

“Green Solutions Protecting Our Environment”

Trenchless Consulting, LLC

Minimal Excavation Construction Method Technologies - Reducing Social, Environmental and Economic Impacts while reducing Carbon and Safety Concerns Related to Existing Open Excavation Methods.



“Remote Sewer Saddle Connection Technology”

Remote Lateral Connection Process for Pipe Bursting
Speaker: Ted Dimitroff, President, Trenchless Consulting LLC

Current pipe bursting sewer saddle connections require man entry and all excavation must meet OSHA requirements. The new Remote Lateral Connection process is a non-man-entry method that is much safer and greatly reduces social, economic and environmental issues created by the current, open-excavation method. Fully field tested on pipe bursting projects, the tools and process can be used at very deep depths

Patent # 7,674,072

Remote Sewer Mainline Lateral Connection Uses

- Sanitary sewers
- Septic tank elimination projects
- PipeBursting
- VCP grinding on remove & replace sewer projects
- CIPP projects mainline saddle renewals
- Micro-tunnel and pilot tube projects to make deep connections.

Vertical Hole Drilling Machine Setup Replaces Excavators



Vertical Connection Hole Installed Next to Wall



Vertical Lateral Connection Holes Ready for PipeBursting



Vertical Drilling Machine Provides Quick Access



This machine can make deep large diameter saddle taps

Downtown OKC Lateral Connections on Pipe Bursting



Vacuum Slurry Removal of 48 Inch Access Hole



48" Lateral Connection Man Entry Access Hole Installing
20 feet deep Insert-a-tee fitting (this fitting only weakens
the pipe, saddle fitting strengthens the pipe)



Existing Industry Lateral Tool Design is Outdated and Requires Man Entry



New Industry Tool Design With Spring Pressure System. Deep Non Man Entry or Man Entry Lateral Installations



Glass Bead Pipe Cleaning Can be Done Dry or High Pressure Water Blasting



Effective Cleaning Removes Outer Layer



Outer Layer Removal



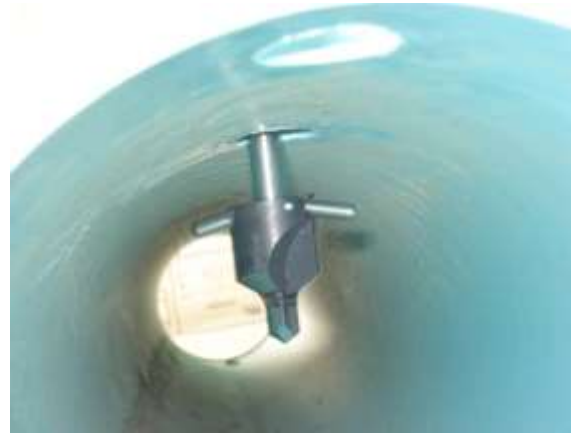
No Glass Bead Material Left Behind



Pipe Cleaned in Less Than 1 Minute



Remote Lateral Connection Tool Package



Existing Tool on Left verses New Tool Design



PVC Saddle Design Strengthens the Mainline Pipe and can be used on CIPP Relining Saddle Replacement Projects



EF Lateral Connections In Tight 10 Foot Deep Area



10 Foot Deep Non Man Entry Electro Fusion Saddle Connections



Deep Non Man Entry Lateral Connection Kit



Shallow Man Entry Lateral Connection Kit



- Saddle connection fittings strengthen the pipe.
- Improved flow, no chance of misalignment.
- Large hole in pipe is done after the connection is made.
- Shoring boxes are expensive verse vertically drilled holes with metal culvert pipe or HDPE.
- Excavators needed to dig deep are much more expensive than mini excavators combined with a vertical drilling rig.
- Volume of soil removed is greatly reduced and that reduces the back-fill material and restoration cost.

Two Stage Vertical Drilling Deep Main Line Pipe and Sewer Lateral 12:00 Connection

Stage one - 18 inch vertically drilled remote lateral connection hole

Stage two - 36 inch vertically drilled man entry access hole.

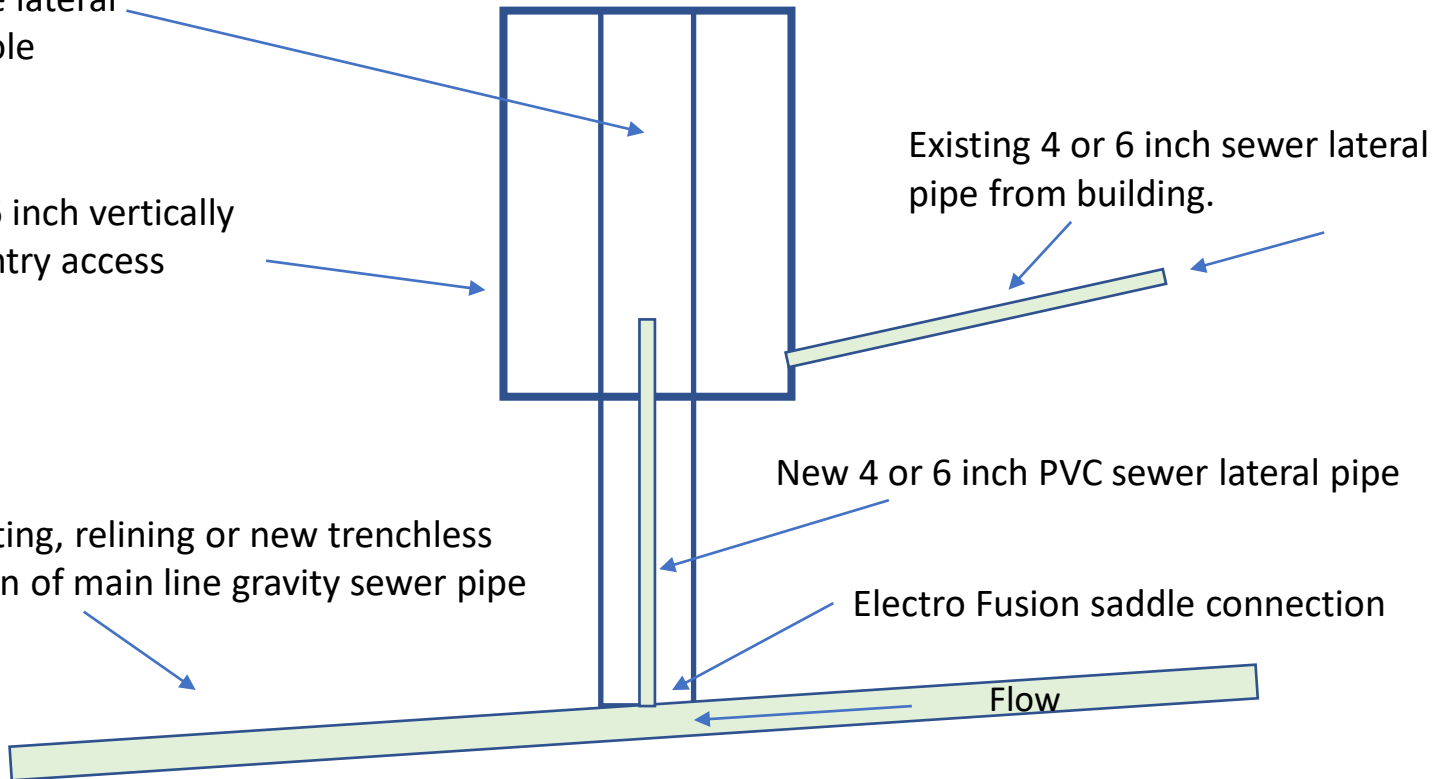
Pipe bursting, relining or new trenchless installation of main line gravity sewer pipe

Existing 4 or 6 inch sewer lateral pipe from building.

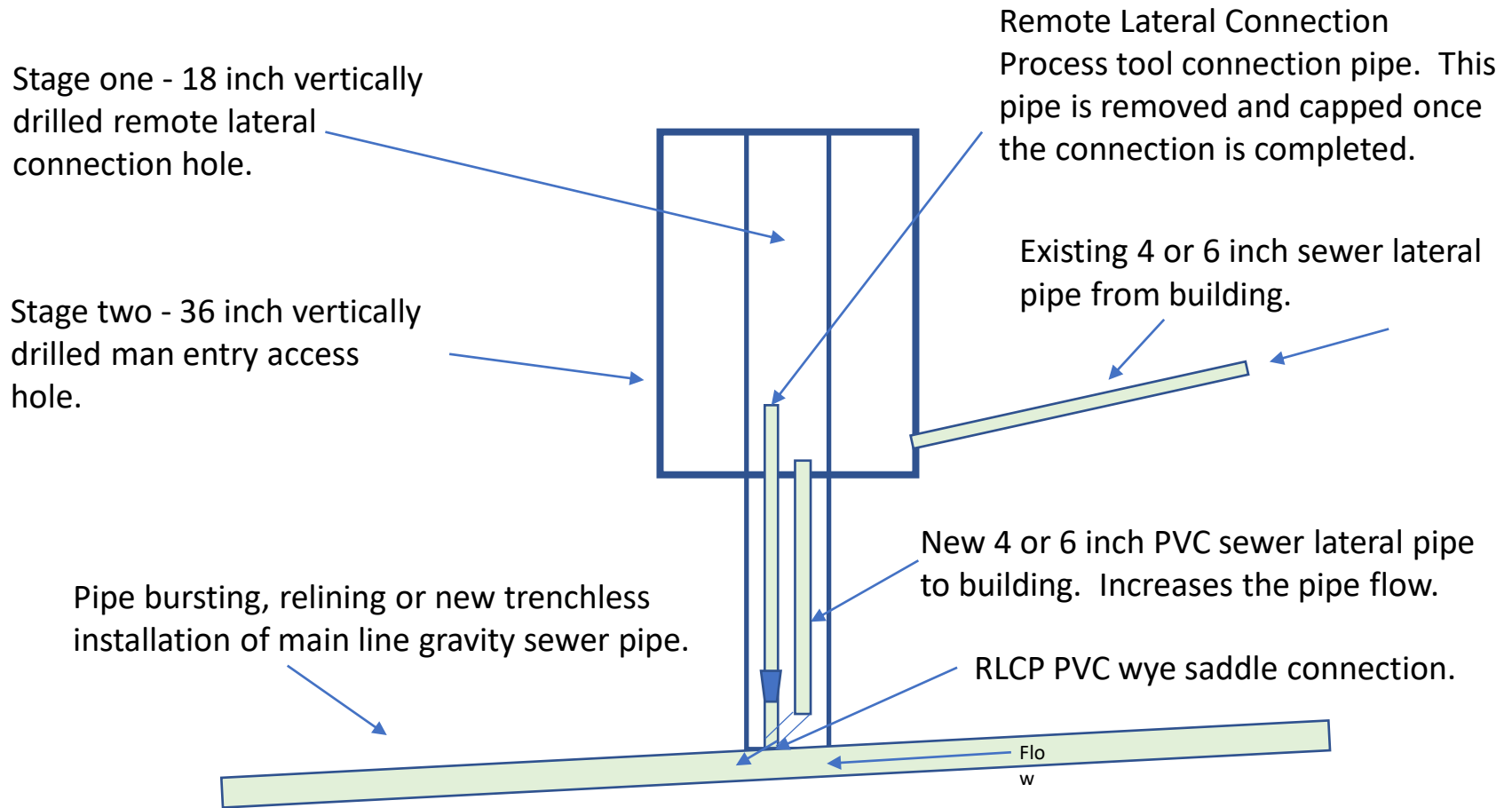
New 4 or 6 inch PVC sewer lateral pipe

Electro Fusion saddle connection

Flow



Two Stage Vertical Drilling Deep Main Line Pipe and Sewer Lateral Wye Connection



Remote Sewer Lateral Connection

Open Cut

Verses

Remote Process



THANK YOU

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