ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

September 2023

To fulfill the requirements of the
General Permit for Stormwater Discharges from
Small Municipal Separate Storm Sewer Systems
Permit No. AZG2021-002

TABLE OF CONTENTS

TABLE

ATTACHMENTS

ABBREVIATIONS / ACRONYMS

ADEQ	Arizona Department of Environmental Quality
ASU	Arizona State University
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice
CPMG	Capital Programs Management Group
EH&S	Environmental Health and Safety
FDM	Facilities Development and Management
HAZCOM	Hazard Communication Program
IDDE	Illicit Discharge Detection and Elimination
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
SOP	Standard Operation Procedure
SWMP	Stormwater Management Plan

1.0 CERTIFICATION STATEMENT

Permittee Name: Arizona State University

Permit Number: AZG2021-002

Stormwater Management Program Contact:	Certifying Official:
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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Alexander Kohnen, Vice President
Arizona State University
Facilities Development and Management

9/21/23
Date

2.0 INTRODUCTION

This Illicit Discharge Detection and Elimination (IDDE) Plan has been prepared by Arizona State University (ASU) in general conformance with the Arizona Department of Environmental Quality's (ADEQ) Arizona Pollutant Discharge Elimination System (AZPDES) General Permit Number AZG2021-002 (Permit) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4). The Permit was issued by ADEQ effective September 30, 2021. This meets the requirements for a written IDDE Plan in the Permit.

This IDDE describes the policies and procedures ASU implements to reduce, to the maximum extent practicable (MEP), pollutant discharges to and from the small municipal separate storm sewer system by detecting and eliminating illicit discharges. An ***illicit discharge*** is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to an AZPDES/NPDES permit and discharges resulting from firefighting activities. The overall goal of the program is to ensure to the MEP that discharges from ASU's MS4 do not cause or contribute to exceedances of surface water quality standards.

ASU implements interconnected programs evaluating and refining ASU's maintenance and operations activities for their impact on stormwater quality while focusing on the operations and maintenance activities noted in the ASU Stormwater Management Program (SWMP). This IDDE Plan has been developed in conjunction with ASU's SWMP, and is included in the SWMP by reference. The SWMP describes the ASU campuses and their operations, identifies targeted potential sources of stormwater pollution from the campuses, and also describes ASU's Best Management Practices (BMPs). Please visit ASU's Stormwater Program website for more details https://cfo.asu.edu/stormwater-program.

2.1. IDDE Program Responsibilities

ASU does not have a single pollution prevention plan because our commitment to the prevention of pollution is a strong component of all ASU activities and employee training; therefore, pollution prevention is evident throughout ASU's campus operations and maintenance departments. ASU's Environmental Health & Safety (EH&S) Department also has a comprehensive Emergency Response Guide with detailed response guidelines for chemical, hazardous waste or oil spills and contact information of response and clean-up. All ASU pollution prevention measures are evaluated on a periodic basis to allow for continuous improvement.

Facilities Development and Management-Construction Support Services has overall responsibility for Permit compliance and implementation of the IDDE program. EH&S has historically been involved in addressing loss prevention, laboratory safety, environmental issues, and EH&S related training that target safe use, handling, and storage of hazardous chemicals or waste that are intended to reduce the likelihood of hazardous agents across campuses. The EH&S Department developed ASU's Hazard Communication Program (HAZCOM) to minimize employee exposure to hazardous chemicals in the workplace. The HAZCOM ensures that

employees are informed of the potential hazards in their workplace and about the appropriate means to protect themselves and prevent pollution. All ASU employees are required to conduct their activities, regardless of individual department, in accordance with the provisions of the HAZCOM. The written HAZCOM is readily available to all employees, employee representatives, and appropriate regulatory agencies via the ASU EH&S website located at https://www.asu.edu/ehs/documents/hazard-communication-program.pdf

Additional ASU departments responsible for pollution prevention and the IDDE program include Facilities Management, Grounds Services, and Parking and Transit Services. The contact names and information for each of these departments are presented in Table 1 of this document.

ASU provides faculty, staff, and students training targeting facility maintenance and construction/renovation activities. These training sessions are intended to reduce the likelihood of illicit discharge occurring on ASU campuses. Examples of illicit discharge are:

- Material (e.g. used motor oil, antifreeze, trash, construction debris) that have been dumped into a storm drain catch basin
- Soft water system discharges released into a storm drain catch basin
- Sediment and pollutants from construction sites

3.0 ILLICIT DISCHARGE PROHIBITION

ASU is different from traditional MS4s in that it is typically the owner of all construction projects taking place within their MS4. These building and infrastructure projects on ASU campuses are overseen by CPMG and FDM-Construction Support Services. Building plans are reviewed and approved based on adherence to ASU Building Permit and Inspection Requirements, accepted codes and standards, and ASU's Project Guidelines. These guidelines require on-site retention of stormwater according to the requirements of the municipality in which the campus is located and prohibit illicit connections of non-stormwater discharges to the stormwater drainage system. ASU considers the following non-stormwater discharges allowable. This list includes occasional, incidental non-storm water discharges that the University does not expect to be a significant contributor of pollutants to the storm water/sewer system.

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Discharges from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges or flows from firefighting activities

If ASU should identify any of these discharges as significant contributors of pollutants to stormwater, the category will be addressed as an illicit discharge.

4.0 ENFORCEMENT

Enforcement is covered in the Stormwater Enforcement Response Plan and in the SWMP under Minimum Control Measures (MCMs) 3-IDDE Program and MCM 4-Construction Activity Stormwater runoff control in the SWMP and repeated here for convenience. As a non-traditional small MS4, ASU has ownership power and authority over all activities, including construction on campus properties. Buildings on campus were built under ASU control or supervision and are owned or operated by ASU or by companies under contract to ASU. Illicit connections are not a significant risk and construction site and property access authority is assumed. The Stormwater Enforcement Response Plan is available online at https://www.asu.edu/fm/stormwater/Stormwater-Enforcement-Response-Plan.pdf

Regulatory authority and enforcement capability are also different from traditional MS4s. There are several different sets of policies and rules with different enforcement mechanisms in operation at ASU:

Policy/Rule	Enforcement Arm	Enforcement Actions
Arizona Revised Statutes	ASU Police	Citations with referrals to Dean of Students/Department Heads for additional disciplinary action
Student Code of Conduct	Dean of Students	Suspension or expulsion
Policies and Procedures Manuals	ASU Administration	Disciplinary action up to and including termination
Erosion, Sediment Control and Grading Policy	FDM-Construction Support Services	Stop work order, revocation of site development permit, and report of violations to ADEQ

4.1. Construction Site Inspection and Enforcement

ASU's Construction Inspection Program is described for construction contractors in Section 7 Construction Inspections of the Building Permit and Inspection Requirements made available on the website: https://cfo.asu.edu/section-7--construction-inspections.

ASU's Erosion, Sediment Control and Grading Policy describes the stormwater inspection and enforcement process. University construction projects with one acre or more of land disturbance are inspected at four milestones:

1. Placement of erosion and sediment control measures
2. Sediment control measures are relocated or revised
3. Final grading complete
4. Final landscaping

According to the policy, any construction work that is not approved must be corrected and re-inspected before construction may continue to the next stage. Enforcement mechanisms include Stop Work Order and revocation of Building Permit. Final payment is withheld until the final inspection is successfully completed. ASU also maintains the right to report serious violations to ADEQ for prosecution and possible fines.

5.0 ILLICIT DISCHARGE PREVENTION AND REPORTING

ASU has policies and processes designed to prevent, identify, report and mitigate discharges to and from the MS4. These include numerous MCMs presented in the SWMP under public education practices under MCM 1-Public Education and Outreach, spill reporting procedures under MCM 2-Public Involvement and Participation, and IDDE training under MCM 3-IDDE Program. The individual MCMs are listed below with details available in the SWMP.

MCM	Title	Responsible Party	Activity
1-1	Stormwater website	Students, faculty, staff, and visitors	General stormwater awareness; identifying and reporting spills and releases
1-2	Sustainability website	Students living on campus	Proper waste disposal; identifying and reporting spills
1-3	Parking Permit Holders website	Campus parking permit holders	Keep parking areas clean and free of debris; vehicles may not change their oil in campus parking areas
2-4	Spill Reporting	Students, faculty and staff	Hotline for reporting spills and releases potentially impacting stormwater
3-3	IDDE Training	FDM-Construction Support Services	Annual IDDE training for personnel with responsibilities in the IDDE Plan

5.1. Spill Response

The responding entity to a spill or discharge depends upon the nature of a spill or illicit discharge. The Tempe Fire Department Hazmat Team is the first responder for large spills of hazardous or potentially hazardous materials on the Tempe campus. The City of Phoenix Fire Department Hazmat Team is the first responder for large spills of hazardous or potentially hazardous materials on the West campus. The City of Mesa Fire Department Hazmat Team is the first responder for large spills of hazardous or potentially hazardous materials on the Polytechnic campus. For smaller spills of hazardous or potentially hazardous materials, ASU's EH&S Department is the responding entity. Non-hazardous spills or discharges are responded to by the ASU Grounds Services Department and/or Parking and Transit Department.

6.0 VISUAL MONITORING

ASU conducts dry and wet weather visual monitoring as required by the permit. The SWMP contains maps showing the field screening points from ASU's Tempe, Polytechnic, and West Campuses. ASU's Tempe campus is self-contained with no currently mapped outfalls or field screening points. If any discharge locations are identified, at least one location on the Tempe campus will be added to the field screening points for visual discharge monitoring. ASU's West Campus has two overflow structures in the two retention basins that discharge to the City of Phoenix MS4 only during extreme storm events. ASU's Polytechnic campus has three stormwater field screening points to the East Maricopa Floodway. The field screening points are listed in the following table.

FSP ID	Campus	Receiving Water	Description
POLYFSP1	Polytechnic	East Maricopa Floodway	Culvert
POLYFSP2	Polytechnic	East Maricopa Floodway	Culvert
POLYFSP3	Polytechnic	East Maricopa Floodway	Ditch discharge to culvert
WESTFSP1	West	City of Phoenix MS4	Overflow structure
WESTFSP2	West	City of Phoenix MS4	Overflow structure

6.1. Dry Weather Visual Monitoring

Dry weather visual monitoring is designed to identify potential non-stormwater discharges to the MS4. Monitoring will follow the Visual Monitoring Standard Operating Procedure (SOP) in Attachment A. If maintenance is needed, a request for maintenance will be sent to Facilities Management Service Center. All five field screening points listed in Section 6.0 shall be monitored annually.

Monitoring shall be conducted by FDM personnel or third parties contracted to FDM no less than at least 72 hours after a storm event resulting in a discharge from the MS4. The completed inspection forms are sent to FDM-Construction Support Services for reporting in the annual Discharge Monitoring Report.

6.2. Visual Stormwater Discharge Monitoring

Visual stormwater discharge monitoring is designed to assess the general quality of stormwater in the MS4. Monitoring will follow the Visual Monitoring SOP in Attachment A. If maintenance is needed, a request for maintenance will be sent to Facilities Management Service Center. The five field screening points listed in Section 5.0 shall be monitored once each wet season:

Summer Wet Season: June 1 through October 31
Winter Wet Season: November 1 through May 31

Note that the discharge points from the west campus rarely flow. Monitoring shall be conducted by FDM personnel or third parties contracted to FDM-Construction Support Services. The completed inspection forms are sent to FDM-Construction Support Services for reporting in the annual Discharge Monitoring Report.

6.3. Documentation and Recordkeeping

Similar to all records required by the Permit, ASU will keep monitoring records for a minimum of three years.

7.0 IDDE STAFF TRAINING

ASU provides annual training to employees involved in the IDDE program (e.g., Parking and Transit workers, Facilities Development and Management staff, Grounds personnel, and/or similar staff). The training includes the IDDE program components (including monitoring procedures) and how to recognize and investigate illicit discharges.

TABLE 1

IDDE Program Responsibilities

TABLE 1

IDDE PROGRAM RESPONSIBILITIES

STORMWATER MANAGEMENT PROGRAM CONTACTS

Name	Title/Role	Department	Telephone	Email
Kenneth Lufkin	**Assistant Director** Supervises Stormwater Management Program.	Facilities Development and Management-Construction Support Services	(480) 727-4501	Kenneth.Lufkin@asu.edu
Lynn Favour	**Program Manager** Oversees Stormwater Management Program, stormwater construction documentation, drywell installation permitting, drywell registrations and annual inspections.	Facilities Development and Management-Construction Support Services	(480) 727-0918	Lynn.Favour@asu.edu
Ivan Lybarger	**Director** Receives illicit discharge reports and refers to proper authority.	Facilities Management Polytechnic Campus	(480) 727-1115	Ivan.Lybarger@asu.edu
John Herrera	**Director** Receives illicit discharge reports and refers to proper authority.	Facilities Management West Campus	(602) 543-3208	John.Herrera@asu.edu
Suzanne Kennedy	**Interim Assistant Vice President** Oversees EH&S illicit discharge reporting and investigations.	Environmental Health and Safety	(602) 460-8173	Suzanne.Kennedy@asu.edu

Michael Ochs	**Associate Director** Receives illicit discharge reports and investigates, manages emergency cleanup and documents investigations.	Environmental Health and Safety	(480) 965-3580	Michael.Ochs@asu.edu
E.L. Cortez	**Director** Receives illicit discharge reports and refers to proper authority.	Facilities Management Residential Facilities	(480) 965-2720	E.L.Cortez@asu.edu
Frank G. Castro III	**Associate Director, Parking/Facility Maintenance** Oversees consultant responsible for visually inspecting and cleaning parking lots.	Parking & Transit Services	(480) 965-9297	Frank.G.Castro.III@asu.edu
Alana Levine	**Director** Oversees Grounds Services responsibilities for waste and litter clean up, evaluation of street conditions and street sweeping and annual drywell repairs and maintenance. Also oversees the Grounds Volunteer Program Coordinator.	Facilities Management Grounds Services	(480) 254-1922	Alana.Levine@asu.edu
Brian Kerkman	**Director, Asset Management** Oversees Stormwater Management Program including GIS to identify and map stormwater drainage systems.	Facilities Development and Management-Asset Management	(480) 965-1470	Brian.Kerkman@asu.edu

ATTACHMENT A

Visual Monitoring Standard Operating Procedure

ARIZONA STATE UNIVERSITY

ATTACHMENT A
VISUAL MONITORING STANDARD OPERATING PROCEDURE

General Directions:
At the completion of each outfall inspection, monitoring personnel are responsible for ensuring that the Visual Monitoring Form has been fully and correctly completed and that all data and remarks are legible. The completed form should be scanned to PDF or the data transferred to a Word version of the form and sent to FDM-Construction Support Services for annual reporting.

Section 1: Background Data

Field Screening Point ID: Enter the field screening point identification number from the stormwater field screening point inventory.

Date: Enter date including day month and year.

Time: Use a.m. or p.m. designation (for example - 8:30 a.m., or 1:30 p.m.).

Monitoring Personnel: Enter the name of the person or persons conducting the monitoring.

Type of investigation: Check the appropriate box for the type of assessment being conducted: dry weather monitoring, wet weather monitoring, investigation of a reported illicit discharge, or 3-day follow-up monitoring.

Photos? (Yes/No): Document observations with photographs whenever possible. ~~A~~automatically dated and time-stamped photographs are preferred. Photographs should be attached to the final copy of the form.

Precipitation within last 72 hours: Note whether there has been measureable rainfall in the investigation area within the last 72 hours.

Weather: A concise description of the weather conditions at the time of the assessment including approximate temperature.

Section 2: Physical Indicators

This section provides a description of the condition of the field screening point. These physical indicators may provide evidence that illicit discharges have occurred when there is no flow at the time of the investigation. **This section is to be completed whether or not there is flow.**

Complete the table, adding comments when there are positive findings under the descriptions of physical indicators.

Field Screening Point Damage: Describe any field screening point damage observed or mark "None."

Deposits/Stains: Describe any deposits or stains observed or mark "None."

Abnormal Vegetation: Describe any abnormal vegetation observed or mark "None."

Flow Present (Yes/No): A *Yes* or *No* is entered here to indicate the presence or absence of dry-weather flow or illicit discharge. If the field screening point is submerged or inaccessible, "See Notes" is

entered and an explanation provided in the "Notes" section.

Flow Chart Procedure:

- If *No* is entered for flow and physical indicators, close the investigation and complete Section 4 of the form.
- If *No* is entered for flow but physical indicators are present, schedule a 3-Day Follow-Up inspection and complete Section 4.
- If *Yes* is entered for flow, go to Section 3.

Do physical indicators suggest an illicit discharge has occurred? (Yes/No): Answer yes if there is physical evidence of past or current illicit discharges.

Section 3: Discharge Description (Flowing Field Screening Points Only)

Complete table describing field screening points characteristics (odor, color, turbidity, floatables). This section is filled out for flowing field screening points only.

Odor: The presence of an odor is assessed by fanning the hand toward the nose over a wide-mouth container of the sample, keeping the sample about 6 to 8 inches from the face. Be careful not to be distracted by odors in the air. Provide a description of the odor, if present.

Color: The presence of color in the discharge is to be assessed by filling a clean glass sample container with a portion of the grab sample and assessing the color, if color is present. If a color chart is used, the number corresponding to the color matching the sample is to be entered in this blank.

Turbidity: Turbidity is a measure of the clarity or cloudiness of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter.

Floatables: The presence of floating scum, foam, oil sheen, plant debris or other materials on the surface of the discharge are to be noted. Describe of any floatables present that are attributable to discharges from the field screening point.

After documenting the physical properties of the discharge, the field crew should attempt to trace the flow to its source. If the flow originates underground and access to manholes in roadways is required for tracking, the process may need to be delayed until proper safety procedures (traffic control, confined space entry, etc.) can be arranged.

Section 4: Enforcement and Resolution

Check the appropriate box for the resolution of the investigation: Source Identified, 3-Day Follow-up Inspection, or Investigation Closed.

Enforcement Action: Identify enforcement action taken. Describe the action

Source/Resolution: Describe the source if found and final resolution. For example: "Source was broken irrigation system. System repaired by Grounds Maintenance."

ARIZONA STATE UNIVERSITY
VISUAL MONITORING FORM

Section 1: Background Data

Field Screening Point ID:	Date:	Time:
Monitoring personnel:		
☐ Dry Weather ☐ Wet Weather ☐ IDDE Investigation ☐ 3-Day Follow-up Inspection		
Photos? ☐ Yes ☐ No If yes, append photos to this report.		
Precipitation w/in last 72 hours? ☐ Yes ☐ No	Weather (approx. temp, etc.):	

Section 2: Physical Indicators

INDICATOR	DESCRIPTION	COMMENTS
Field Screening Point Damage	☐ None ☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion ☐Other:_____	
Deposits / Stains	☐ None ☐ Oily ☐ Paint ☐ Other:_____	
Abnormal Vegetation	☐ None ☐ Excessive ☐ Inhibited	
Flow Present?	☐ Yes If yes, describe: ☐ Trickle ☐ Moderate ☐ Substantial And go to Section 3. ☐ No If no flow and no physical indicators, skip to Section 4 and close investigation. If no flow but physical indicators are present, complete Section 4 and schedule 3-Day Follow-Up.	
Pipe Algae Growth	☐ None ☐ Brown/Orange ☐ Green ☐ Other:_____	
Do physical indicators suggest an illicit discharge has occurred? ☐ No ☐ Yes		

Section 3: Discharge Description (flowing field screening points only)

INDICATOR	CHECK IF ABSENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐ (No odor)	☐Sewage ☐Rancid/Sour ☐Sulfide ☐Laundry ☐Petro/gas ☐Other: ____	☐ 1-Faint	☐ 2-Easily detected	☐ 3-noticeable from a distance
Color	☐ (Colorless)	☐Gray ☐Brown ☐ Yellow ☐ Green ☐Red/Orange ☐ Multicolor ☐Other: _____	☐ 1-Faint color visible in sample bottle	☐ 2-Color clearly visible in sample bottle	☐ 3-Clearly visible in outfall flow
Turbidity	☐ (Clear)	See severity	☐ 1-Slightly cloudy	☐ 2-Cloudy	☐ 3-Opaque
Floatables – does not include trash!	☐ (Clean)	☐Sewage ☐ Suds/Foam ☐ Oil sheen ☐Plant Debris ☐ Other: _____	☐ 1-Few/slight; origin not obvious	☐ 2-Some indications of origin	☐ 3-Some; origin obvious
Do physical indicators suggest an illicit discharge is present? (Y/N)					
Able to trace flow to source? ☐ Yes ☐ No					

Section 4: Enforcement and Resolution

☐ Source identified (describe below) ☐ 3-Day Follow-up Inspection required (describe reason why below) ☐ No flow / no sign of illicit discharge – no investigation.
Enforcement action taken? ☐ Yes ☐ No If yes, describe:
Source/Resolution: