

# Trenchless Technology: What Solutions Does It Provide?

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Trenchless technology is an alternative and complement to traditional open-cut construction methods for the structural repair, restoration and corrosive protection of storm water and sanitary sewer pipelines.

Often referred to as “no-dig” construction, trenchless technologies offer a faster, environmentally and more budget-friendly approach for repairing and replacing sewer lines and other infrastructure applications.

Trenchless technology consists of the methods, materials, and equipment used for replacing or rehabilitating existing underground infrastructure with little or no excavation and with minimal disruption to surface traffic and activity above.

Trenchless technologies and methodologies are proven and can often save both money and extend the life of service of the pipelines.

Unlike traditional sewer repair methods, trenchless pipe rehabilitation is mostly accomplished without excavation. Pipeline inspection technologies provide an accurate condition assessment of existing sewer, wastewater, and stormwater pipelines. Pipes are then accessed and repaired to full structural integrity or are replaced without disruptions and other potential risks.

The application of trenchless technology focuses on the repair and rehabilitation of existing underground stormwater and wastewater systems and pipelines. Trenchless rehabilitation technologies utilize advanced techniques, specialized equipment, and superior quality materials to replace or rehabilitate any pipes usually in less time and with minimal disruption. There are several processes that can be employed. A few commonly used approaches to pipeline rehabilitation include cast-in-place, spin casting, geopolymer mortar and linings, and shotcreting.

Repairing or restoring pipes with traditional trenching methods is difficult and expensive especially when pipes run deep or under solid obstacles. Trenchless technologies make it possible to repair or install pipelines under waterways, roadways, and other obstacles with little or no disruption of flow and minimal no damage to the surrounding area. Ultimately less expensive and less labor-intensive, trenchless pipeline rehabilitation is also less invasive and can eliminate much of the mess of conventional methods.

## **6 Benefits of Trenchless Technology**

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The use of trenchless technologies has become increasingly more accepted for all stormwater and sewage system pipeline repair projects because it is less invasive than conventional methods of repair and replacement and offers many notable benefits.

### **1. More Efficient, Saves Time**

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Trenchless, no-dig solutions target the structural repair and corrosive protection needed to complete sewer line restoration. The duration of the process takes a fraction of the time that other conventional types of sewage and stormwater system repair. The inconveniences and inefficiencies that typically associated with conventional trench and excavate repairs, like shutdowns or traffic flow disruptions, are often reduced or eliminated, thereby, saving time and money.

### **2. Less Intrusive, Fewer Disruptions**

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Trenchless methodologies involve little or no digging and usually requires a minimal footprint. For each job site, this means minimal disturbance and damage to surrounding areas. Even pipeline repairs under heavily trafficked roadways can be completed without major disruption to the traffic flow. The time and expense needed to rehabilitate the job site after the work is completed is decreased.

### **3. Less Environmental Impact**

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Trenchless technologies offer an environmentally friendly alternative to conventional digging repair methods. Trenchless methodologies allow for the use of specialized equipment and techniques that can replace or repair compromised pipelines with minimal disturbance and without causing ecological damage.

## 4. Safer

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Trenchless, no-dig methods are often safer and less hazardous to workers offering reduced incidences of workplace mishaps and traffic-related issues. In many densely populated urban areas, open-cut excavations or conventional methods are simply not practical and the social costs are too great. Utilizing trenchless technologies makes it easier to avoid issues related to terrain variations and encountering unexpected underground hazards.

## 5. Extends Service Life

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The repair and restoration methods used in the trenchless processes include high performance, highly protective coatings that help to improve the structural stability and integrity of the pipeline. Professionally restored, these pipelines, now impermeable, often have an extended service life of 50 years or more.

## 6. Lower Overall Costs, Budget Friendly

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A trenchless solution to a pipeline problem becomes the more economical option after factoring in the costs of project efficiency; reduced labor costs; eliminated need for heavy equipment; decreased project site disturbances and interruptions; reduced clean-up costs; avoidance of site reconstruction or modifications; and sidestepping the inevitable foreseen and unforeseen issues (like underground utilities).

**Bottom Line:** Most municipal, state, and federal projects that utilize trenchless technologies and repair methods save money in the long run.

The deteriorating environments of storm water and sanitary sewer infrastructures present daunting and costly challenges for every municipality, state, and commercial / industrial property owner. Trenchless technologies and methodologies are proven and can often save both money and extend the life of service of the pipelines.

Begin by looking for a company that specializes in and dedicated to [trenchless technologies](#) and methodologies. An experienced contractor will utilize advanced techniques; have the specialized equipment necessary to do the job; and be committed to using only superior quality materials.

Make sure, too, that the preferred contractor has the experience and expertise to complete the job and that they have a reputation for standing behind their work. Asking for references is always a good idea.