

ABSTRACT

Aycock, R., Goertz, D., and Woodham, R., Drainage Utility Evaluations for U.S. Army Reserve Facilities (2007)

The Clean Water Act (CWA) of 1987 (40 CFR 122) requires that operators of facilities and municipal systems, including Federal installations, control the quality of stormwater discharges to protect public and ecosystem health. Most CWA permitting programs include detecting and eliminating illicit discharges and cross connections as a primary goal and control measure. Historically, drainage infrastructure at U.S. Army Reserve facilities (USAR) has been neglected due to limited funds and availability of resources, and the remoteness of piping. Damaged piping, manholes, and other drainage infrastructure can increase the likelihood of illicit discharges and infiltration, resulting in potential fines or stop work orders.

Weston Solutions, Inc. implemented a comprehensive approach to evaluating drainage utilities at USAR facilities in the 65th, 81st, and 89th Regional Readiness Commands, which encompass the Southeast and Midwestern United States, and Puerto Rico. The study included surveying stormwater and sanitary sewer connections and associated equipment at over forty facilities. Catch basins, piping, oil/water separators, manholes, floor drains, ditches, outfalls, and swales were surveyed and mapped, and subsurface piping was video-surveyed to inspect for damage or blockage.

Weston generated reports for each facility describing evaluation techniques, results, and recommendations for improvements. Geo-referenced base maps were created showing updated survey data, correct locations and elevations for manholes, catch basins, and piping, as well as recommended fixes. The reports and maps emphasized findings for illicit discharges, cross connections, infiltration, and the sources and impacts of potential contaminants.

Conducting drainage evaluations allows for a comprehensive inspection of sanitary and stormwater conveyances, checking for potential cross connections and illicit discharges to the environment. Aside from ensuring that USAR facilities are good stewards of the environment, eliminating potentially harmful discharges helps the community as a whole, protecting our public waters for generations to come.

KEY WORDS: infrastructure, utility, sanitary, stormwater, drainage

CHALLENGES:

- Population growth and land use change impacts to water resource sustainability
- Public health, wildlife health, ecosystem health and water resource sustainability

ISSUES:

- Nutrient enrichment of surface, ground and coastal waters
- Sources and impacts of emerging contaminants