iTracking®

technology

Eastech elevates wastewater infrastructure assessment to a new standard of performance. The introduction of iTracking® Smart Sensing Technology (SST) sets the stage for revolutionizing the way in which municipalities maintain and manage their wastewater infrastructure networks.

iTracking®
simply explained...

What is iTracking?

iTracking® is a newly patented technology combining wireless sensors with smart algorithms and automated analytics that monitors the performance and condition of your wastewater collection network on a 24/7 basis without the requirement for confined space entry, repetitive maintenance or "in the road" data retrieval.

How to use iTracking

A. In just 20 minutes, install Wi-Fi enabled iTracker® sensors over the trough of any manhole selected for monitoring.

B. Using your mobile device, auto-connect directly to the iTracker® from the safety of your vehicle or sidewalk and download months of performance data.

C. Transfer the performance data to the automated iTracking analytics program and obtain a complete analysis of collection system behavior.

Where to use iTracking

Inflow & Infiltration Detection
   Micro I&I detection down to adjacent manholes

Overflow and Backup Prevention
   Proactive maintenance of sanitary sewer systems

Infrastructure Condition Assessment
   Cost-cutting "dynamic" asset management solutions

Hydraulic Model Verification
   Fact-based collection system model development

Smart Sensing explained

As with most technological breakthroughs, the basic premise is to create a better solution. Using flow meters to locate wastewater infrastructure problems has always been too expensive, difficult and inefficient. In terms of cost, time and results, it is much more effective to track collection network performance by simply monitoring volumetric changes in system behavior during wet weather events and then comparing those changes to the average dry day norm.
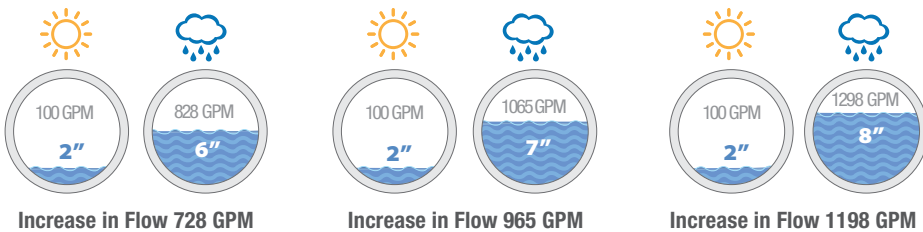
Level
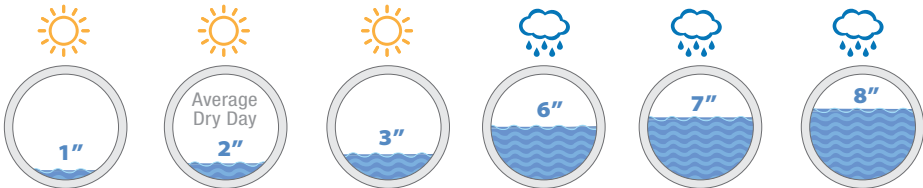
iTracker® performance sensors measure and record wastewater levels during both dry and wet weather.

Volume

Increase in Volume 728%   Increase in Volume 965%   Increase in Volume 1198%
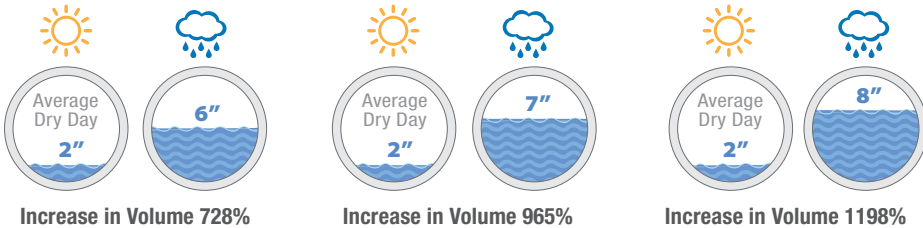
Smart algorithms calculate percentage changes in wastewater volume between the average dry day norm and wet weather events.

Flow

Increase in Flow 728 GPM   Increase in Flow 965 GPM   Increase in Flow 1198 GPM

iTracking® analytical software converts percentage changes in wastewater volume to flow in gallons per minute.

Above example represents 12" ID pipe.

# Smart Analytics Explained

Level

By importing level data collected by the iTracker® sensor into a PC or laptop running iTracking® software, clear and concise graphs are immediately generated detailing the various operating parameters of the wastewater collection system under investigation. These parameters include average dry day diurnal level patterns, abnormal patterns due to wet weather events, average groundwater levels, peak levels for comparison to pipe diameter capacities and rain data for analysis of the effects of Inflow & Infiltration (I&I).
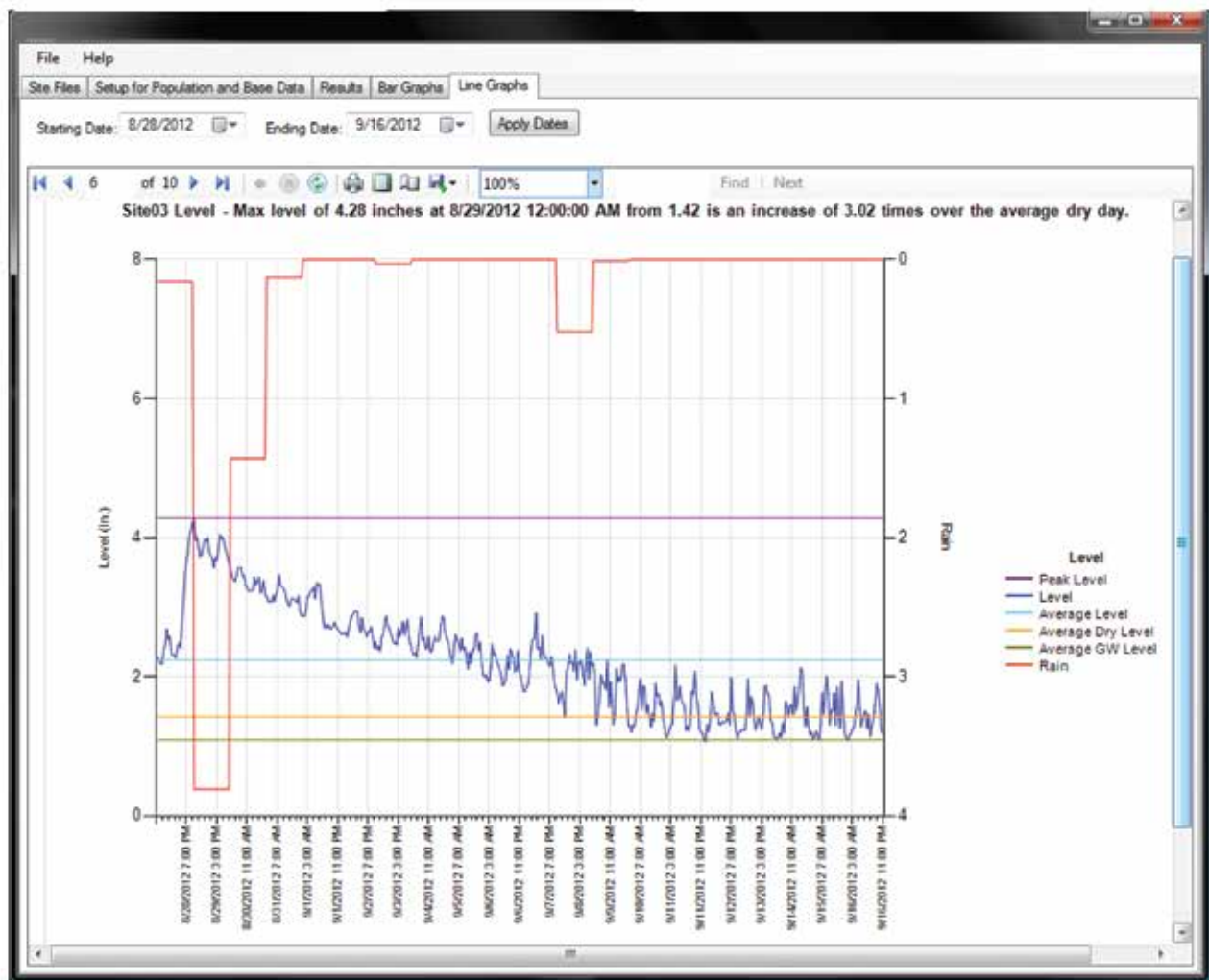
Volume

Proprietary algorithms residing within the iTracking® software program convert iTracker® level readings to changes in wastewater collection performance between the average dry day volume and wet weather events. These changes in volume are expressed in simple ratio form for instant understanding of the effects generated by Inflow & Infiltration, blockages due to fats, oil and grease and capacity issues arising from undersized collection pipes. Volumetric fluctuations, presented in ratio form, provide "at-a-glance" views of any deficiencies residing within the collection network.

![iTracking® simply explained...]
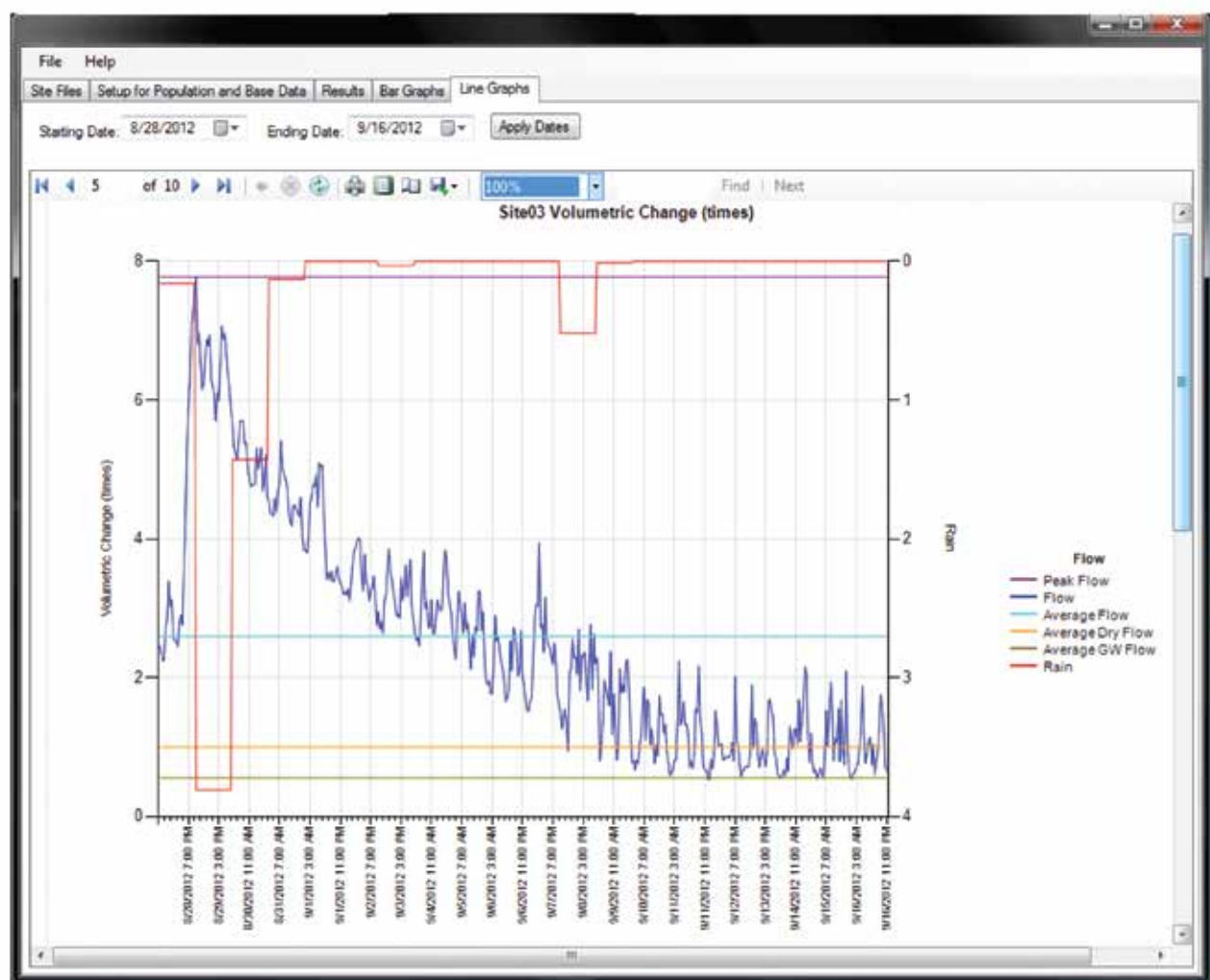
Flow

iTracking® analytics transform previously determined ratio changes in wastewater volume to flow in gallons per minute. Obtaining actual flow in gpm allows for in-depth analyses of the peak effects of Rain-Derived Inflow and Infiltration (RDII), investigation of collection system infrastructure affected by under-capacity and the collection of real-time data resulting from Combined Sewer Overflows (CSO's). Average monthly flows versus average dry day flows as they relate to wastewater treatment charges along with system capacity issues are all brought to light in one simple graph.
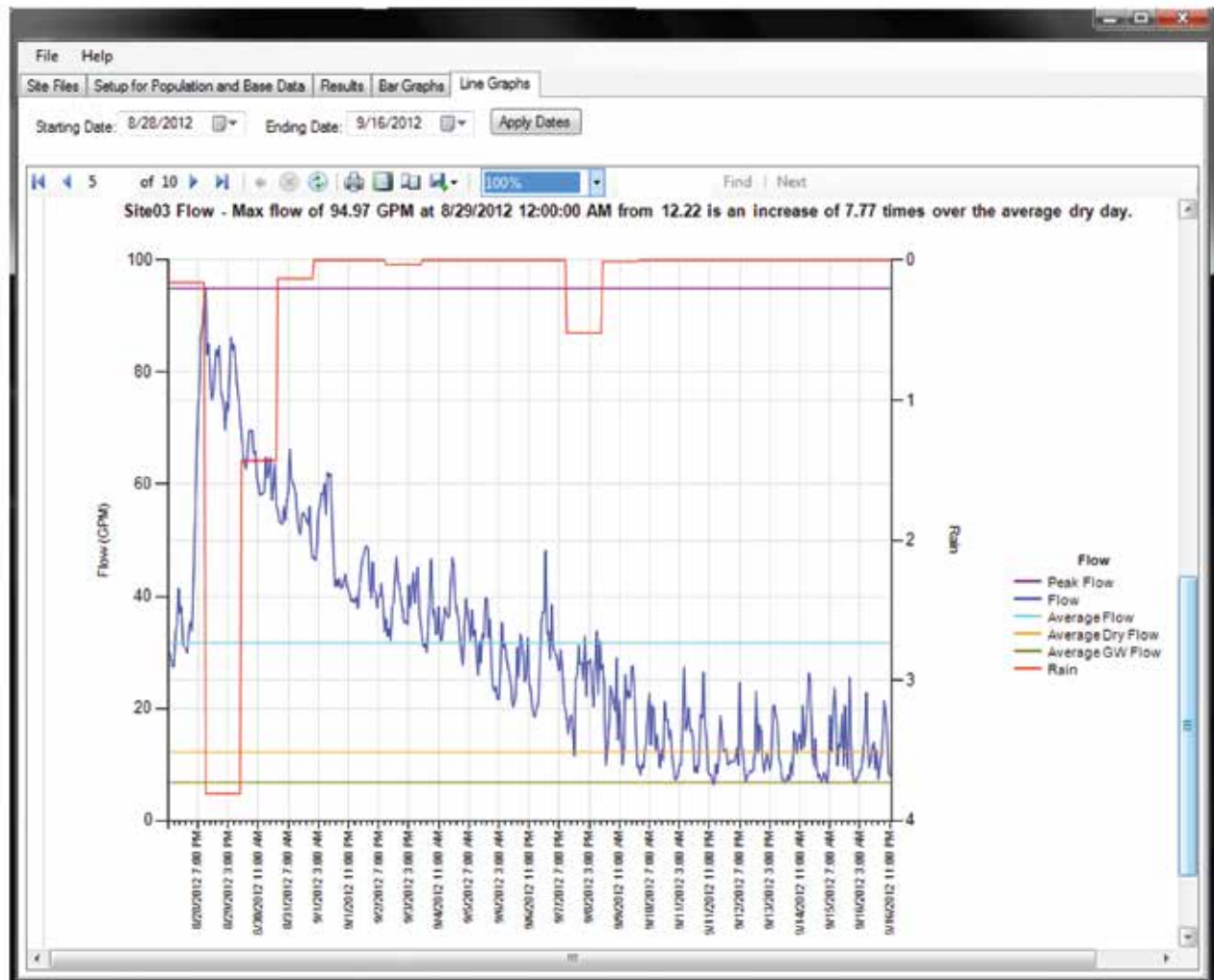
Charts

With just the click of a button, data visualization charts are presented in "at-a- glance" formats that quickly point out those areas within the collection network responsible for excessive amounts of I&I and the increases in cost associated with these problematic areas.
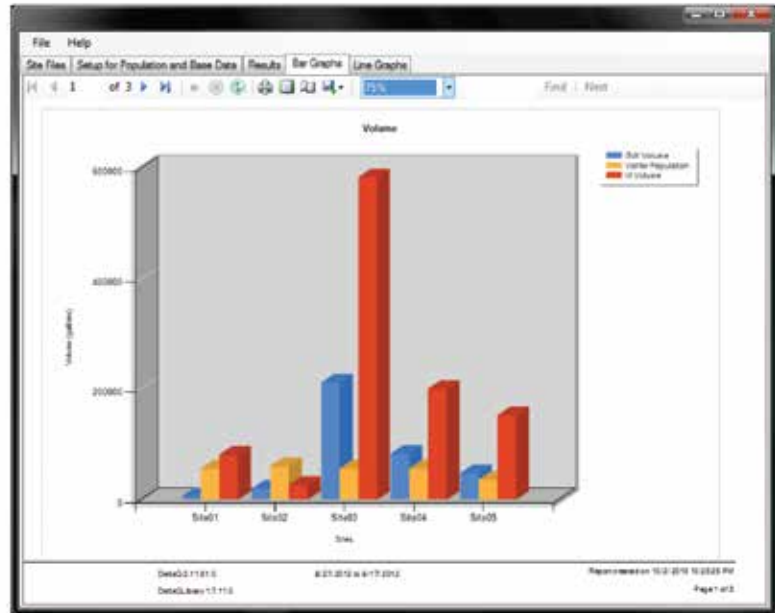
Reports

Again, with just the click of a button, concise and clearly organized reports are presented to operating, maintenance and engineering personnel taking into account levels, volume, flow, I&I, and direct monetary costs for each collection network basin as determined by patented iTracking® technology.

ICM of AMERICA
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