Illicit Discharge Field Inspection Protocol

Outfall mapping and inspections are required per MCM #3 of the MS4 Permit. The following procedures and practices must be observed by the Municipality and Inspector to meet the requirements of the permit. In the event an inspector has questions regarding procedural or reporting requirements, please contact Erik Vranich of Keller Engineering for clarification.

Procedure for Screening Outfalls:

- Every outfall in the selected inspection area shall be screened once per permit year.
- In addition to the above inspections, each outfall designated as a "priority outfall" shall be screened at least once per permit year.
- Outfall field screenings may only be completed during dry periods. The inspector shall wait a minimum of 48 hours since the last precipitation event to begin inspections. Greater than 48 hours may be needed during period of heavy rain and high groundwater levels.
- The "Outfall Reconnaissance Inventory/Sample Collection Field Sheet" shall be used for reporting. A new sheet should be filled out for each individual outfall inspection. Field Staff should consult the "Inspection Sheet Guidance" information for questions relating to completing the inspection sheet.
- A photo of the outfall should be taken at each inspection and attached to the inspection form.

Procedure for Identifying the Source of an Illicit Discharge:

- The field inspector shall observe physical characteristics to determine the type of discharge. Section 4 of the Inspection Sheet shall be utilized for this analysis.
- The field inspector shall determine the discharge's point of origin by tracing the flow back through the drainage system to find the source. The outfall map shall be utilized for this process.
- In the event that the type or source of illicit discharge cannot be determined by physical characteristics or visual inspection, a lab sample shall be collected for analysis. The following parameters should be utilized as "action levels":
  - pH – less than 6 S.U. or greater than 9 S.U.
  - Conductivity – greater than 750 μmhos/cm (μS/cm)
  - Fecal Coliform – greater than 2,000/100 mL
  - Heavy Metals – ten (10) times the applicable water quality standard in 25 Pa. Code Chapter 93
  - COD - 100 mg/L
  - BOD5 – 50 mg/L
  - TSS – 100 mg/L
  - TDS – 500 mg/L
  - Oil and Grease – 30 mg/L
  - TRC – 0.5 mg/L
  - Ammonia-Nitrogen – 1.0 mg/L
- In the event dry weather flow is encountered but no physical or visual evidence indicate that the discharge contains pollutants, the field inspector may attribute this flow to clean ground water based on historical data and knowledge of the area. The location of the groundwater base flow shall be noted on the outfall map and future inspections shall consider this parameter.

Procedure for Eliminating an Illicit Discharge:

- The field inspector shall ensure that the proper point of origin was identified as part of the above procedure.
- Upon confirming the source of an illicit discharge, the municipality shall make a determination on the proper course of remediation. The "Detection and Elimination of Illicit Discharges to the Municipal Separate Storm Sewer System" section of the Stormwater Management Ordinance detail the notification, enforcement and abatement power of the municipality. The Municipal Solicitor shall be contacted as necessary.

In the event circumstances are encountered that are not covered within this protocol, the Illicit Discharge Detection and Elimination Manual published by the Center for Watershed Protection in October 2004 shall be consulted for additional guidance and procedural information.

Inspection Sheet Guidance

This document is intended to provide guidance and information for field inspectors utilizing the "Outfall Reconnaissance Inventory/Sample Collection Field Sheet" for outfall screenings. The "Illicit Discharge Field Inspection Protocol" shall be referenced for procedural questions.

Section 1

- Inspectors shall fill out as much information about the outfall as possible in this section. Any unknown information may be left blank.

Section 2

- Utilize this section to identify important characteristics about the outfall.
- The "Closed Pipe" section shall be used for all pipe outfalls. The "Open Drainage" section is utilized for swales and other similar outfalls.
- If no flow is present, please skip to Section 5. When flow is present, the inspector shall use Sections 3 & 4 to describe the flow as needed.

Section 3

- This section is only utilized if a lab sample is collected. Lab samples shall be collected when the source or pollution of the discharge cannot be identified by physical inspection. We recommend completing Section 4 prior to determining if a sample should be collected.
- If your municipality does not own a field test kit and wish to take a sample, please contact C.S. Davidson to schedule a field sampling.

Section 4

- Describe physical indicators of the outflow to help determine the source of the flow and if it is illegal.

Section 5

- This section should be utilized to identify any damage to outfalls requiring maintenance.

Section 6

- Identify the likelihood of the discharge being illegal. Utilize Section 4 as your guide.

Section 7

- Identify characteristics of lab sample source. Check "no" in box #1 and skip if no sample was collected.

Section 8

- List any other maintenance concerns with outfall in addition to Section 5.