IPI

IMPACT PIPE INSPECTION

InREACH

Assessment Process™

The InREACH Assessment Process™ is a structured, phased methodology designed to inspect and evaluate both small- and large-diameter sewer and stormwater infrastructure. This approach, developed for municipalities or in collaboration with engineering firms, allows us to efficiently and effectively assess assets regardless of the quality or existence of historical data. We utilize a multitude of technologies—from industry-disrupting EdgeAI Camera Systems to Multi-Sensor Inspections—with the goal of capturing the clearest, highest-quality data possible. This ensures the end user has a well-informed, confident path forward in decision-making. The goal is to provide actionable insight while reducing cost, increasing speed, and enhancing precision.

Technology & Partnerships

Our process is strengthened by strategic technology integrations and partnerships that enhance data accuracy, streamline execution, and empower decision-making:

EdgeAI Camera Systems: Industry-disrupting smart camera solutions that enable real-time AI-driven inspection analytics. These systems are equipped with onboard processing capabilities that reduce the need for post-field review and enable immediate condition assessment. With high-resolution video capture and object detection algorithms, the EdgeAI platform provides unmatched clarity in defect identification, flow observation, and asset tagging—streamlining both the field operations and data delivery stages.

Multi-Sensor Inspections (MSI): Utilized for large-diameter pipes, MSI combines sonar, laser profiling, and CCTV for a comprehensive structural and operational assessment. We incorporate advanced tools like the CUES SolidFX—a high-resolution inspection platform known for capturing crystal-clear imaging in diverse pipe conditions—and the CUES Mudmaster, a heavy-duty crawler system specifically engineered for large-diameter pipes with silt, debris, or submerged environments. These systems enhance our ability to navigate and document pipe conditions under challenging field scenarios.

Fulcrum App: Used for real-time data collection, geotagged asset tracking, and in-field inspection coordination. Fulcrum empowers our field teams with customizable mobile forms, allowing for consistent, structured data input across all inspection types. The platform supports offline functionality, ensuring continuity in areas with poor signal coverage. It also enables photo documentation, GPS mapping, timestamp logging, and form logic, making it a powerful tool for validating inspection integrity, streamlining QA/QC processes, and supporting real-time decision-making in the field.

T4 Vault: Centralized data management system that enables secure storage, GIS integration, and stakeholder access. T4 Vault supports version control, audit tracking, and customizable user permissions, allowing multiple stakeholders to collaborate securely and efficiently. It also facilitates seamless data import/export between inspection platforms and GIS systems, which enhances reporting accuracy and reduces administrative overhead. With intuitive dashboards and real-time syncing, T4 Vault ensures that all users—from field teams to executive leadership—have access to the most up-to-date, actionable data.

GIS Shapefile Overlay Tools: Allows us to visualize and prioritize High Consequence Areas (HCAs) and risk-based segments before field deployment.

Engineering Partnerships: We collaborate with top-tier engineering firms to ensure data handoff is seamless, professional, and aligns with design workflows.

Phase 1: Initial Engagement & Project Scoping

Objective: Establish a strong foundational understanding of the client's immediate and future needs.
Kickoff Format: In-person venue or personal meeting, a core tenet of how we conduct business.

Key Activities
Identify project goals and expectations
Review immediate system needs, historical usage, and intended future use
Discuss scheduling constraints and budget considerations
Establish project timeline and key deliverables

Phase 2: Historical Data Review & Intelligence Gathering

Objective: Build context through historical insights and operational intelligence.

Key Activities:
-Collect and review past work orders, capital projects, and maintenance records.
-Conduct "Coffee Talk" interviews with field staff and operations personnel.
-Emphasis on uncovering repeated trouble spots and institutional knowledge.
-Analyze crossover between administrative insight and field-level experience.
-Gather and process all existing GIS shapefiles, engineering drawings, and system maps.
-Integrate data into project management (Fulcrum App) and asset database (T4 Vault)
-Overlay High Consequence Area (HCA) and Risk-Based shapefiles for project planning and prioritization.

Phase 3: Field Investigation & Scope Development

Objective: Conduct detailed site reconnaissance and define execution strategy.

Key Activities:
- Perform site walks to identify and confirm all access points (e.g., manholes, inlets)
- Verify asset locations, mapping accuracy, and site conditions
- Develop a logistical field plan to optimize team efficiency and minimize overhead
- Determine feasibility and access for both pipeline and manhole inspections
- Draft full project scope, outlining:
  - Goals and methods of inspection
  - Labeling and documentation standards
  - GIS overlays and mapping instructions
  - Communication protocols (911 coordination, email groups, weekly updates)
  - Naming conventions for newly discovered infrastructure
  - Safety plan and risk mitigation strategy
  - Timeline with milestones and communication checkpoints

Phase 4: Execution & Deliverable Development

Objective: Perform fieldwork, capture data, and deliver client-specific insights.

Key Activities:
Adhere to the approved safety plan and communication cadence
Execute field assessments efficiently using data-driven prioritization
Collect condition data, flow data, access status, and any identified defects
Process and format deliverables according to end-user type:
Municipality Delivery: Emphasize interpretive analysis and actionable recommendations
Engineering Firm Delivery: Provide clean, structured data to support design and planning efforts, reducing their internal processing time
- Submit data via Fulcrum and T4 Vault platforms
- Conduct final review meeting to walk through findings and recommendations

Conclusion:

The InREACH Assessment Process™ phased process maximizes our ability to deliver consistent, high-value sewer and stormwater infrastructure assessments & insight. By leveraging advanced technology and sophisticated software platforms, we are able to manage, interpret, and visualize complex datasets with accuracy and efficiency. Whether serving a municipality directly or supporting an engineering partner, this structured approach ensures transparency, cost efficiency, and meaningful insights into the true condition and performance of underground assets.