



scde

civil+environmental
ENGINEERING

Illicit Discharge Detection and Elimination (IDDE)



Identification and elimination of sewage discharges to municipal storm drainage systems are required as part of the National Pollutant Discharge Elimination System (NPDES) permit program.

SDE is recognized as an industry leader in the Northeast for providing field investigative services. SDE is responsible for identifying both direct and indirect sources of sewage discharging to storm drainage systems throughout several municipalities. The work includes:

- dry weather water quality sampling at outfalls
- manhole inspections
- in-situ field measurements and test kit analyses
- dry weather flow detection
- building service connection investigation and dye testing

We have been providing these services since 2001 and have assisted in developing many of the current procedures used today and refined those procedures developed prior to 2001. These procedures have been used in other communities, as required by EPA.

We provide additional services such as wet weather outfall sampling, runoff sampling, and GPS surveys for this type of project.

Inflow and Infiltration (I/I)



The presence of inflow and/or infiltration in a sanitary sewer decreases the system's ability to convey sewage discharges through the network of pipes. The identification and elimination of sources of inflow and infiltration are an important component of rehabilitating and maintaining these systems.

SDE provides field services to identify sources of inflow and infiltration.

These services include:

- Manhole inspections
- Confined space entry
- Residential property inspections
- Non-residential property inspections
- Downspout and roof leader dye testing
- Sump pump, driveway drain, or other fixture dye testing
- Dyed water flooding of catch basins
- Smoke testing
- Inflow quantification

SDE also assists with continuous flow metering projects and provides metering data analyses.

Combined Sewer Separation



Sewer separation is the practice of separating the combined, single pipe system into separate systems for sanitary sewage and storm water flows. In a separate system, storm water is conveyed to a storm water outfall for discharge directly into the receiving water and the sanitary sewage is conveyed to the wastewater treatment facility.

SDE provides field services to identify sources of storm water and groundwater flow to be removed from the sanitary waste stream.

These services include:

- Manhole inspections
- Confined space entry
- Residential property inspections
- Non-residential property inspections
- Downspout and roof leader dye testing
- Sump pump, driveway drain or other fixture dye testing
- Dyed water flooding of catch basins
- Smoke testing
- GPS survey
- Preliminary design for disconnection or redirection of storm water or sanitary sewage discharges

SDE also provides resident engineering services for sewer separation projects.

Construction Oversight and Administration



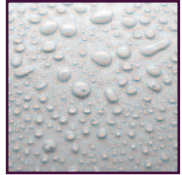
SDE provides construction oversight and administration services for various sanitary sewer, storm drain, and water infrastructure projects. These projects include pipeline installations and rehabilitations as well as treatment plant construction and upgrades.

Construction services are performed preliminary to and during the construction of a project to assure that the work of the construction contractor conforms to the requirements of the project's contract documents. These services are meant to provide a measure of quality assurance, but not quality control. Quality control is the responsibility of the contractor.

During construction, the construction inspector (also referred to as resident engineer) is responsible for making sure that all materials and equipment used on a project meet the required specifications. It is inspector's responsibility to accurately note and report on all work in progress and completed.

These services include resident inspection, shop drawing review, operations and maintenance manual preparation, and as-built drawings.

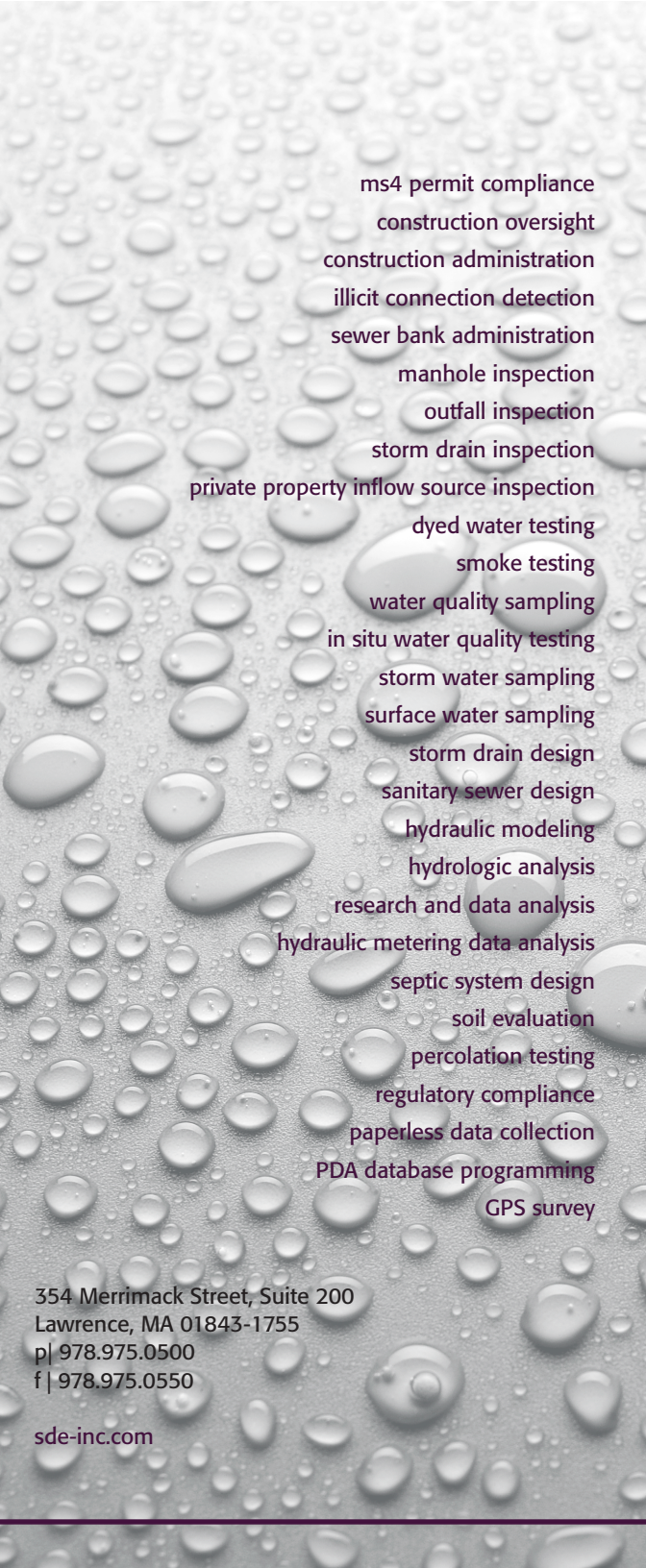
Additional Projects



In addition to the SDE's core services on construction oversight and administration, inflow/infiltration, illicit discharge detection and elimination, and combined sewer separation projects, we provide in support services in the design process and regulatory compliance assistance.

These services include:

- Storm water quality sampling
- GPS survey
- Research and data analyses
- Computer modeling and simulation
- Construction specification development
- AutoCADD
- Plan development
- Training
- Quality assurance/quality control inspections
- Sewer bank administration



ms4 permit compliance
construction oversight
construction administration
illicit connection detection
sewer bank administration
manhole inspection
outfall inspection
storm drain inspection
private property inflow source inspection
dyed water testing
smoke testing
water quality sampling
in situ water quality testing
storm water sampling
surface water sampling
storm drain design
sanitary sewer design
hydraulic modeling
hydrologic analysis
research and data analysis
hydraulic metering data analysis
septic system design
soil evaluation
percolation testing
regulatory compliance
paperless data collection
PDA database programming
GPS survey

354 Merrimack Street, Suite 200
Lawrence, MA 01843-1755
p | 978.975.0500
f | 978.975.0550

sde-inc.com