Illicit Discharge Detection and Elimination Standard Operating Procedure

Prepared for
Oak Lodge Water Services, Oregon
June 2017

Revised November 2023

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Table of Contents

List of Figures

List of Tables

Section 1

Introduction and Background

Oak Lodge Water Services' (OLWS') National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer (MS4) permit #101348 (effective date: May 5, 2023) includes specific requirements and provisions related to implementation of their Illicit Discharge Detection, Enforcement, and Response (IDDE) program. Illicit discharges are, per Schedule A.3.c of the NPDES MS4 permit: "*any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater. Conditional exceptions are identified in Schedule A.1.d." (of the permit)*.

OLWS has been implementing their IDDE program since receipt of its initial Phase I MS4 NPDES permit in 1995. Program activities have historically included code and ordinance development and implementation (to prohibit and enforce against illicit discharges) and dry weather field screening activities to identify occurrences and sources of potential illicit discharges.

This Standard Operating Procedures (SOP) document is intended to summarize implementation of the IDDE program, focusing on the dry weather field screening monitoring activities required to be conducted as part of the program. This SOP includes the rationale and strategy for selection of high priority dry weather screening locations, dry weather field screening inspection activities, pollutant parameter action levels, and code and enforcement authority. Additionally, this SOP includes a copy of 1) OLWS' Spill and Illicit Discharge Response Form, used to initial document reports of illicit discharges and spills (Appendix A); 2) the OLWS Illicit Discharge Field Screening Inspection Form (Appendix B), to aid in the documentation and collection of information and follow up investigation activities; and 3) the OLWS Enforcement Response Plan to document enforcement response activities and timeframes (Appendix C).

1.1 Permit Language and Requirements

As described in Schedule A.3.c.ii-v of the OLWS' MS4 NPDES permit, the IDDE program must:

1. *Continue to prohibit non-stormwater discharges into the MS4 (except those conditionally allowed by Schedule A.1.d) through enforcement of an ordinance or other regulatory mechanism, to the extent allowable under state law.*
2. *Continue to implement their enforcement and response procedures as developed under the previous permit.*
3. *Implement a program to detect and eliminate illicit discharges….*
4. *Continue to implement a Dry Weather Screening Program at priority MS4 locations.*

OLWS has been conducting such activities as outlined in this SOP since the previous NPDES MS4 permit term and in accordance with procedures outlined in the 2022 Comprehensive Clackamas County Stormwater Monitoring Plan (CCCSMP). This SOP provides the documentation for the above-listed permit provisions.

1.2 Dry Weather Field Screening Monitoring Objectives

Dry weather field screening activities (and dry weather outfall monitoring) comprise a major element of OLWS' IDDE program. Dry weather field screening involves the inspection of select outfalls during dry weather conditions to determine if discharge is occurring. If discharge is occurring, the next steps are to identify the source of the discharge, determine whether the discharge is allowable, and eliminate the discharge if it is unallowable or anticipated to add pollutants to the MS4. Source identification and discharge characterization generally involves:

1. Visual observations and characterization.
2. Field screening and analysis (on-site analysis for select field parameters).
3. Field tracking, or upstream system investigation to try and identify the pollutant source, including the use of pollutant parameter action levels as part of the field screening process.
4. Laboratory analysis (sample collection for off-site analysis).

Implementation of dry weather field screening also addresses objectives of OLWS' monitoring program. Specifically, in addition to the dry weather field screening requirements listed in Schedule A.4.iv, the following monitoring objectives per Schedule B.1.a of the permit may be addressed:

i) Evaluate the source(s) of and means for reducing the pollutants of concern applicable to the co-permittees' permit area, including the 2018/2020 303(d) listed pollutants, as applicable;

ii) Evaluate the effectiveness of Best Management Practices (BMPs) in order to help determine BMP implementation priorities;

Implementation of an effective dry weather field screening program may allow OLWS to identify periodic or ongoing sources of observable pollutant discharge. Additionally, it may inform how well OLWS' overall stormwater program implementation is being conducted, specifically elements such as public education and program enforcement.

1.3 Code and Enforcement Authority

OLWS' 2022 Code contains multiple references related to the prohibition and enforcement against illicit discharges to the municipal storm sewer system. References are in code sections related to legal authority/ force of law (Subsection 10.1), discharge regulations (Subsection 10.15 to 10.17.2), and procedures for enforcement (Subsections 11.1 to 11.26).

Detail related to code and enforcement authority is described in the OLWS Enforcement Response Plan (Appendix C).

Section 2

Priority Dry Weather Field Screening Locations

For OLWS, field screening locations were previously established in 2012. OLWS historically monitored four locations at catchbasins or manholes within the OLWS conveyance system (not directly associated with outfall locations).

Because the runoff discharging to the historic monitoring locations was a combination of OLWS and ODOT drainage, OLWS opted to revisit their monitoring locations in 2017 to identify outfalls/monitoring locations where upstream discharge is from OLWS property only (and thus subject to the OLWS enforcement response procedures).

This Section outlines the process for the refinement of the dry weather field screening location.

2.1 Monitoring Process/Study Design

Two major tributaries to the Willamette River: River Forest Creek and Boardman Creek flow east-west through OLWS. Linden Creek, a tributary to Kellogg Creek, flows in the north portion of OLWS. Watersheds for these tributaries are predominately contained within the OLWS boundary.

OLWS reviewed their mapped major outfalls (greater than or equal to 36 inches in diameter) and priority minor outfalls (greater than or equal to 12 inches in diameter that drain industrial zoned areas) to identify high priority locations. OLWS considered the upstream infrastructure to outfalls to select locations that are accessible and where the upstream drainage area is isolated to OLWS-regulated areas (i.e., excludes ODOT drainage). In evaluating locations, OLWS considered the following criteria:

1. Locations with limited/ no baseflow expected during summer months.
2. Distribution of locations amongst land use categories and watersheds.
3. Locations with historic complaints over the past 5 years.
4. Locations with upstream industry (or other high pollutant sources).
5. Locations with upstream development potential (such that there is the additional potential for new cross connections or pollutant sources).
6. Locations with upstream wastewater permits/pretreatment activities.
7. Site accessibility.

Final field screening locations are provided in Table 2-1 below.

2.2 High Priority Screening Locations

OLWS identified five high priority screening locations. Screening locations reflect a distribution of sites amongst the major watersheds in OLWS. One of the locations is consistent with historic field screening efforts. The other four locations are new locations, selected based on little to no anticipated summer baseflow conditions and their proximity to potential pollutant generating land use or known businesses with routine complaints. Based on ongoing field screening efforts, priority locations are subject to change and modifications shall be documented in this SOP. Current high priority screening locations are shown in Figure 2-1.

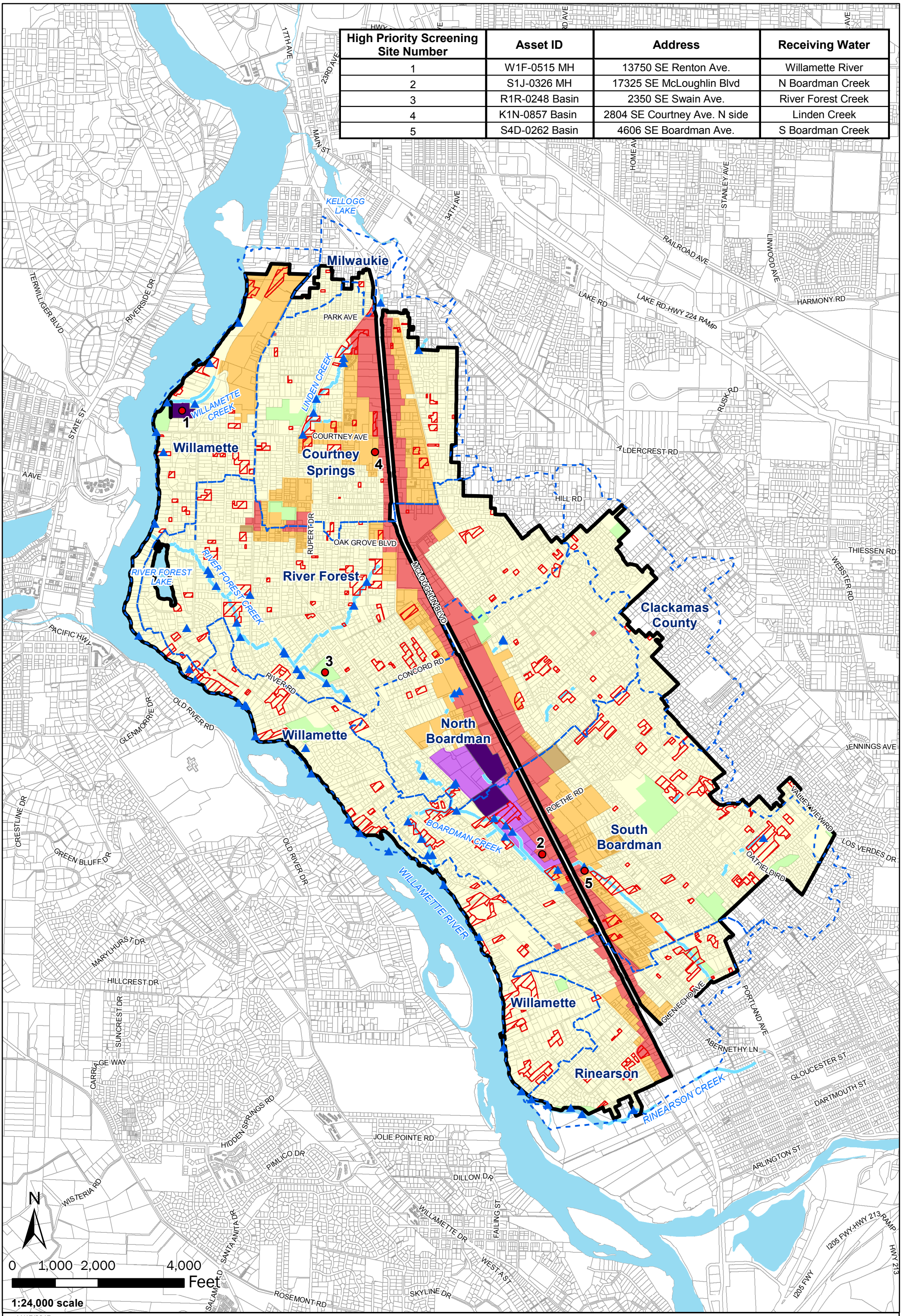
Table 2-1. OLWS Priority Field Screening Locations

Associated Outfall No.	High Priority Screening Site NO. [1]	High Priority Screening Site Asset ID[1]	Address	Diameter (in.)	Receiving water	Significant baseflow contribution (Y/N)	Assessment Criteria							Notes
							Historic Monitoring Location?	Observed Flow[2]	Historical Complaints[2]	Upstream Industrial (high pollutant) sources	Upstream (Re)development/ Potential	Upstream WW permits/ pretreatment	Accessible?	
W1G-0029 (n/a)	1	W1F-0515 MH	13750 SE Renton Ave.	12	Willamette River	N	N	N	N	N	Y	Y	Y	Land use: residential/ Multi-family residential
S1J-0036 (n/a)	2	S1J-0326 MH	17325 SE McLoughlin Blvd	12	N Boardman Creek	Y	N	Y	Y	Y	Y	N	Y	Land use: commercial
R10-7056 (n/a)	3	R1R-0248 Basin	2350 SE Swain Ave.	12	River Forest Creek	N	N	N	N	N	N	N	Y	Land use: residential
K10-6538 (No. 2)	4	K1N-0857 Basin	2804 SE Courtney Ave. N side	12	Linden Creek	N	Y	N	Y	Y	N	N	Y	Land use: commercial/ residential
S40-1080 (No. 10)	5	S4D-0262 Basin	4606 SE Boardman Ave.	12	S Boardman Creek	N	N	N	N	N	N	N	Y	Land use: commercial

[1] *High Priority screening sites mapped in IDDE SOP.*

[2] *Observed flow and historical complaints refers to observed activities over the past 5 years.*

High Priority Screening Site Number	Asset ID	Address	Receiving Water
1	W1F-0515 MH	13750 SE Renton Ave.	Willamette River
2	S1J-0326 MH	17325 SE McLoughlin Blvd	N Boardman Creek
3	R1R-0248 Basin	2350 SE Swain Ave.	River Forest Creek
4	K1N-0857 Basin	2804 SE Courtney Ave. N side	Linden Creek
5	S4D-0262 Basin	4606 SE Boardman Ave.	S Boardman Creek



11/17/2017

Brown AND Caldwell

OAK LODGE SANITARY DISTRICT EST. 1956

Map Publication/Print Date: June 2017

OAK LODGE WATER SERVICES, OREGON

Figure 2-1: Dry Weather Field Screening Locations

- MS4 Outfalls
- High Priority Field Screening Locations
- NPDES 1200-Z Facilities
- District/MS4 Service Area Boundary
- Streams
- Watershed Boundaries

Zoning/Land Use

- Commercial
- Industrial
- Single Family Residential
- Multi-Family Residential
- Mixed Use Residential
- Parks and Open Space
- Vacant

Section 3

Standard Operating Procedure

3.1 Dry Weather Field Screening Inspection Criteria

3.1.1 Weather

Dry weather screening will be conducted during dry summer months and following a 72-hour minimum antecedent dry period. Typical months for sampling are July, August or September.

3.1.2 Frequency/ Duration

Dry weather screening will be conducted once annually at high priority field screening locations as shown in Section 2.

Given the screening will be conducted at a frequency of once annually, preliminary identification of illicit discharges would most likely be reflective of flows of a continuous nature associated with cross connections. Intermittent spills or discharges from dumping activities that occur more randomly would be more difficult to catch with a field screening program.

3.1.3 Reported Complaints

The identification of intermittent spills or dumping would be more likely a result of complaints received from the public or problems noted through routine maintenance activities. Such reports are initially recorded on the Spill and Illicit Discharge Response Form (Appendix A).

OLWS maintains a system for documenting reported complaints or noted problems and will investigate these potential illicit discharge activities using the same procedures provided in this document for problems identified through dry weather field screening (see Appendix B).

3.2 Responsible Parties

The dry weather field screening activities will be conducted by the OLWS' Pollution Prevention Specialist. The OLWS' Pollution Prevention Specialist will be responsible for assessing proper weather conditions for field screening, and if applicable, ensuring the proper collection of samples for delivery to a lab for lab analysis. Any laboratory analysis of field samples will be conducted by a certified laboratory.

Should investigation or tracking be required, the OLWS' General Manager will be notified of any enforcement activities or follow-up measures.

3.3 Safety Measures and Concerns

Staff conducting dry weather screening and other fieldwork should be properly trained and aware of potential safety hazards. Regular training for field personnel is essential for safe field practices. It is important for personnel to understand all potential hazards before entering any location. Screening of outfalls should always be conducted in groups of two at a minimum. Visual inspection of the outfall should be conducted before attempting any sample collection. If sample collection appears hazardous, a sample should not be collected, and problems should be reported to the fire department. Proper lab

gloves should be worn during the collection of samples. Basic safety equipment should also include appropriate protective clothing, field boots, visibility vests, cell phones, and first aid kits.

In some cases, follow-up tracking of flows may be conducted to identify the source of a flow. For tracking activities, safety equipment may also need to include flashlights, traffic cones, manhole cover lifters, air quality monitors, hardhats, safety glasses, or steel-toed boots. Field crews will need confined space entry training if entering manholes is conducted. Confined space training will ensure that crews conduct appropriate air quality monitoring to ensure awareness of flammable gases if present. At least one crew member must stay outside of the manhole always for emergency rescue situations.

3.4 Pollutant Parameter Action Levels

Pollutant parameter action levels were developed and are required initially to screen observed discharges to determine whether further investigation and lab analysis is needed. The pollutant parameter action levels include both visual analyses and field analyses as described in Table 3-1.

These pollutant parameter action levels are also listed on the field data sheet provided in Appendix B.

Table 3-1. Pollutant Parameter Action Levels

Pollutant parameter	Potential indicator of illicit discharge	Severity of observation	Action levels
Visual analyses			
Odor	An odor may be noticeable at the site which may be generally rancid or sour, or it may be more clearly identifiable as sewage or a petroleum related source.	#1-faint #2-easily detected #3-noticeable from a distance	• Two or more of these observations have a severity of #1 or greater, or, • One or more of these observations have a severity of #3.
Color	A color may be present in the discharge. Different colors can indicate different sources. An example would be the lime green color associated with anti-freeze. Examples of other colors associated with specific sources of pollutants are provided in the photos attached to the field data sheet in Appendix A.	#1-faint colors in sample bottle #2-clearly visible in sample bottle #3-clearly visible in outfall flow	
Turbidity	Turbidity can indicate particulates such as sediment in the water and may range from looking slightly cloudy to completely opaque.	#1-slight cloudiness #2-cloudy #3-opaque	
Floatables (other than trash)	Some floatables such as toilet paper are indicators of illicit sanitary sewer connections. Other floatables could include petroleum sheens or soap suds.	#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)	
Field analyses			
pH	pH can be a good indicator of liquid wastes from industries, which can have very high or low pH.	NA	Outside of range from 6.5 to 8.5
Conductivity	Conductivity can be strongly related with the total amount of dissolved material in water. Conductivity can have some value in detecting industrial discharges that have very high conductivity readings.	NA	Exceeds 500 µm/cm

3.4.1 Visual Analysis

During dry weather field screening, if flow is detected, flow will be evaluated per the visual pollutant parameters defined above. The field crew will report results of the visual inspection of the field data sheet (Appendix B). The visual inspection effort will include reporting on the severity of each visual parameter. The field data sheet includes three levels of severity for each visual parameter; #1 being the lowest severity, and #3 being the highest severity. These visual observations are recorded on the field data sheet.

Depending on severity, the visual parameters may trigger further investigation (see Section 3.6) and collection of a sample for laboratory analysis (see Section 3.5.2). Specifically, if any there is one observation or more with a severity level of #3 or if there are two or more observations with a severity of #1 or greater.

3.4.2 Field Analysis

Field analyses for pH and conductivity will also be conducted if flow is observed. Regardless of the results of the visual analyses, further investigation (tracking of the source of flow) and collection of a sample for laboratory analysis will be conducted if either the pH or conductivity results trigger the parameter's action level. For pH, this would include flow with a pH outside of the range from 6.5 to 8.5. This pH range is based on Oregon in-stream water quality standards. For conductivity, this would include flows with a conductivity level that exceeds 500 µS/cm. This conductivity concentration is based on the City of Portland's IDDE program and its review of data which showed that local natural waters should have a conductivity concentration below this amount.

3.5 Dry Weather Field Screening Activities

3.5.1 Inspection

Each high priority outfall location will be investigated as part of the dry weather field screening efforts, and field data sheets will be completed for each outfall.

Inspections include both visual analysis and field analysis for pH and conductivity as described in Section 3.4, if flow is occurring at the outfall. Photographic examples are provided with the field data sheet to assist in the interpretation of visual observations and define severity. Following inspection, a determination will be made as to whether pollutant parameter action levels were exceeded and whether further investigation and sampling is required.

3.5.2 Sampling

During dry weather field screening activities, there may be a need to conduct further investigation (source tracking) and take samples for laboratory analysis. Therefore, prior to dry weather field screening activities, all necessary sample bottles will be decontaminated and prepared for sampling. If flow is present and exceeds defined pollutant parameter action levels (Section 3.4), sample bottles will be properly labeled and a sample will be collected for laboratory analysis. Field personnel will wear gloves while collecting samples. Bottles will be stored in a cooler with ice and delivered to the certified lab for analysis.

Laboratory analysis may consist of bacteria, metals, nutrients, hydrocarbons, or other analyses deemed appropriate based on the observations and suspected sources from field screening. Analytical results may either be used to support further identification of the source of flow, or to provide any back up documentation that may be necessary for enforcement activities.

3.6 Source Identification Investigations

3.6.1 Tracking

If an illicit discharge is indicated based on an exceedance of the pollutant parameter action levels, then the source of discharge will be investigated following sample collection activities. Source identification tracking starts at the outfall location and moves upstream. GIS mapping of the stormwater system and information on contributing tax lots should be prepared in advance and used by field personnel to identify a potential source(s) upstream. Easy-to-access locations, such as manholes or catch basins, can be used to track flow. Typically, tracking at manholes/catchbasins should occur at an interval of approximately every quarter mile or until no more flow is observed. If no flow is observed, then tracking should work backwards toward the original location to narrow down the location of the source of the discharge.

If field investigations do not result in the identification of the source of the illicit discharge, alternative investigative techniques will be considered depending on significance of the flow and lab sample results, such as dye testing, or closed-circuit television.

Timelines for responding to reports of illicit discharges are outlined in Schedule A.3.c.iv.B and generally reflect the following:

1. Discharges, including spills, which constitute a threat to human health, welfare, and the environment must be responded to within 24 hours or as soon as possible after becoming aware.
2. All other reports of illicit discharges must be responded to within an average of two working days and no greater than four working days.
3. Conduct an initial investigation or evaluation within five working days (this would include the source identification tracking efforts following exceedances of pollutant parameter action levels)
4. If elimination of the illicit discharge will take more than 15 days due to technical, logistical, or other reasonable issues, the co-permittee must, within 20 working days of source identification, develop and begin implementation of an action plan to eliminate the illicit discharge in an expeditious manner.

3.6.2 Enforcement

OLWS will conduct enforcement activities related to illicit discharges in accordance with the procedure outlined in the Enforcement Response Plan (Appendix C). Generally, a verbal warning is given (if a responsible party is identified) in accordance with a Class III discharge and the appropriate classification is made. If a written notification is distributed, requiring an immediate stop to the discharge, an NON or NOV is issued.

Under OLWS code, staff may enter properties to inspect, observe, monitor, measure, and sample the municipal storm sewers.

Samples collected at the time of the observed illicit discharge will inform remediation/ cleanup efforts and be used to establish any additional fees, fines, posted notices or penalties.

3.7 Data Management and Adaptive Management

Records of field screening activities and maps of outfalls will be maintained by OLWS. If changes to the outfall inventory are noted, maps will be corrected within 6 months of identifying the change. Dry weather field screening results will be reported to DEQ annually with the NPDES MS4 Annual Report.

Results of field screening activities will also be reviewed as part of the permit renewal process. If, after five years, results consistently show no activity related to illicit discharges, OLWS will reconsider and potentially make changes to priority screening locations.

Appendix A: Spill and Illicit Discharge Response Form

SPILL AND ILLICIT DISCHARGE RESPONSE FORM

DATE _____
TIME _____
SAMPLER _____

Location/Asset #_____

Flow: Circle Yes/No
If yes, estimate the amount of flow: _____
If flow rate is high, investigate source. Use comments below for findings.

Ph _____
Conductivity MS/CM_____
Temperature _____Celsius
LDO _____

VISUAL OBSERVATIONS
Odor: None Musty Sewage Rotten Eggs Sour Milk
Color: Clear Red Yellow Brown Green Grey
Clarity: Clear Cloudy Opaque Suspended Solids
Floatables: None Oily Garbage/Sewage
Deposits/Stain: None Oily Sediments Other_____
Vegetation: None Normal Excessive Inhibited
Structural: Normal Concrete Cracking Metal Condition_____
Biological: _____

Comments:_____
_____
_____
_____
_____

Appendix B: Dry Weather Field Screening Inspection Form

Dry Weather Field Screening Inspection Form

SECTION 1: General Information

Inspector(s):	Outfall ID/location: Watershed area:
Date:	Time:
Ambient temperature:	Rainfall in last 24 hours? (Y/N)
Photo Nos:	GPS points:

Upstream/Surrounding land use:

☐ Industrial ☐ Residential ☐ Commercial ☐ Parks/Open Space ☐ Institutional ☐ Other

SECTION 2: Outfall Description

Type	Material	Shape		Submerged	Dimensions (inches)
Closed pipe	☐ RCP ☐ PVC ☐ CMP ☐ HDPE ☐ Other: _____	☐ Circular ☐ Box ☐ Elliptical ☐ Other: _____	☐ Single ☐ Double ☐ Other: _____	☐ No ☐ Partially _____ % ☐ Fully _____ %	Diameter or dimensions (in x in): _____
Open drainage	☐ Concrete ☐ Rip-rap ☐ Earthen ☐ Other _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____			Depth: . Width: _____ Bottom width: _____

Flow present? ☐ Yes ☐ No *(If no flow is present, go to Section 4)*

SECTION 3: Flow Indicators

Magnitude: ☐ Substantial ☐ Moderate ☐ Trickle

Odor		Color		Turbidity	Floatables (Not trash)	
Description:	*Severity:*	*Description:*	*Severity:*	*Severity:*	*Description:*	*Severity:*
☐ none	☐ 1- faint	☐ clear	☐ 1- faint colors in sample bottle	☐ 1- slight cloudiness	☐ sewage (toilet paper)	☐ 1- few/slight; origin not obvious
☐ sewage	☐ 2- easily detected	☐ brown	☐ 2- clearly visible in sample bottle	☐ 2- cloudy	☐ petroleum (oil sheen)	☐ 2- some; indications of origin (e.g. possible suds or oil sheen)
☐ sulfide	☐ 3- noticeable from a distance	☐ gray	☐ 3- clearly visible in outfall flow	☐ 3- opaque	☐ suds	☐ 3- some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
☐ rancid/sour		☐ yellow			☐ other: _____	
☐ petroleum/gas		☐ green				
☐ other: _____		☐ red				
		☐ other: _____				

SECTION 4: Field Testing Results

pH			Conductivity		
Outside of range 6.5-8.5?	☐ Yes	☐ No	Exceeds concentration? >500 µs/cm	☐ Yes	☐ No

SECTION 5: Physical Indicators For Both Flowing and Non-Flowing Outfalls

Outfall damage	Deposits/stains	Abnormal vegetation	Poor pool quality	Pipe benthic growth
☐ No	☐ No	☐ No	☐ No	☐ No
☐ Cracking or chipping	☐ Oily	☐ Excessive	☐ Colors	☐ Brown
☐ Peeling paint	☐ Flow Line	☐ Inhibited	☐ Suds	☐ Orange
☐ Corrosion	☐ Paint		☐ Odors	☐ Green
☐ Other: _____	☐ Other: _____		☐ Oil sheen	☐ Other: _____
			☐ Floatables	
			☐ Excessive algae	
			☐ Other: _____	
Comments:	Comments:	Comments:	Comments:	Comments:

SECTION 6: Probability of Illicit Discharge

☐ Unlikely ☐ Potential (presence of two or more indicators and/or pH or conductivity readings outside of range) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

SECTION 7: Data Collection

Sample Taken in Field? ☐ Yes ☐ No If yes, sample collected from: ☐ Flow in pipe/channel ☐ Pool/waterbody below outfall

Sample Taken for Lab? ☐ Yes ☐ No If yes, sample collected from: ☐ Flow in pipe/channel ☐ Pool/waterbody below outfall

SECTION 8: Non-Illicit Discharge Concerns

Describe any additional issues/comments (e.g., repair or maintenance required, etc.):

Visual Indicators of Illicit Discharges[1]

Color and Turbidity

Slight Turbidity
Turbidity: 1
(Difficult to interpret this observation; May be natural or an illicit discharge)

Color: Brown; Severity: 2
Turbidity Severity: 2

Highly Turbid Discharge
Color: Brown; Severity: 3
Turbidity Severity: 3

Sewage Discharge
Color: 3
Turbidity: 3

Paint
Color: White; Severity: 3
Turbidity: 3

Industrial Discharge
Color: Green; Severity: 3
Turbidity Severity: 3

[1] As adapted from the Center for Watershed Protection's Illicit Discharge Detection and Elimination Guidance Manual (October 2004).

Suds or Foam

Natural Foam
Note: Suds only associated with high flows at the "drop off"
Do not record.

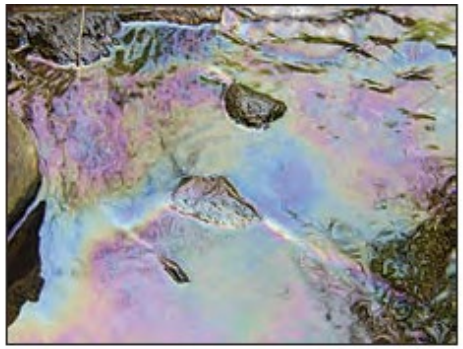
Low Severity Suds
Rating: 1
Note: Suds do not appear to travel; very thin foam layer

High severity suds
Rating: 3
Sewage

Oil Sheens

Low Severity Oil Sheen
Rating: 1

Moderate Severity Oil Sheen
Rating: 2



High Severity Oil Film
Rating: 3

Algal and Bacterial Mats

Bacterial growth at this outfall indicates nutrient enrichment and a likely sewage source.

This bright red bacterial growth often indicates high manganese and iron concentrations. Surprisingly, it is not typically associated with illicit discharges.

Sporalitis filamentous bacteria, also known as "sewage fungus" can be used to track down sanitary sewer leaks.

Algal mats on lakes indicate eutrophication. Several sources can cause this problem. Investigate potential illicit sources.

Illicit discharges or excessive nutrient application can lead to extreme algal growth on stream beds.

The drainage to this outfall most likely has a high nutrient concentration. The cause may be an illicit discharge, but may be excessive use of lawn chemicals.

Appendix C: Enforcement Response Plan

ENFORCEMENT RESPONSE GUIDE MATRIX

This table represents the District's anticipated response to various violations of the District's Surface Water Rules & Regulations. Before proceeding with the responses listed in the table below, the first determination to be made is whether the Respondent has been issued an NPDES Permit by DEQ. If this is the case, DEQ is to be notified and they will be expected to follow through with an investigation and possible enforcement.

VIOLATION	CLASS	RESPONSIBLE PARTY	INITIAL RESPONSE	ADDITIONAL RESPONSE
Illicit Discharge into storm system (of minimum impact)	III	Individual/ Business	Outreach	• Second occurrence results in NON with report required. • Third occurrence classified as Class I resulting in NOV
Illicit Discharge into storm system (moderate environmental impact)	II	Individual/ Business	NON	• Requires report due in 5 days. • Second occurrence classified as Class I resulting in NOV
Illicit Discharge into storm system (significant environmental impact)	I	Individual/ Business	NOV/CP	• Requires actions to meet compliance within time frame • Failure to meet time frame results in civil penalty. See *Chapter 11: Section 11.5.6 Notice of Civil Penalty Assessment* to calculate CP
Failure to Report a Spill (minimum impact)	III	Individual/ Business	Outreach	• Second occurrence results in NON with report required. • Third occurrence classified as Class I resulting in NOV
Failure to Report a Spill (environmental impact)	II	Individual/ Business	NON	• Second occurrence classified as Class I resulting in NOV
Failure to meet Compliance Schedule milestones (<30 Days)	II		NON	• Failure to meet within 30 days issue NOV
Failure to meet Compliance Schedule milestones (>30 Days)	I		NOV	• Failure to meet within 15 days then issue civil penalty
Denial of Entry				• Obtain Warrant
Discharge Without a Permit	I	Business	NOV/CP	• Issue NOV and notify DEQ
Failure to Submit Required Timely Report or Plan	II	Individual/ Business	NON	• Second occurrence results in NOV

A. All violations will be documented within one business day of identification and initially responded to within five (5) business days of source identification.

B. If the Respondent does not possess an NPDES Permit and is required to obtain one, DEQ shall be notified and the District will proceed to conduct its own investigation and possible enforcement action.

C. If the Respondent does not possess an NPDES Permit and is not required to obtain one, the District will proceed to conduct its investigation and possible enforcement action.

D. Initial enforcement response involving contact with the Respondent and requesting information on corrective or preventative action(s) will occur within five (5) business days of the violation.

E. Follow up actions for continuing or recurring violations will be taken within 60 days for the initial enforcement response. For all continuing violations, the response will include a compliance schedule.

F. At a minimum, a third NOV within 36 months automatically results in the issuance of a civil penalty.

G. Unless the following non-stormwater discharges are identified in a particular case as a significant source of pollutants, those discharges are not considered illicit discharges:
   - Water Line Flushing
   - Landscape Irrigation
   - Diverted Stream Flows
   - Rising Ground Waters
   - Uncontaminated Groundwater Infiltration
   - Uncontaminated Pumped Groundwater
   - Discharges from Potable Water Sources
   - Start Up Flushing of Groundwater Wells
   - Potable Groundwater Monitoring Wells
   - Flows from Riparian Habitats & Wetlands
   - Street Wash Waters
   - Draining & Flushing of Municipal Potable Water Storage Reservoirs
   - Discharges of Treated Water from Investigation, Removal, and Remedial Actions Approved by DEQ Under ORS 465
   - Discharges or Flows from Emergency Fire Fighting Activities
   - Foundation Drains
   - Air Conditioning Condensate
   - Irrigation Water
   - Springs
   - Water from Crawl Space Pumps
   - Footing Drains
   - Lawn Watering
   - Individual Residential Car Washing
   - Charity Car Washing
   - De-chlorinated Swimming Pool Discharges