3. Illicit Discharge Detection and Elimination

Requirements:

- A storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharge from those outfalls.
- Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions.
- A plan to detect and address non-storm water discharges, including illegal dumping into the MS4.
- The education of public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Performance/Measurable Goals:

During 2009, KCI Technologies, Inc., and their subconsultant Century Engineering, Inc. (CEI), continued to perform MS4 inventory and inspection tasks for DelDOT to ensure our compliance with the NPDES Phase II requirements for illicit discharge detection and elimination. This work was conducted under Agreement No. 1354. The work includes expanding the MS4 inventory and inspection program to parts of the state beyond the permitted areas, as well as performing inspections of new structures, reinspections and screening of the MS4 in the Phase II area. KCI and Century also perform annual BMP inspections for DelDOT and conduct dry-weather screening of outfalls. The dry-weather outfall monitoring is conducted under Agreement 1495 with KCI Technologies.

Specific progress during calendar year 2009 includes the following:

A. Inventory and Mapping

DelDOT previously completed inventory and inspection of all parts of the DelDOT owned stormwater conveyance system in the Phase II urbanized area in 2007. This work included: all outfalls, drainage inlets, manholes, associated piping, stream channels, ditches, pipes and storm drains, and identifying which drainage inlets function as catch basins. Stormwater ponds and other BMPs also have been inventoried and receive annual inspections. These data are incorporated into the existing comprehensive GIS database that enables users to view the entire stormwater system, corresponding inspection data and photographs.

During the inspection process, each structure was opened and evaluated for material construction and condition. Physical measurements were also made. Digital photographs of the structure and each associate pipe were taken and connectivity between structures verified. At the completion of the inspection process a marker was placed on each structure to encourage residents to not dispose of waste down the

inlet. If a structure had a material deficiency, a Maintenance Work Order (MWO) was generated and forwarded to DelDOT.

Following completion of the inventory and inspection in the Phase II area, KCI Technologies and Century Engineering were hired under Agreement 1354 to complete the inventory and inspection of the DelDOT-owned storm system in all other areas of the state, including the rest of Kent and Sussex Counties and new subdivisions statewide.

CEI performed most of the initial inventory and inspection work in Kent and Sussex Counties in 2009. KCI added one crew to the work in Kent County starting in July 2009. The KCI/CEI team inventoried and inspected 43 subdivisions and 124 miles of non-subdivision roadways, for a total of 11,166 structures in Kent and Sussex Counties (Table 3-1). A complete summary of work performed by KCI and CEI through the end of calendar year 2009 is included in this report as Appendix B.

The mapping requirements of the Phase II Permit are met through an existing GIS viewer developed for the storm system inventory in New Castle County. The viewer is available to all DelDOT employees with access to the intranet. This satisfies the requirements of 40 CFR Part 122.21(f)(7) or Part 12.34.(b)(3)(i). This statewide map shows the location of all outfalls, the names and location of all waters of the United States that receive discharges from those outfalls, condition assessment data, and photographs. In 2008, KCI's Technology Services developed a Web-based Map Viewer to replace and upgrade DelDOT's existing Map Viewer. In 2009, KCI made further refinements and upgrades to the Map Viewer to allow for more simplified querying. It is expected that the Map Viewer application will be completed and submitted to DelDOT in 2010.

B. Outfall Screening in Urbanized Areas of Kent County

Dry weather outfall screening in the Phase II permitted area of the state began in 2004 and was completed in 2007 (see the 2007 Annual Report). Thus we have fulfilled the permit requirements. No additional dry weather screening was performed in the Phase II permitted area in 2009.

C. Prevention of Illegal Dumping

Since it is often difficult or impossible to catch someone in the act of improperly disposing of yard waste, oil, paint, etc. into the storm drain, DelDOT has for several years conducted a door hanger campaign to residents in subdivisions where an illicit discharge or illegal dumping activity was discovered or reported. This campaign is part of our outreach program to residents. It solicits public participation to anonymously report illegal dumping and serves as a "neighborhood watch."

The front side of the door hanger lists the date and type of pollutant found and what water body affected. On the back, the door hanger describes stormwater pollution and guidelines to reduce pollution at the home or workplace (see Annual Report 2006, Figure 2-1).

In 2009, two incidents of illegal dumping into storm drains were reported to DelDOT in New Castle County, but none in the Phase II permitted area. The

program is continuing, and we feel, based on experience in all three counties, that this door hanger campaign has been very effective in both raising citizen awareness and discouraging further dumping incidents. Additional details are provided in KCI's 2009 Outfall Inspection and Monitoring Report (Appendix C).

Table 3-1. Summary of MS4 inventory and inspection activities conducted in Kent and Sussex Counties during calendar year 2009.

	Number of Subdivisions	Number of Miles of Non-Subdivision Roadways	Number of Structures
January	1	10.0	682
February	0	10.1	620
March	2	5.3	468
April	2	7.8	687
May	0	8.8	562
June	13	7.6	1,150
July	2	8.2	957
August	10	16.2	1,613
September	3	25.1	1,963
October	1	18.7	1,273
November	2	1.0	652
December	7	5.5	539
2009 TOTAL	**43**	**124.3**	**11,166**