

CITY OF HITCHCOCK

**Phase II MS4
Storm Water Management Program
STRUCTURAL CONTROL GUIDELINE**

To conduct an illicit discharge detection structural control inspection program, perform stream walks or outfall inspections. An outfall inspection consists of visiting an outfall to observe if a dry weather flow is present. A stream walk requires the MS4 representative to physically walk along a stream and inspect any outfalls encountered. Stream walks allow you to not only inspect outfalls, but to also document the conditions of the stream. In many cases, stream walks have allowed the permittee to identify pollution sources such as leaking sanitary sewer lines or septic tanks. These sources would not have been discovered by conducting outfall inspections only. If the MS4 chooses to conduct outfall inspections, then they must inspect 100% of the outfalls within a 5-year period. If stream walks will be performed, then the MS4 must ensure all stream miles within its jurisdictional area are walked within a 5-year period.

Outfall inspections and/or stream walks must be performed during a period of dry weather. The majority of define dry weather as less than 0.1 inch of precipitation per day for a 72-hour period. The idea is that flow should not be discharging from an outfall during periods of dry weather. If flow is present, then a potential illicit discharge exists. If you encounter a dry weather discharge during an outfall inspection, then you must take steps to determine if the flow is naturally occurring, (e.g. spring, groundwater) or an illicit connection or discharge. The first step in the field screening process should be to note any unusual odor (e.g. sewage, petroleum, industrial), color, or the presence of oil sheen. If your field observation notes any unusual odor or color or the field testing shows unusual levels of any parameters, then you may determine additional testing is required. You should use common sense when deciding if additional testing is warranted and what analyses to conduct. However, you should be aware that field and laboratory testing are not always conclusive. Any dry weather flow may be suspect. The only sure way to determine if a source of flow is naturally occurring (e.g. piped stream) is to conduct source tracing.

You need to have procedures in place for tracing the source. The most effective method is walking up the storm sewer line and looking for potential upstream sources. You may have to use more elaborate detection procedures, such as dye testing, smoke testing or televising the line. Because illicit discharges can be intermittent, you must take steps to begin source tracing immediately upon suspecting an illicit discharge. You may also have to visit the outfall several times to encounter an illicit flow at the site again.

The detection procedures may be effective for locating an illicit connection; however, they may not help the MS4 in identifying illegal dumping into the storm sewer system. If you have evaluated all potential illicit connections and determined the only source of the pollutant can be from illegal dumping, then you will need to handle this situation differently. The dumping may be occurring as a result of ignorance and the MS4 may want to escalate their educational activities in the area (e.g. homeowners dumping yard waste, used oil, or antifreeze down the storm drain). The dumping may be occurring purposely, such as from an industrial or commercial source. In such cases, the MS4 will have to use its enforcement capabilities to stop the dumping. Also,

the MS4 might want to institute a citizen hotline, where the public can notify the MS4 of any observed illegal dumping.

The MS4 must have procedures in place for ensuring illicit discharges are eliminated. The procedures should clarify whose responsibility it is to ensure the discharge ceases. For example, if you conduct field testing and determine the discharge is composed of sanitary sewage or potable water, then the procedure may be that you notify the municipal water and sewer department. If it is your responsibility to ensure the discharge is eliminated, then the procedures need to specify what steps you will take to ensure the discharge ceases the time frame for completing the task, the corrective action to be taken, any follow-up inspection, etc.

Example #1

During a stream walk, you notice flow coming from an outfall. You visually observe an oil sheen and odor to the discharge. You follow the storm sewer line upstream and find an area of commercial businesses. One of the businesses is an automotive repair facility. An inspection of the facility reveals the owner is periodically washing down the parking and repair area, which results in the wash water flowing into the storm drain. You inform the owner of the ordinance requirements and potential enforcement action if the practice does not cease.

Example #2

The MS4 is holding an annual stream cleanup. During the event, a participant notices flow coming from an outfall. Knowing that it hasn't rained in several weeks, the person notifies the MS4 representative. You notice the discharge has a strong sewage odor and is gray in color. You proceed to conduct a field test of the discharge for temperature, pH, conductivity, fluoride and surfactants. You decide to take a sample for fecal coliform bacteria analysis. The laboratory results indicate a high fecal coliform bacteria count. Following the MS4's written procedures, you notify the municipal water and sewer department. They locate and repair a sanitary sewer line which has been leaking into your storm sewer system. You re-visit the outfall to ensure the problem has been fully corrected.

While performing all of the steps of an illicit discharge detection and elimination program, you must document the actions taken. This includes documenting stream walks or outfall inspections, and any field or laboratory test results. This can be done through the use of an inspection form or some other means. Often, permittees take photographs of outfalls or streams to document the conditions at the time of the inspection.