



Illicit Detection and Elimination (IDDE)

Provisions of the Clean Water Act (1987) require National Pollutant Discharge Elimination System (NPDES) permits for storm water discharges. The City of Sandy Springs is under a permit for municipal separate storm sewers (MS4) and is required to effectively prohibit problematic non-storm water discharges into storm sewers. Emphasis is placed on the elimination of inappropriate connections to urban storm drains and requires the City to identify and locate sources of non-storm water discharges into storm drains to institute appropriate actions for their elimination. This requirement is within the Phase II NPDES MS4 permit, for the establishment of Illicit Discharge Detection and Elimination (IDDE) program.

The Environmental Protection Agency (EPA) has reported that dry-weather flows discharging from storm drainage systems can contribute significant pollutants to receiving waters. If these pollutants are ignored (for example, by only considering wet-weather storm water runoff), little improvement in receiving water conditions may occur.

Illicit dry-weather flows originate from many sources. The most important sources typically include sanitary wastewater or industrial and commercial pollutant entries, failing septic tank systems, and vehicle maintenance activities.

Studies have shown that dry weather flows from the storm drain system may contribute a larger annual discharge mass for some pollutants than wet weather storm water flows (EPA, 1983 and Duke, 1997). Detecting and eliminating these illicit discharges involves complex detective work, which makes it hard to establish a rigid prescription to "hunt down" and correct all illicit connections. Frequently, there is no single approach, but rather a variety of methods to get from detection to elimination. Minimally, the City has to systematically understand and characterize their stream, conveyance, and storm sewer infrastructure system. Once illicit discharges are identified, they need to be removed. The process is ongoing and the effectiveness of the program will improve with time. The ultimate goal of the City's IDDE program is to benefit other community-wide water resources-based programs, such as public education, storm water management, stream restoration, and pollution prevention.

Dry weather discharges are composed of one or more possible flow types:

- Sewage and septage flows produced from sewer pipes and septic systems.
- Wash water flows generated from a wide variety of activities and operations. Examples include discharges of gray water (laundry) from homes, commercial carwash wastewater, fleet washing, commercial laundry wastewater, and floor washing to shop drains.
- Liquid wastes refers to a wide variety of flows, such as oil, paint, and process water (radiator flushing water, plating bath wastewater, etc.) that enter the storm drain system.

- Tap water flows derived from leaks and losses that occur during the distribution of drinking water in the water supply system. Tap water discharges in the storm drain system may be more prevalent in communities with high loss rates (i.e., greater than 15%) in their potable water distribution system. (Source of 15% is from National Drinking Water Clearinghouse http://www.nesc.wvu.edu/ndwc/articles/OT/FA02/Economics_Water.html)
- Landscape irrigation and swimming pool drainage. Landscape irrigation flows occur when excess potable water used for residential or commercial irrigation ends up in the storm drain system. Private chlorinated pools are drained between seasons and are typically released via storm drains.
- Groundwater and spring water flows occur when the local water table rises above the bottom elevation of the storm drain (known as the invert) and enters the storm drain either through cracks and joints, or where open channels or pipes associated with the MS4 may intercept seeps and springs.

Water quality testing is used to conclusively identify flow types found in storm drains. Testing can distinguish illicit flow types (sewage/septage, wash water and liquid wastes) from cleaner discharges (tap water, landscape irrigation and ground water). ***