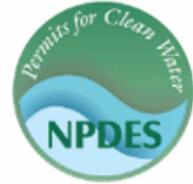




US EPA Stormwater Program's Webcast Series

**Conducting Illicit Discharge Detection and
Elimination Investigations (IDDE 201)**



- **Illicit Discharge Detection and Elimination Guidance Manual (Developed by the Center for Watershed Protection and Dr. Robert Pitt)**
http://cfpub.epa.gov/npdes/docs.cfm?program_id=6&view=allprog&sort=name#iddmanual
- **U.S. EPA's Stormwater Phase II Final Rule Fact Sheet Series: Illicit Discharge Detection and Elimination Minimum Control Measure**
<http://www.epa.gov/npdes/pubs/fact2-5.pdf>
- **U.S. EPA's Menu of BMPs: Illicit Discharge Detection and Elimination**
<http://www.epa.gov/npdes/stormwater/menuofbmps/illicitdischarge>
- **Cuyahoga County Board of Health's Watershed Protection Stormwater Program**
<http://www.ccbh.net/ccbh/opencms/CCBH/modules/services/Stormwater.html>
- **Illicit Discharge Detection and Elimination Manual: A Guidance Manual for Municipalities in the State of Ohio (Cuyahoga County Board of Health, 2006)**
http://www.ccbh.net/ccbh/export/sites/default/CCBH/pdf/stormwater/IDDE_Manual_July_2006_2.pdf

Resources at the Center for Watershed Protection's Website

<http://www.cwp.org>

- ORI Field Sheet & Database
- Illicit Discharge Hotline Incident Tracking Sheet
- Chemical Mass Balance Model (CMBM) Setup & Input File
- Inappropriate Discharge Detection and Elimination: What Phase I Communities Are Doing to Address the Problem (Zielinski and Brown, 2003)

Regional and State IDDE Guidance

- **A Guidance Manual for Identifying and Eliminating Illicit Connections to Municipal Separate Storm Sewer Systems (Galveston County (TX) Health District, 2002)**
<http://www.gchd.org/pollution/GuideManual.pdf>
- **Detecting Illicit Storm Water Discharges – Fact Sheet Series (Missouri Department of Natural Resources, 2007)**
<http://www.dnr.mo.gov/pubs/pub2209.pdf>

- Guidelines and Standard Operating Procedures: Illicit Discharge Detection and Elimination and Pollution Prevention / Good Housekeeping for Stormwater Phase II Communities in New Hampshire (New Hampshire Department of Environmental Services, 2006)
http://www.des.state.nh.us/StormWater/NH_IDDE_SOP.pdf
- How to Do Phase II: Guidance for Local Governments, Measure 3: Illicit Discharge Detection and Elimination (North Carolina Cooperative Extension)
<http://www.bae.ncsu.edu/topic/phase2/measure3.htm>
- Illicit Discharge Detection And Elimination Manual: A Handbook for Municipalities (New England Interstate Water Pollution Control Commission, 2003)
http://www.neiwpcc.org/neiwpcc_docs/iddmanual.pdf
- Lake County Illicit Discharge Detection and Elimination (IDDE) Guidance Manual (Lake County (IL) Storm Water Management Commission, 2006)
http://www.co.lake.il.us/smc/regulatory/MAC/IDDE_Guidance_Manual_1106.pdf
- Lower Charles River Illicit Discharge Detection & Elimination (IDDE) Protocol Guidance for Consideration (Massachusetts Department of Environmental Protection, 2004)
<http://www.massparks.net/dep/water/resources/appendxa.pdf>
- The Rouge River Project Illicit Discharge Elimination Program
<http://www.rougeriver.com/techttop/illicit/index.html>

National Guidance on Related Topics

- Decentralized Wastewater Treatment Systems: A Program Strategy
http://www.epa.gov/owm/septic/pubs/septic_program_strategy.pdf
- Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems
http://cfpub.epa.gov/owm/septic/septic.cfm?page_id=289
- U.S. EPA's Menu of BMPs: Volunteer Monitoring
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=17

Model Ordinances

- U.S. EPA's Model Ordinances to Protect Local Resources: Illicit Discharges
<http://www.epa.gov/owow/nps/ordinance/discharges.htm>
- Iowa Illicit Discharge Model Ordinance
<http://www.iowastormwater.org/Illicit%20Discharge%20Ordinance%2006-06-05.doc>

- Phase II Stormwater Model Ordinance for North Carolina
http://www.efc.unc.edu/publications/pdfs/Ph%20II%20MO%20_9-7-05_.pdf
- Ohio Model Ordinance for Illicit Discharge and Illegal Connection Control
http://www.ccbh.net/ccbh/export/sites/default/CCBH/pdf/stormwater/2006_Illicit_Discharge_x_Illegal_Connection_Model_Ordinance.pdf
- Tennessee Model Stormwater Ordinance
<http://www.mtas.tennessee.edu/KnowledgeBase.nsf/vwebauthor/4D8B4656BD97D99B8525702E004297D7>

Other Interesting Reading

- A Guidance Manual for Illicit Discharge Detection and Elimination. Stormwater Magazine (Stormwater Magazine, 2007)
http://www.forester.net/sw_0701_guidance.html
- A Watershed-Based Approach to Stormwater Management (Stormwater Magazine, 2005)
http://www.forester.net/sw_0507_watershed.html
- Illicit Discharge Detection and Dry Weather Flows (Stormwater Magazine, 2005)
http://www.forester.net/sw_0507_illicit.html
- Illicit Discharge Detection and Elimination (Stormwater Magazine, 2004)
http://www.forester.net/sw_0403_illicit.html
- Microbial Source Tracking Study for South Cypress Creek (City of Memphis (TN), 2003):
http://www.cityofmemphis.org/pdf_forms/MicrobialSourceTrackingStudy.pdf
- Sherlocks of Stormwater: Effective Investigation Techniques for Illicit Connection and Discharge Detection (Wayne County Department of Environment, 2003)
<http://www.epa.gov/owow/nps/natlstormwater03/40Tuomari.pdf>

IDDE Video Acknowledgments

Special thanks to Paul Sturm and Kris Varsa from the Center for Watershed Protection for appearing in the IDDE video segments. Video filming and editing was provided by Ansu John, Tetra Tech.

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):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
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

<input type="checkbox"/> Unlikely <input type="checkbox"/> Potential (presence of two or more indicators) <input type="checkbox"/> Suspect (one or more indicators with a severity of 3) <input type="checkbox"/> Obvious

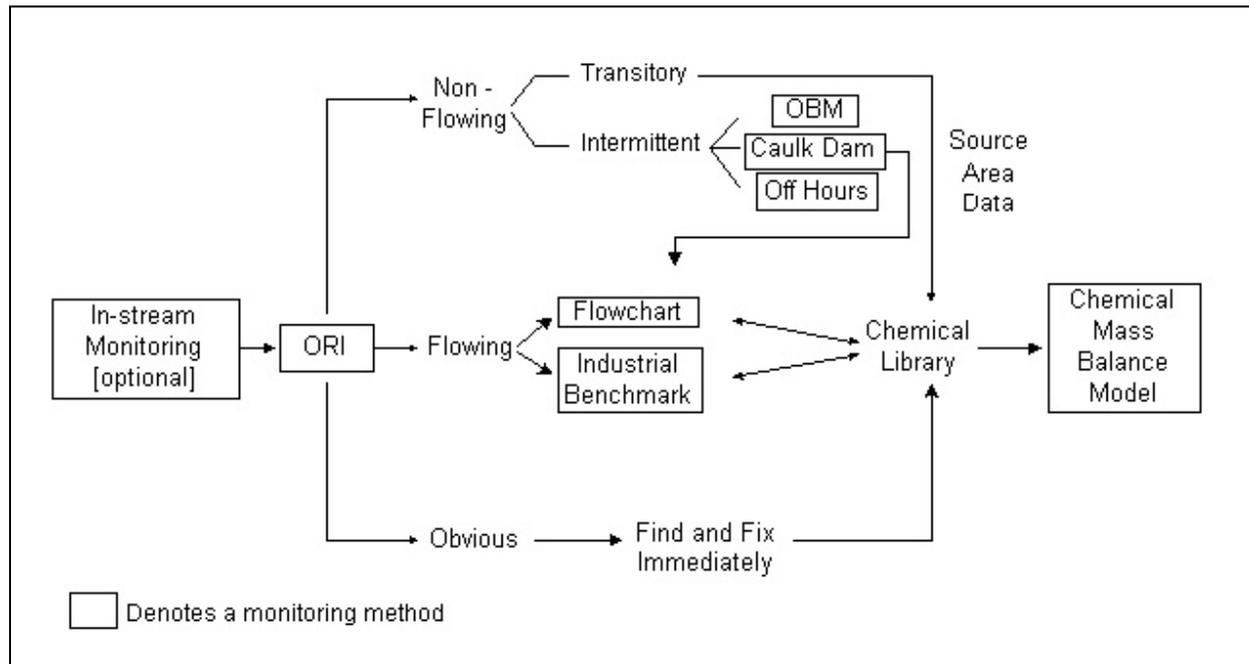
Section 7: Data Collection

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)?

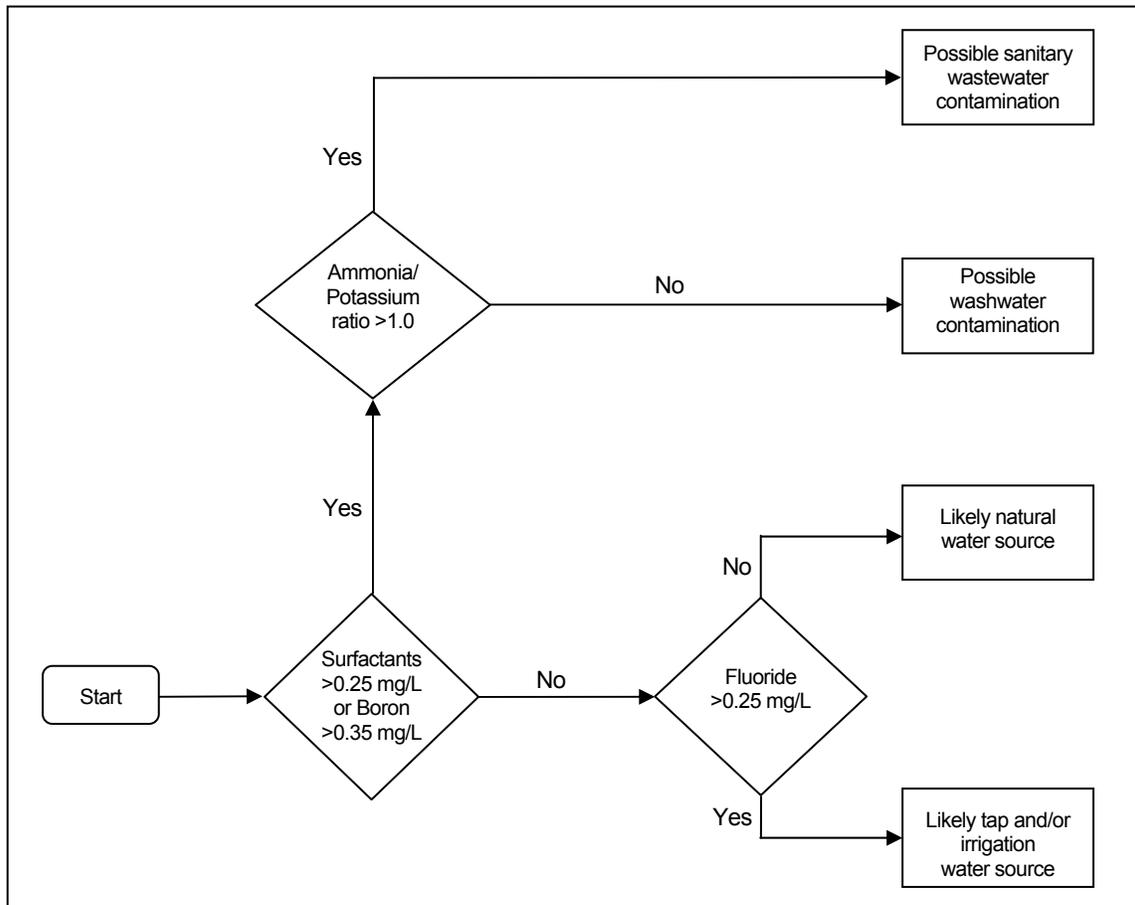
Illicit Discharge Detection and Elimination (IDDE) 201: Conducting IDDE Investigations

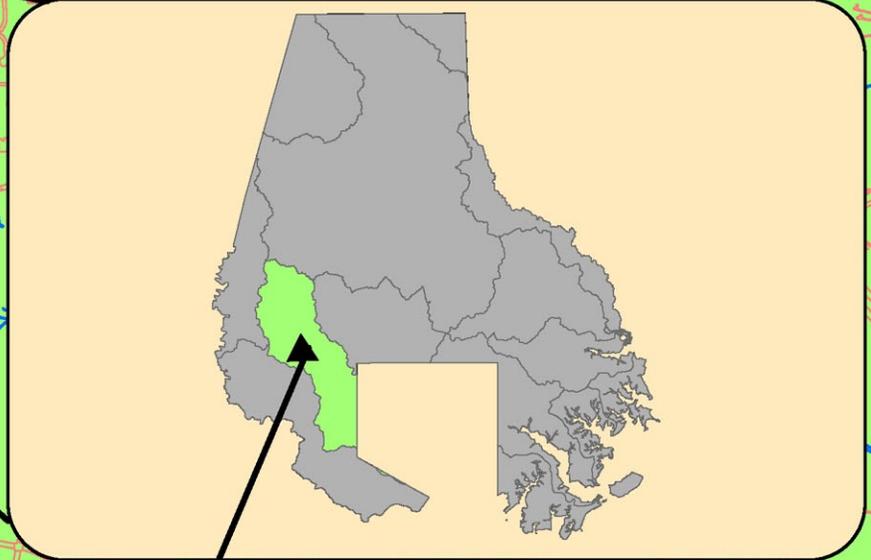
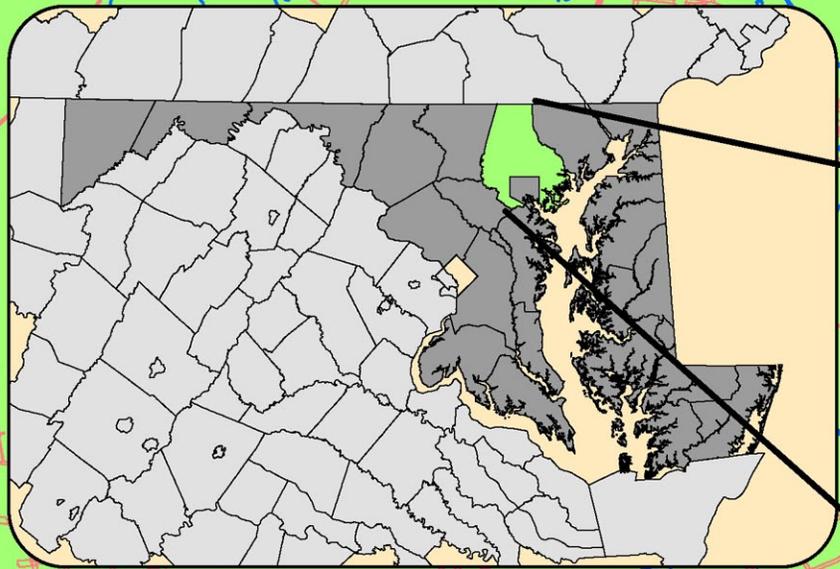
IDDE Monitoring Framework



Illicit Discharge Detection and Elimination (IDDE) 201: Conducting IDDE Investigations

Flow Chart to Identify Illicit Discharges in Residential Watersheds

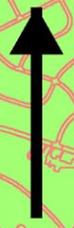
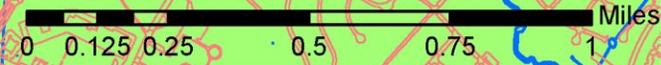




**Outfall 2 :
Tulsemere Road**

**Outfall 1 :
Offutt Road**

Scotts Level Branch, Gwynns Falls Watershed



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed: <u>Scotts Level 1 Branch</u>		Outfall ID: <u>SL23</u>	
Today's date: <u>6/6/2007</u>		Time (Military): <u>1000</u>	
Investigators: <u>PES, KGV</u>		Form completed by: <u>PES</u>	
Temperature (°F): <u>70° F</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit: <u>8</u>	GPS LMK #: <u>3</u>
Camera: <u>Pentax</u>		Photo #s: <u>5-10</u>	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input checked="" type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" 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 checked="" type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>24" x 36"</u> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 24" </div> <u>36</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	<input type="checkbox"/> Trickle <input checked="" 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 checked="" type="checkbox"/> Flow #2	Flow depth	<u>1 1/2"</u>	In	Tape measure
	Flow width	<u>24"</u>	Ft, In	Tape measure
	Measured length	<u>3'</u>	Ft, In	Tape measure
	Time of travel	<u>3.42 sec</u>	S	Stop watch
Temperature	<u>62° F</u>	°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia	<u>.25 mg/l</u>	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 checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input checked="" type="checkbox"/>	<input type="checkbox"/> Clear <input checked="" 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 checked="" 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 checked="" type="checkbox"/>	See severity <i>Organics moving</i>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/> Oily <input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	<i>Sewer line nearby at similar elevation</i>

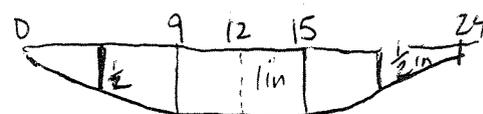
Section 6: Overall Outfall Characterization

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input checked="" 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)?



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed: <u>Scotts level 1 Branch</u>		Outfall ID: <u>SL32</u>	
Today's date: <u>6/6/2007</u>		Time (Military): <u>1030</u>	
Investigators: <u>PES, KGV</u>		Form completed by: <u>PES</u>	
Temperature (°F): <u>70°</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit: <u>8</u>	GPS LMK #: <u>2</u>
Camera: <u>Pentax</u>	Photo #: <u>1-4</u>		
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>27</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" 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 checked="" 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)		
			1	2	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Oily <input checked="" type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	<i>Oily flow line present</i>
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 checked="" 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)?