

### Section 6: Overall Outfall Characterization

☐ Unlikely   
 ☐ Potential (presence of two or more indicators)   
 ☐ Suspect (one or more indicators with a severity of 3)   
 ☐ Obvious

### Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam		

### Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

***Appendix C***

***Illicit Discharge Reporting Form***

## Illicit Discharge Reporting Form

Date of illicit discharge: \_\_\_\_\_ Outfall # (if applicable): \_\_\_\_\_

Description of discharge: \_\_\_\_\_

\_\_\_\_\_

Photos attached? Yes      No

Date of investigation: \_\_\_\_\_

Was the source found? Yes      No

If "Yes", please describe: \_\_\_\_\_

\_\_\_\_\_

Was illicit discharge resolved? Yes      No

If "Yes", please explain how it was resolved (include any personnel or outside parties contracted or involved): \_\_\_\_\_

\_\_\_\_\_

If "No", please explain why it was not resolved: \_\_\_\_\_

\_\_\_\_\_

Is any follow-up action required? Yes      No

If "Yes", please explain: \_\_\_\_\_

\_\_\_\_\_

Date investigation closed: \_\_\_\_\_

