Department Note: As MS4 Permittees demonstrate compliance differently and MS4 Permittees may have different MS4 permit conditions, the following written program procedure is intended to provide ideas on various formats. Therefore, please note the provided example may not be appropriate, as is, for your community. Additionally, the following is a written program procedure that has been submitted to the Department by a MS4 Permittee. However, the MS4 Permittee name have been removed to keep them anonymous.

Section 2.3 Illicit Discharge Detection & Elimination (IDDE) Program

Program Requirements

The City of Waterdale (City) shall continue to implement and enforce its program to detect and remove illicit connections and discharges to the MS4.

IDDE Ordinance

The City shall implement an ordinance or other regulatory mechanism to prevent and eliminate illicit discharges and connections to the MS4. At a minimum, the ordinance or other regulatory mechanism shall:

- Prohibit illicit discharges and the discharge, spilling or dumping of non-storm water substances or materials into waters of the state or the MS4.
- Identify non-storm water discharges or flows that are not considered illicit discharges. Categories of non-storm water discharges that are not considered illicit discharges include 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, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, fire-fighting and discharges authorized under a WPDES permit. However, the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the City or the Wisconsin Department of Natural Resources (DNR) identifies it as a significant source of a pollutant to waters of the state.
- Establish inspection and enforcement authority.

IDDE Field Screening

The City shall conduct on-going dry weather field screening at 100% of the total major outfalls at least once during the term of the permit.

Additionally, the City shall select minor outfalls for annual on-going dry weather field screening during the term of the permit. The City shall develop a prioritization procedure to assist with selecting minor outfalls and consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or buildings in the area, history of the area and land use types when selecting outfalls for annual field screening.

Field screening shall be documented and include:

- Visual Observation – A narrative description of visual observation including color, odor,

turbidity, oil sheen or surface scum, flow rate and any other relevant observations regarding the potential presence of non-storm water discharges or illicit dumping.

- Field Analysis – If flow is observed, a field analysis shall be conducted to determine the presence of illicit non-storm water discharges or illicit dumping. The field analysis shall include sampling for pH, total chlorine, total copper, total phenol and detergents, unless the City elects instead to use detergent, ammonia, potassium and fluoride as the indicator parameters. Other alternative indicator parameters may be authorized by the DNR in writing.
    - Field screening points shall, where possible, be located downstream of any source of suspected illicit activity.

- Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

Note: The DNR's MS4 Illicit Discharge Detection & Elimination guidance document includes several recommendations regarding selection of outfalls for field screening, screening frequency, indicator parameter selection, indicator parameter action levels and documentation. The IDDE guidance is available on the DNR's Internet site at: (LINK)

IDDE Source Investigation & Elimination

The City shall develop and implement written procedures for responding to known or suspected illicit discharges, including an assessment of risks and the establishment of response times. At a minimum, procedures shall be established for:

- Investigating portions of the MS4 that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non-storm water discharges.
- Responding to spills that discharge into and/or from the MS4 including tracking and locating the source of the spill if unknown.
    - The name, title and phone number of the individuals responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure.
- Preventing and containing spills that may discharge into or are already within the MS4.
- Promoting, publicizing, and facilitating public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including a form, website, email address, and/or telephone number for complaints and spill reporting, and publicize to both internal City staff and the public.
- Notifying the DNR immediately in accordance with ch. NR 706, Wis. Adm. Code, in the event that the City identifies a spill or release of a hazardous substance, which has resulted or may result in the discharge of pollutants into water of the state. The DNR shall be notified via the 24-hour toll free spilling hotline at 1-800-943-0003. The City shall cooperate with the DNR in efforts to investigate and prevent such discharges from polluting waters of the state.
- Detecting and eliminating cross-connections and leakage from sanitary conveyance systems into the MS4.
- Providing the DNR with advanced notice of the time and location of dye testing within an MS4. DNR notification prior to dye testing is required due to the likelihood that dye observed in waterways will be reported to the DNR as an illicit discharge or spill.
- Documentation of the following information:
    - Dates and locations of IDDE screenings conducted in accordance with IDDE Program requirements.
    - Reports of alleged illicit discharges received, including dates of the reports, and any follow-up actions taken by the City.
    - Dates of discovery of all illicit discharges.
    - Identification of outfalls, or other areas, where illicit discharge have been discovered.
    - Sources (including a description and the responsible party) of illicit discharges (if known).
    - Actions taken by the City, including dates, to address discovered illicit discharges.

The City shall take appropriate action to remove known or discovered illicit discharges from its MS4 system as soon as possible. If it will take more than 30 days to remove an illicit connection or if the potential illicit discharge is from a facility with WPDES permit coverage, the DNR shall be contacted to discuss an appropriate action and/or timeframe for removal. Notwithstanding this 30-day timeframe and notification of the DNR, the City shall be responsible for any known illicit connections to its MS4 system that are a significant risk to human health and the environment.

In the case of interconnected MS4s, the City shall notify the appropriate municipality within one working day of either of the following:

- An illicit discharge that originates from the City's permitted area that discharges directly to a municipal separate storm sewer or property under the jurisdiction ofanother municipality.
- An illicit discharge that has been tracked upstream to the interconnection point with or outfall from another municipality.

The City's Program

The City has created this IDDE Program in accordance with the outlined Program Requirements.

IDDE Ordinance

The City's Municipal Code Chapter 13 – Municipal Utilities has contained regulations to prevent and eliminate illicit discharges and connections to the MS4 since 2009 (see 2008-2009 Common Council Ordinance No. 2641 attached in Appendix 2.3.1). A copy of Chapter 13 (last updated 04/14/2020) is also contained in Appendix 2.3.2 for reference. Sections of the chapter containing ordinance regulations per the IDDE Program Requirements are listed below.

- **§13.15 - Use of the Public Sewers**
  Prohibits and defines illicit discharge. Definition includes types of discharges that are not considered illicit discharges.

- **§13.20 - Right of Entry, Safety and Identification**
  Allows City staff or representatives to inspect on private property if an illicit discharge is suspected.

- **§13.30 - Penalties**
  Provides enforcement authority & penalties for violations.

IDDE Field Screening

- **Major Outfalls**

  A major outfall is a MS4 outfall that meets one of the following criteria:

  - A single pipe with an inside diameter of 36 inches or more, or from an equivalent conveyance (cross sectional area of 1,018 square inches) which is associated witha drainage area of more than 50 acres.
  - A MS4 that receives storm water runoff from lands zoned for industrial activity that is

associated with a drainage area of more than 2 acres or from other lands with 2 ormore

acres of industrial activity, but not land zoned for industrial activity that does not have any industrial activity present.

The City will perform dry weather field screening for 100% of the total major outfalls at least once during the permit term. The inventory listing of Major Outfall locations is provided in Appendix 2.3.3. Locations of major outfalls are also shown on the City's MS4 map.

- **Minor Outfalls**

A minor outfall was selected for annual screening if it met any of the following criteria:

- History of known or suspected illicit discharges reported within the last 5 years.
- Sections of storm sewer and/or sanitary sewer infrastructure have exceeded or are approaching their design/useful life (using depreciable life of 60 years consistent with the City's annual GASB34 Infrastructure Asset reporting).
- Contributing drainage areas with 80 or more percent imperviousness (such as commercial strip malls, shopping centers, and commercial downtowns).
- Business or industrial parks with frequent changes in property ownership and operations.
- Schools or other institutional facilities.
- Commercial or industrial operations that generate wastewater or wash water including food processing, metal plating or machining shops, auto and scrap recyclers, commercial car washes and chemical manufacturers or users.

The City will also perform annual dry weather field screening at select minor outfalls that are considered to have higher potential for illicit discharge. The inventory listing of selected Minor Outfall locations is provided in Appendix 2.3.4, which also indicates the reason the outfall was selected for screening. Locations of selected minor outfalls are also shown on the City's MS4 map.

- **Outfalls with Insufficient Information**

There are 80 locations shown in City's GIS database of pipe end sections (both intake pipes and outfall pipes) without sufficient information to determine if it is an outfall that should be considered a major outfall or a priority minor outfall. During the calendar year 2021, the City will field survey these locations, and classify the outfall. These outfalls will then be added to the appropriate inventory listing and included in the 2022 field screening program.

- **Field Screening Documentation**

The Outfall Reconnaissance Inventory/Sample Collection Field Sheet to be completed during field screening is provided in Appendix 2.3.5.

A spreadsheet summarizing the field screening results from each year is also included in Appendix 2.3.6.

Illicit Discharge Response Procedure
The City has developed an Illicit Discharge Response Procedure manual, which is included in Appendix 2.3.7, to comply with MS4 program requirements.

Program Milestones

- **Year 1 (May 1, 2019 – April 30, 2020):**
  Develop written IDDE program. Review, update, and maintain City's list of major outfalls. Develop priority list of select minor outfalls for annual screening.

- **Year 2 (May 1, 2020 – April 30, 2021):**
  Develop written IDDE program. Review, update, and maintain City's list of major outfalls. Develop priority list of select minor outfalls for annual screening.

- **Year 3 (May 1, 2021 – April 30, 2022):**
  Maintain and update City's listing of major outfalls and select minor outfalls. Field survey and categorize 80 outfall locations with insufficient information in GIS. Perform annual screening of select minor outfalls.

  Follow Illicit Discharge Response Procedure for any reported illicit discharge.

- **Year 4 (May 1, 2022 – April 30, 2023):**
  Maintain and update City's listing of major outfalls and select minor outfalls. Perform screening of all major outfalls. Perform annual screening of select minor outfalls.

  Follow Illicit Discharge Response Procedure for any reported illicit discharge.

- **Year 5 (May 1, 2023 – April 30, 2024):**
  Maintain and update City's listing of major outfalls and select minor outfalls. Perform annual screening of select minor outfalls.

  Follow Illicit Discharge Response Procedure for any reported illicit discharge.

APPENDIX 2.3.1

ORDINANCE

APPENDIX 2.3.3

Major Outfall Location Listing

APPENDIX 2.3.4

Priority Minor Outfall Location Listing

APPENDIX 2.3.5

Outfall Reconnaissance Inventory/Sample Collection Field Sheet

Section 1: Background Data

Outfall ID:	
Today's Date:	Time:
Investigators:	Form Completed By:
Air Temperature (°F):	Last Rain: 48 hrs+

Land Use in Drainage Area (Check all that apply)

☐ Industrial ☐ Ultra-Urban Residential ☐ Open Space

☐ Commercial ☐ Suburban Residential ☐ Institutional

Other:_____

Notes (e.g., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN)	SUBMERGED
☐ **Closed Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other:_____	☐ Circular ☐ Elliptical ☐ Box ☐ Other:_____	☐ Single ☐ Double ☐ Triple ☐ Other_____	Diameter/Dimensions:_____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open Drainage**	☐ Concrete ☐ Earthen ☐ Rip-rap ☐ Other:_____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth:_____ Top Width:_____ Bottom Width:_____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No *(If No, Skip to Section 5)*				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization:

FIELD DATA FOR FLOWING OUTFALLS			
PARAMETER	**RESULT**	**UNIT**	**EQUIPMENT**
Temperature (sample)		°F	Thermometer
pH		pH Units	Test strip/Probe
Total Chorine		mg/L	Color Comparator
Total Copper		mg/L	Color Comparator
Total Phenol		mg/L	Color Comparator
Detergents		mg/L	Color Comparator

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	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See Severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables (Does not include trash!)	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 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 any physical indicators present in the flow: ☐ Yes ☐ No (*If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators) ☐ Obvious

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? _____

ILLICIT DISCHARGE DETECTION AND ELIMINATION

EXPECTED PARAMETER RANGES

PARAMETER	EXPECTED RANGE
Water Temperature	As tested
pH	6.0 < Sample < 9.0
Color	Clear
Turbidity	None
Surface Sheen	None
Odor	None
Detergents	Sample < 0.25 mg/L
Total Residual Chlorine	Sample < 0.2 mg/L
Phenols	Sample < 0.5 mg/L
Total Copper	Sample < 0.1 mg/L

APPENDIX 2.3.6

Annual Outfall Screening Result

APPENDIX 2.3.7

City of Waterdale Illicit Discharge Response Procedure

The purpose of this Illicit Discharge Response Procedure manual is to provide a general framework for City staff to respond to illicit discharge complaints or notifications, and to comply with requirements of the Wisconsin Department of Natural Resources WPDES Permit No. WI-S050075-3.

Note that each illicit discharge situation is unique and field conditions may require alternate or additional procedures.

SAFETY FIRST!!!
Follow all appropriate safety procedures when dealing with any spill or illicit discharge.

Illicit Discharge Coordinator Information

For the City of Waterdale, the designated Illicit Discharge Coordinator is:

- *City Engineer* *Ph:*

If [redacted] is not available, contact the following people in the following order to act as Illicit Discharge Coordinator:

- *Assistant City Engineer* *Ph:*
- *Public Works Director* *Ph:*

Step 1 - Intake

The person receiving the initial complaint or discovery information should obtain as much information as possible regarding the reported illicit discharge using the attached Illicit Discharge Initial Report form.

There are three main methods of anticipated discovery of an illicit discharge:

- **3rd Party Reporting**: Incidents reported to the City by members of the public or other agencies.
- **Employee Discovery:** Incidents where a municipal employee comes across an illicit discharge during regular work activities.
- **Outfall Field Screening:** Illicit discharges discovered during planned outfall field screening.

Step 2 - Reporting

Based on the information reported, determine if there is an immediate emergency situation (e.g. risk of fire or explosion, safety hazard to life, health or the environment, a need to evacuate, etc.).

- **If there is an emergency situation, contact 911 immediately.**
- If there is not an emergency situation, provide all information to the Illicit Discharge Coordinator.

Note: If it is not obvious to the person receiving the initial report, immediately notify the Illicit Discharge Coordinator, who will determine if the situation is an emergency.

Step 3 - Coordination

The Illicit Discharge Coordinator will take steps to coordinate & notify appropriate personnel and other agencies. Coordination steps may include:

- Determine persons and agencies that need to be notified and involved in the situation.
- Notify necessary personnel to assign needed tasks.
- Determine if the illicit discharge should be reported to the Wisconsin Department of Natural Resources. For emergency reporting, call WDNR Hazardous Substance Spill Hotline at 1-800-943-0003. For non-emergency reporting, use DNR Form 4400-225.
- In the case of an illicit discharge originating within the City's MS4 permitted area that discharges directly to a municipal separate storm sewer or property under the jurisdiction of another municipality, the Illicit Discharge Coordinator will notify said municipality of the reported illicit discharge within one working day.
- In the case of an illicit discharge that has been tracked upstream to the interconnection point with or outfall from another municipality, the Illicit Discharge Coordinator will notify said municipality of the reported illicit discharge within one working day.

Step 4 – Containment

The Illicit Discharge Coordinator will initiate steps to contain the illicit discharge safely and legally through all necessary means. Containment measures taken by the City may include:

- If the responsible party has been easily identified at this point, they are to take control of the situation as soon as practical and shall continue with required containment, cleanup and disposal of the substance.
- Stopping the flow of a discharge
    - Contact City of Waterdale Bend Fire Department via 911 (if emergency) or (Number) for spill containment procedures
    - Diverting flow to containment site or sanitary sewer, including pumping or vacuuming if necessary
    - Sand bag area to prevent flow onto pavement or ditches
    - Sand bag inlets to prevent inflow
- Remove solids
    - Loader and dump truck, street sweeper, hand shovels, broom
- Preventing runoff during rain event
    - Covering with plastic or tarps, diverting water flow around area
- Preventing traffic within affected area
    - Barricade off area

Recovered material will be properly disposed and/or moved to approved location or site.

Step 5 – Locate Source & Responsible Party

The Illicit Discharge Coordinator will initiate steps to identify the source of the illicit discharge & the Responsible Party. Methods the City may use to find the source of a discharge include:

- Tracing the discharge upstream beginning at the outfall through the MS4 using GIS storm sewer mapping
- Uncovering manholes upstream to identify where discharge may be incoming
- Field test kits
- Visual/smell indicators
- Televising of storm and/or sanitary sewers
- Dye-testing sanitary and/or storm sewers
- Smoke testing sanitary sewers
- If access to private property is required to continue the investigation, the Illicit Discharge Coordinator will contact the property owner to gain said access for required inspections or testing. If access is denied, the Illicit Discharge coordinator will work with appropriate City staff to obtain access.

Step 6 – Clean-Up

If the responsible party is identified, they will be notified and directed to correct the problem. The responsible party is required to provide adequate cleanup for a spill or illicit discharge. Enforcement procedures contained within Section 13.30 of the Municipal Code will be followed if responsible party does not comply with required cleanup measures.

If the responsible party cannot be identified, the City will work with WDNR to ensure that necessary steps are taken to clean up the spill or illicit discharge. The Illicit Discharge Coordinator should discuss any funding opportunities available through WDNR for cleanup efforts. If the responsible party is subsequently identified, the City may take steps to recoup all funds expended by the City as part of the illicit discharge response.

Step 7 – Documentation

The following documentation will be kept to the maximum extent possible throughout the entire illicit discharge event:

- Photos
- Written on-going documentation of incident and events following to remediate the illicit discharge
    - Statements from eyewitnesses or responsible party
    - Notes on observations, conversations, decisions, actions, personnel involved in incident
    - Copies of any shipping papers or material safety data sheets
    - Process used to determine responsible party
    - Process used to identify, contain, and clean-up illicit discharge
- Any Maps or Sketches showing extent of environmental impacts, discharge point, sampling locations, permanent reference points, etc.
- Samples
    - If conditions are accessible and safe, and the illicit substance is a known material able to be sampled, authorized and trained personnel may collect samples from the suspected source of

the discharge, down-gradient of the suspected source, and/or up-gradient of the suspected source.
- Those collecting samples should have knowledge of appropriate Personal Protection Equipment and sampling procedures for the situation.
- Documentation to be kept with sample includes the date and time sample collected; exact location and description of sampling site; name of person collecting sample; and name of responsible party.

Step 8 – Follow-Up & Reporting

The Illicit Discharge Coordinator will require the Responsible Party to provide documentation of clean-up efforts and documentation that the illicit discharge has been cleaned-up as the Coordinator deems adequate.

All documentation associated with an illicit discharge event will be kept by the Illicit Discharge Coordinator to be included with the City's annual MS4 report.

If WDNR was involved in the cleanup or reporting, the City may contact WDNR to discuss the status.

ILLICIT DISCHARGE INITIAL REPORT

Report Taken By:	Date & Time Report Received:

Caller/Reporter Information:

Name:	
Address:	
Ph Number:	

Incident Address and/or Location Information:

Incident Description:

Person Hurt or In Danger?	Yes	No	Risk of Fire or Explosion?	Yes	No
Other Emergency Present? (If yes, describe):	Yes	No			
Description of Illicit Material:					
Extent/Size of Discharge:					
Source of Discharge: (If known or obvious)					
Is Illicit Material Contained or Is It Moving?					
Liquid Flowing to Storm Sewer?					
Is Illicit Material being Tracked by Traffic?					
Is Illicit Material Moving by Other Means?					
Other Notable Information:					

Reported To:	Signature:
☐ Emergency - Contacted 911 ☐ Notified Illicit Discharge Coordinator	