

1. MCM 8. Monitoring, Evaluation and Reporting:

A. Dry Weather Screening Program:

The objectives of this program are to continue our ongoing efforts to detect the presence of illicit discharges and to assess dry weather water quality changes. Analyses performed include temperature (air and water), pH, color, turbidity, copper, ammonia, phenols, chlorine, specific conductance and detergents. Observational characteristics including odor, oil sheen, surface scum, sewage and flow are noted. A colorimetric meter that measures pollutants in parts per million is used for the analysis of copper, phenols, ammonia and chlorine. The Methylene blue active substances (MBAS) method is used for detergent analysis. Portable meters are used to measure pH, specific conductance and turbidity. Tests and observations are performed twice in a 24-hour period (tests are separated by a minimum of four (4) hours) to increase the potential to detect illicit flows. Also, sampling and analyses are only conducted when there has been no significant precipitation (<0.10 inch) within 48 hours. Detailed Standard Operating Procedures (SOPs) are maintained by TPW/ENV.

Priorities for follow-up screening of outfalls will rely on a number of factors such as past history of illicit discharges, number of citizen complaints, potential pollutant sources, experience of field crew, etc.

Pollutant Trace Back

When screening results indicate the possible presence of illicit flow field crews begin a trace back investigation of the pollutants of concern within the MS4. A variety of investigative tools, such as additional DWFSs, watershed reconnaissance, Microtox®, dye tracing, tunnel entries, *etc.*, may be used in follow-up activities as appropriate for each situation. If a responsible party is found, appropriate enforcement actions are taken.

TxDOT Dry Weather Screening Activities

Under its Dry Weather Screening (DWS) Program, TxDOT-Fort Worth District (District) has completed 100% screening of the Phase I area. Field screening teams visit the screening sites during dry weather conditions and check for the presence of a discharge. If a discharge is present, the team conducts chemical field screening of the discharge for parameters such as pH, detergent, copper, ammonia, phenols and chlorine. General physical characteristics, such as color, odor, turbidity, surface scum and oil sheen, are also noted on the GPS unit or field data sheets. If high screening values are detected or the presence of physical characteristics, such as odor, algae, stains, *etc.*, are noted, the field screening team also may collect discharge samples for laboratory analysis of parameters such as *E.Coli*, oil and grease, and Total Petroleum Hydrocarbons (TPH). Sample collection and analysis does not always conform to the requirements of Part 136 of Title 40 of the CFR (“Part 136”). However, sample collection and analysis taken to confirm (e.g., in support of possible legal action) a particular illicit connection or improper disposal practice does conform to the requirements of Part 136.

If initial screening indicates that a dry weather discharge contains pollutants or if an illicit discharge is suspected, the field screening team returns to the site and repeats its evaluation. Otherwise, a repeat evaluation is optional. If a second evaluation occurs, it usually will be made within four to twenty-four hours of the first evaluation.

When the dry weather field screening results from either an initial or a repeat evaluation indicates the presence of illicit connections or if an improper discharge is suspected, the District will notify the appropriate entity with jurisdiction for additional investigation.

B. Wet Weather Screening Program:

The purpose of the Wet Weather Screening Program is to address areas that may be contributing excess levels of pollutants to the MS4 during storm events. Each year, at least 50 runoff samples will be collected and analyzed. Locations will be selected based on past or previous history, information gathered during dry weather field screens or other field reconnaissance, industrial monitoring data, information obtained from industrial or construction inspections, or other program emphases. Samples may be collected in-stream or from outfalls, curbs, open ditches, pipes, sheet flow, or other appropriate locations. Sample locations may be clustered within small sub-watersheds to thoroughly characterize the runoff and isolate areas of particular concern, or may be individual locations scattered throughout the City. Samples are collected from runoff resulting from a rain event that is greater than 0.1 inch in magnitude and that occurs at least 72 hours after the last measurable (>0.10 inch) rain event. The greater than 0.10 inch rainfall guideline may be waived during drought conditions. Also, samples should be from the first flush. Although timing of the first flush is dependent on many variables including duration and intensity of rainfall, topography, distance of an outfall from its source, etc., it is generally defined here as runoff occurring within 30 minutes after the first 0.10 inch of rainfall. Sample analyses will consist of, at a minimum, pH, specific conductance, and turbidity. Additional analyses which may be performed include, but are not limited to ammonia-nitrogen, nitrate-nitrogen, phosphate, chromium, copper, zinc, COD, Microtox®, total coliform and *E. coli* bacteria. The selection of additional analyses to be performed will be determined by senior personnel on a case-by-case basis based upon land use and potential pollutants present in the sampling area. The data will be reviewed to determine what follow-up activities, if any, should be conducted. Summary statistics for each parameter and results of any follow-up activities will be presented in the Annual Report.

C. Industrial and High Risk Runoff Monitoring Program

To satisfy this permit requirement, the City requires industries with benchmark monitoring requirements under the Multi Sector General Permit (MSGP) for stormwater discharges related to industrial activity to submit their monitoring results to the City.

Each year the City will send a notice to all facilities on file with a benchmark monitoring requirement reminding them of their reporting requirement to TCEQ and requesting that a copy of the report be sent to Fort Worth TPW/ENV.

D. Storm Event Discharge Monitoring

The City of Fort Worth and its co-permittees have chosen to comply with Permit Part IV.A 1. monitoring requirements through the North Central Texas Regional Wet Weather Characterization Program (RWWCP) including the Representative Rapid Bioassessment Monitoring option. A detailed monitoring plan for the RWWCP is included as Attachment 2 of this document.

E. Floatables Monitoring

Permit Part IV.B requires the co-permittees to establish and maintain two monitoring locations for removal of floatable material in discharges to or from the MS4. In compliance with this requirement, TRWD has established and maintains two floatables collection devices on the Clear Fork Trinity River.

The floatable debris collectors were established in 2006 at two separate locations along the Clear Fork Trinity. A set of two collectors was installed across from the Clear Fork Pump Station under Rosedale Street. This collector uses the assistance of a boom to direct floatables towards the unit for collection. A second set of two collectors was installed at the outfall of sump #19 where all water entering the main river must pass through the unit. The collectors consist of large structured nets that trap floating debris as the water passes through. The nets can be detached and removed from the structure in order to empty the debris.

The trash collectors are included in the TRWD routine floodway maintenance program that is triggered into effect with a ½ inch storm event. After such an event, the trash collectors are visually inspected for capacity and damage. The cleaning schedule for the nets is dictated by the frequency of storms.