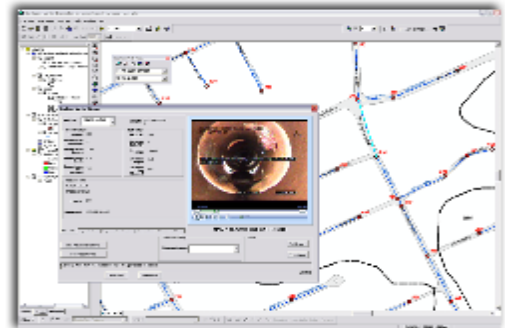


*Metropolitan Atlanta:
Closed Circuit Television (CCTV) Inspection*

Project:	CCTV Inspection
Clients:	Municipalities and utility service companies in metro Atlanta including DeKalb County, City of Atlanta, Clayton County, College Park, and East Point.
Location:	Throughout Metropolitan Atlanta
Completion:	Ongoing



States and Local Municipalities are required to enhance their operations and maintenance activities associated with the management of sewer systems in order to satisfy the mandates of local, state and federal regulators. The regulations that govern these systems require a full inspection of all sewer systems on a scheduled routine basis to emphasize preventive as opposed to reactive maintenance, thereby reducing the potential for sanitary sewer overflows that degrade the environmental quality of the communities being served. An accurate inventory of all sewer system assets is critical to achieving this goal.



Certified operators using current CCTV inspection hardware and software, collect and store CCTV inspection data in the field. Data collection and analysis are performed in accordance with the Pipeline Assessment Certification Program (PACP) system approved by the National Association of Sanitary Service Companies (NASSCO). This protocol is widely used by municipalities as a tool to manage their collection systems.

In performing the CCTV inspections, MME crews record all observations including:

- Basin, sub-basin, or priority area as applicable
- Upstream and downstream identification numbers
- Pipe segment identification
- Depth of manhole
- Pipe size
- Direction of flow
- Location of joints
- Location and configuration of connections (taps)
- Debris, grease, roots or any other obstacles
- Location and characteristics of all identified defects and observations using approved PACP codes
- Any other observations



The field data is checked by competent and certified office personnel for consistency and any deficiencies are resolved either within the software or by revisits by field crews to clarify and obtain any missing data. Accepted data is used to generate CCTV logs and the videos are stored electronically. The data can be converted into the industry standard "sewer.dat" files and processed further and ranked for service and structural defects. In conjunction with a database of I&I values MME has the capability to process

the severity of the defects and generate a ranking for each sewer system asset based on structural integrity and I&I potential.

MME has undertaken over 2,000,000 feet of CCTV inspections for the major municipalities in metropolitan Atlanta in addition to supporting a number of private sector entities performing Cured-in-Place Pipe Lining (CIPP) and pipe bursting activities.

A list of typical contacts with CCTV components undertaken by MME is shown below:

Project Location	Client	CCTV Inspection Linear Feet	Date Completed	Description of Major Project Components
DeKalb County, GA - North Fork Peachtree Creek	DeKalb County, Department of Watershed Management	300,000	Ongoing Annual Contract	Cleaning, defects coding, and point repairs.
East Point, GA - Throughout	City of East Point, Water Resources Department	200,000	2013	Sewer system mapping, CCTV inspection, Manhole Assessments, Evaluation, Smoke Testing and preparation of prioritization report to Georgia EPD.
College Park, GA -Throughout	City of College Park	250,000	2013	Cleaning and defects coding.
Kennesaw State University	Kennesaw State University, Facility Planning & Design Services	25,000	2013	Cleaning and defects coding.
Atlanta, GA - Throughout	City of Atlanta - Watershed Department	250,000	2010	CCTV inspections, point repairs and manhole assessments.
Clayton County, GA - Mud Creek Flint River	Clayton County Water Authority	40,000	2010	Cleaning and defects coding.
DeKalb County, GA - Throughout	DeKalb County, Department of Watershed Management	1,000,000	2007	Smoke Testing and cleaning and defects coding, including inspections of service laterals, manholes and clean-outs.