

# PIPE BURSTING 101



*PNEUMATIC & STATIC*

# What is Pipe Bursting?

➤ *The breaking of an existing pipe, and expanding the broken pipe into the surrounding soil while simultaneously pulling in new pipe behind a bursting head.*



# What is Pipe Bursting? (cont.)

- Pipe bursting is a proven trenchless rehabilitation process.
- Excavation is required for sewer service pits, entry pits and exit pits *(if required)*.
- New Factory Manufactured Pipe is installed, *not a liner or coating*.
- Bursting follows the existing line and grade of the existing pipeline.

# Types of Existing Sewer Pipe Materials that can be burst.



- CI (Cast Iron)
- PVC
- Clay tile (VCP)
- Concrete (CP)
- Reinforced Concrete (RCP)
- Ductile Iron (DI)
- Asbestos Cement (AC)

# Types of New Sewer Pipe Materials for Pipe Bursting



- HDPE
- VCP (No Dig)
- FPVC (Fusible PVC)
- Ductile Iron (DI)

# PIPE BURSTING METHODS

- 1. PNEUMATIC (*Powered by an Air Compressor*)
  - Used mainly for Sewerline Installation



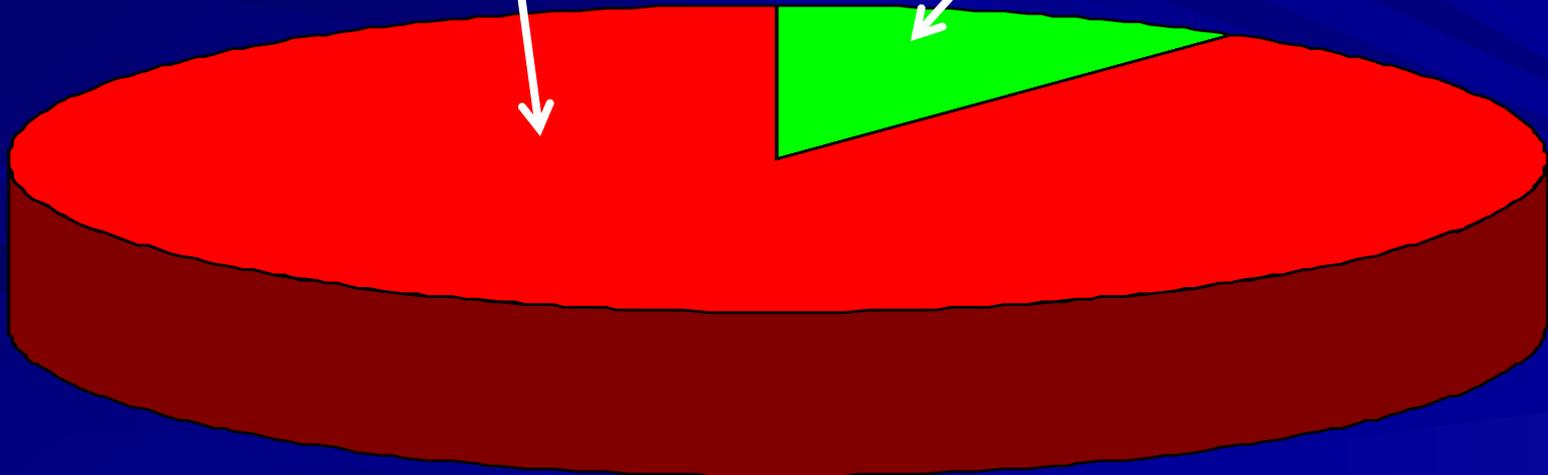
- ◆ 2. STATIC (*Powered by hydraulic power unit*)
  - Used for Waterline or Sewerline Installation

# Pipe Bursting Method Usage



**PNEUMATIC**

**STATIC**



# PNEUMATIC Pipe Bursting Tool

- Provides kinetic energy
  - Front Mount



- Rear Mount



# Constant Tension Winch



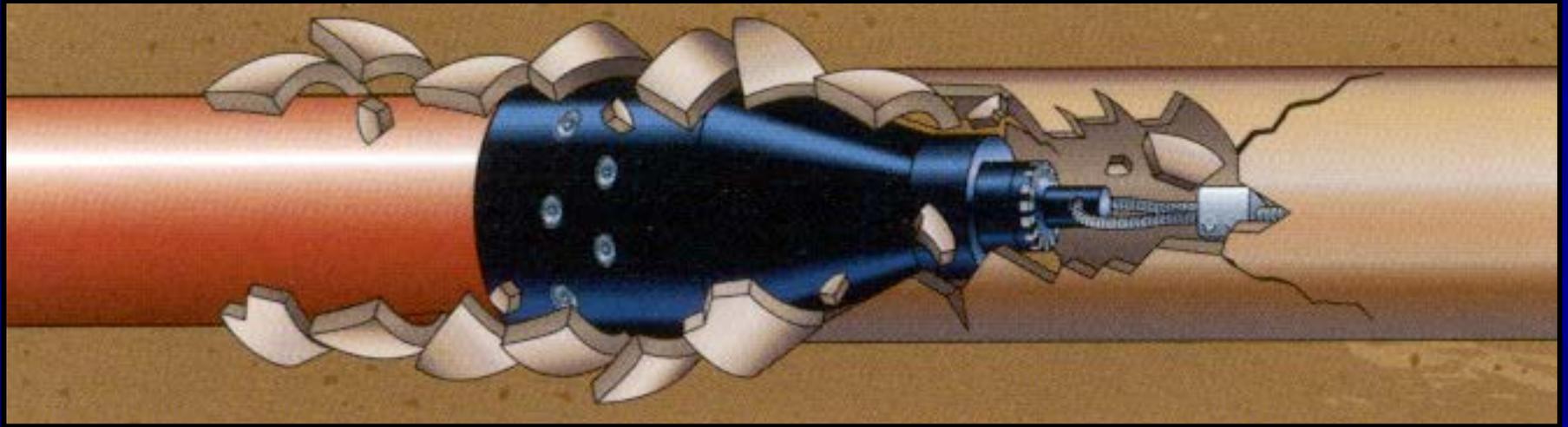
- Keeps constant tension on tool
- Assists in overcoming pipe friction

# Pipe Bursting Heads

- Breaks existing pipe
- Expands surrounding soil
- Pulls in new pipe

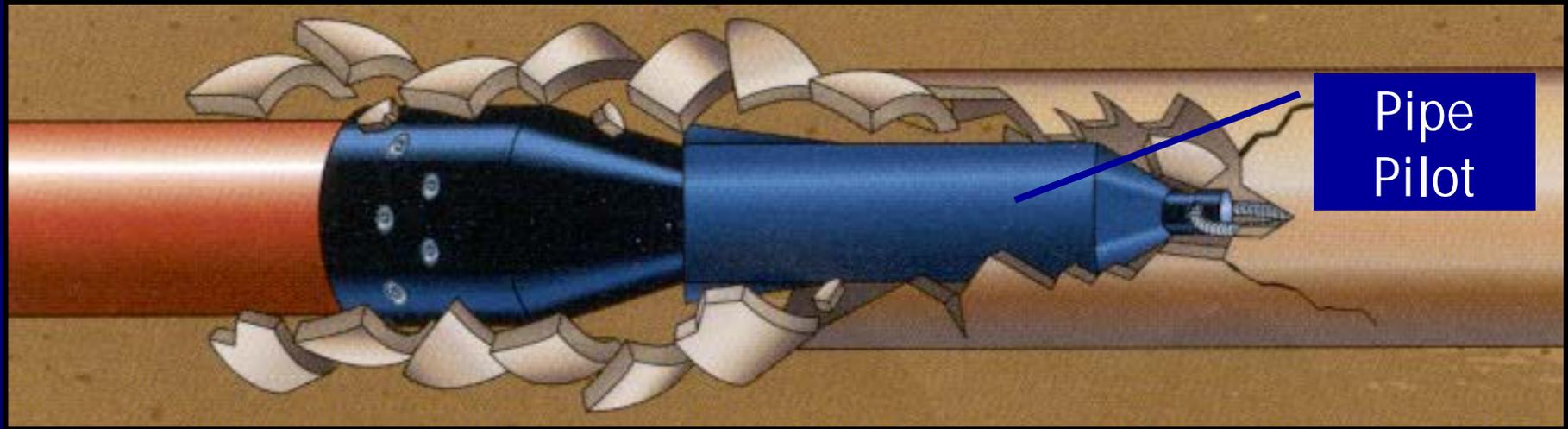


# Front Mount



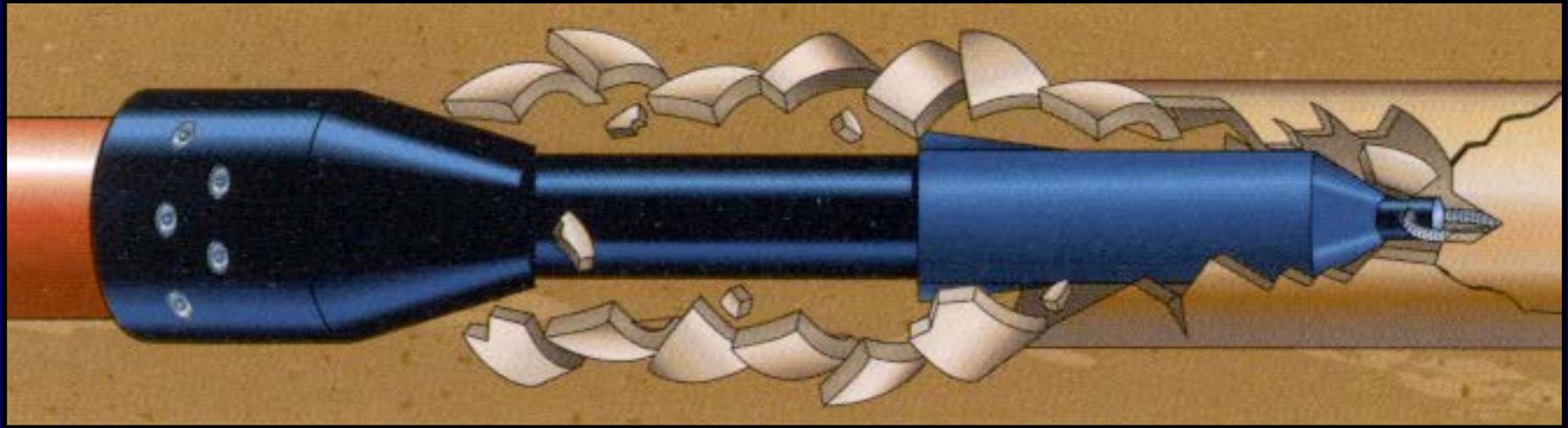
- Developed for manhole exit projects
- Eliminates need for receiving pit
- Design works best for size for size or 1 upsize replacement
- Tool is protected inside the HDPE

# Front Mount w/Pilot



- Pilot acts as a forming mandrel reducing pipe plowing
- Pilot often needed when soil plugs develop or pipe fractures in front of burst head
- Pilots are recommended: Cast iron burst jobs & Multiple upsized projects

# Rear Pipe Puller With Pilot

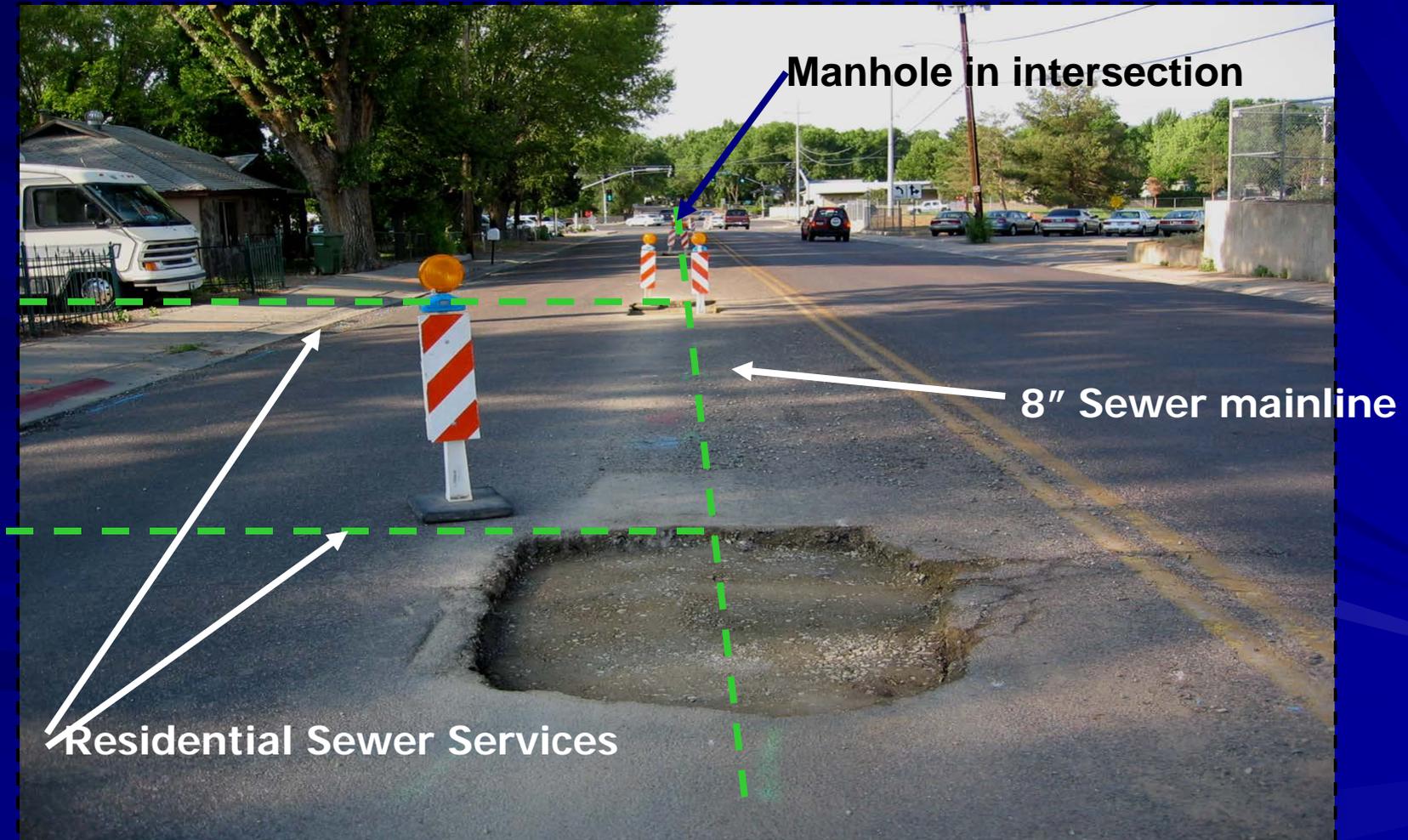


- Recommended when tool size/energy must be larger than new pipe diameter
- Used when doing multiple upsizes
- Compact soil or deep projects

# Pneumatic Pipe Bursting



# Typical Pnuematic Job Site Layout (cont.)



# Typical Bursting Process (cont.)

- ✓ Excavate & Shore Entry/Exit Pits
- ✓ Excavate & Shore Sewer Service Connections



# Typical Bursting Process (cont.)

✓ Fuse HDPE



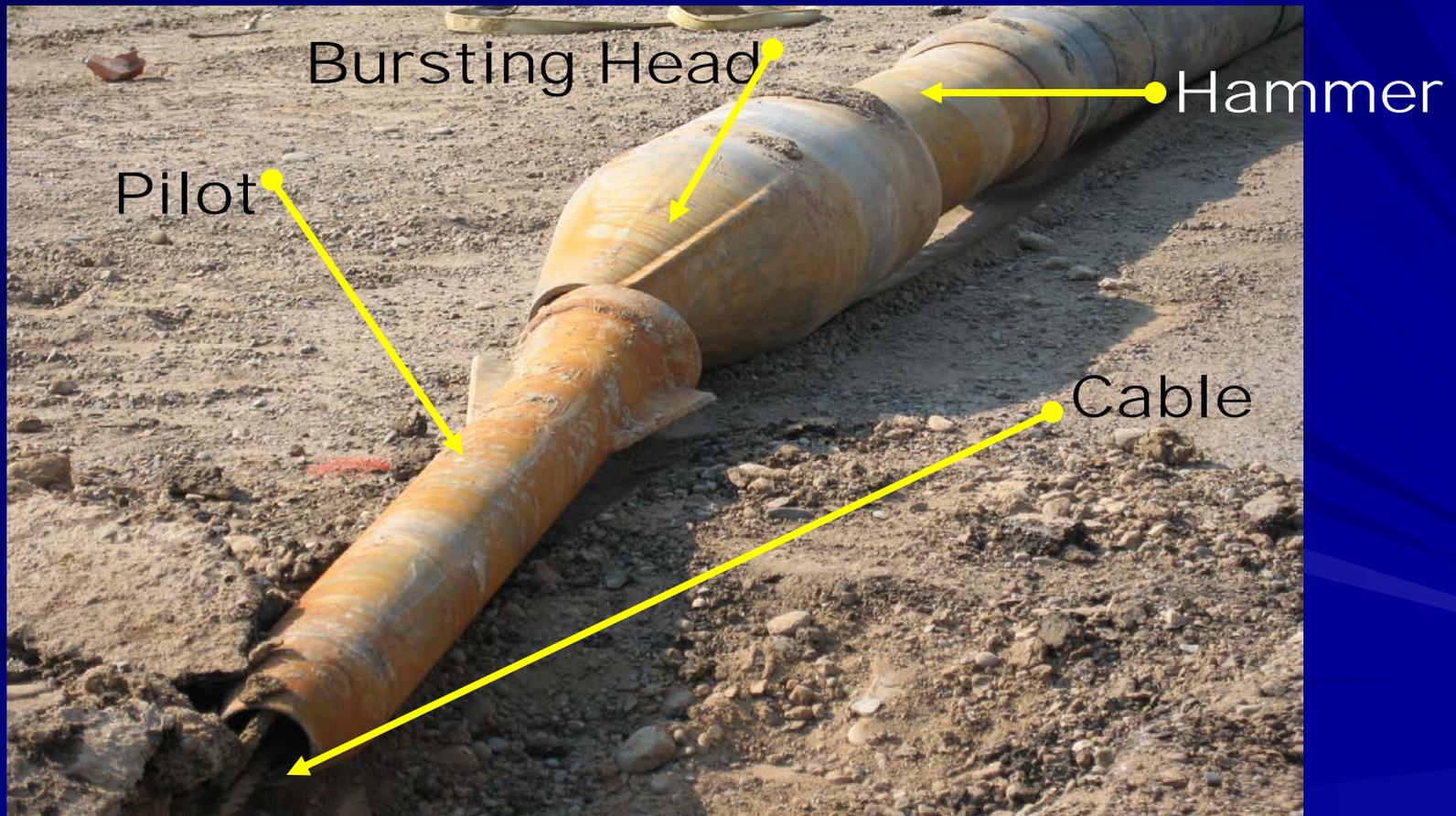
# Typical Bursting Process (cont.)

✓ Set up Winch & Install Pulling Cable



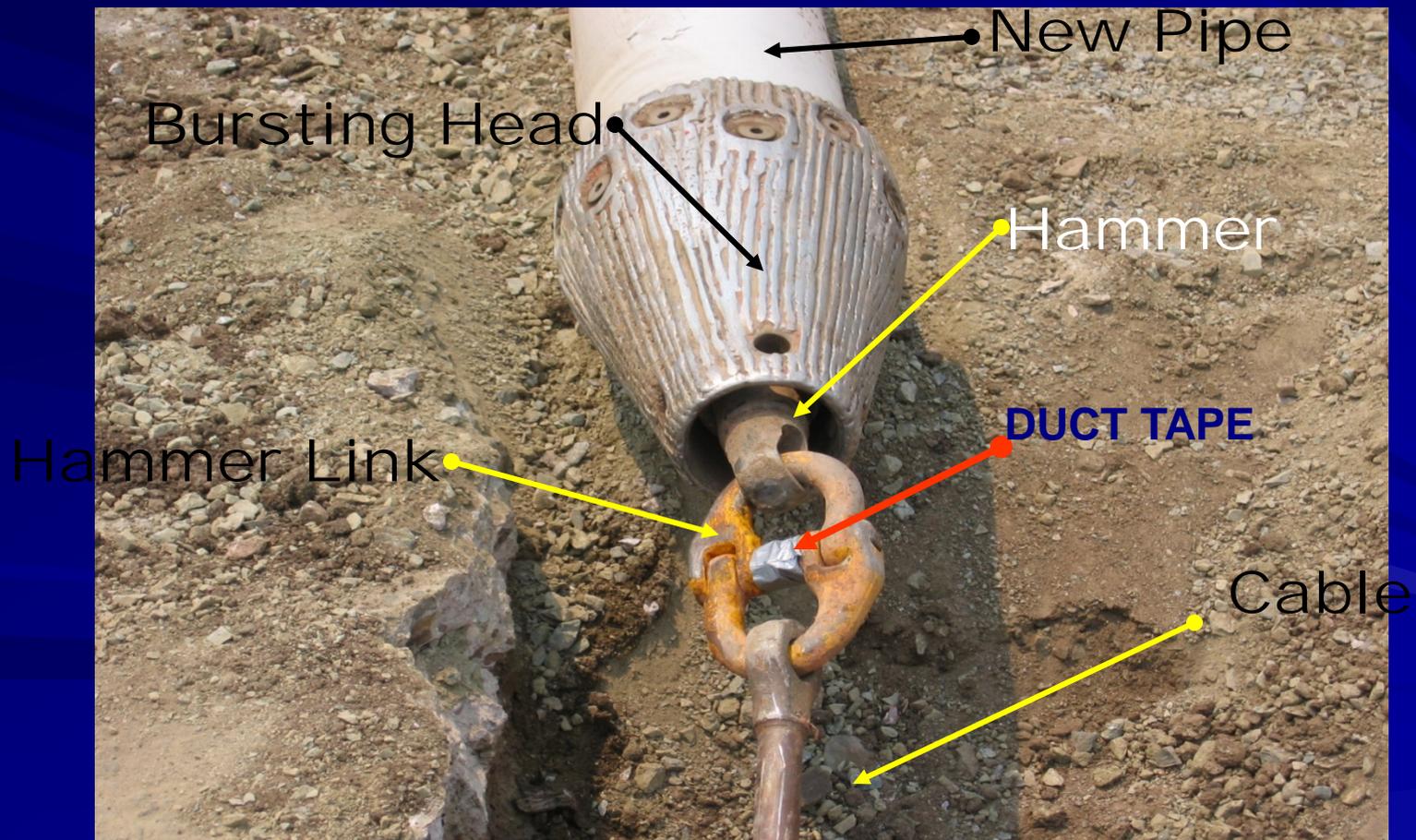
# Typical Bursting Process (cont.)

- ✓ Attach Bursting Tooling to Cable



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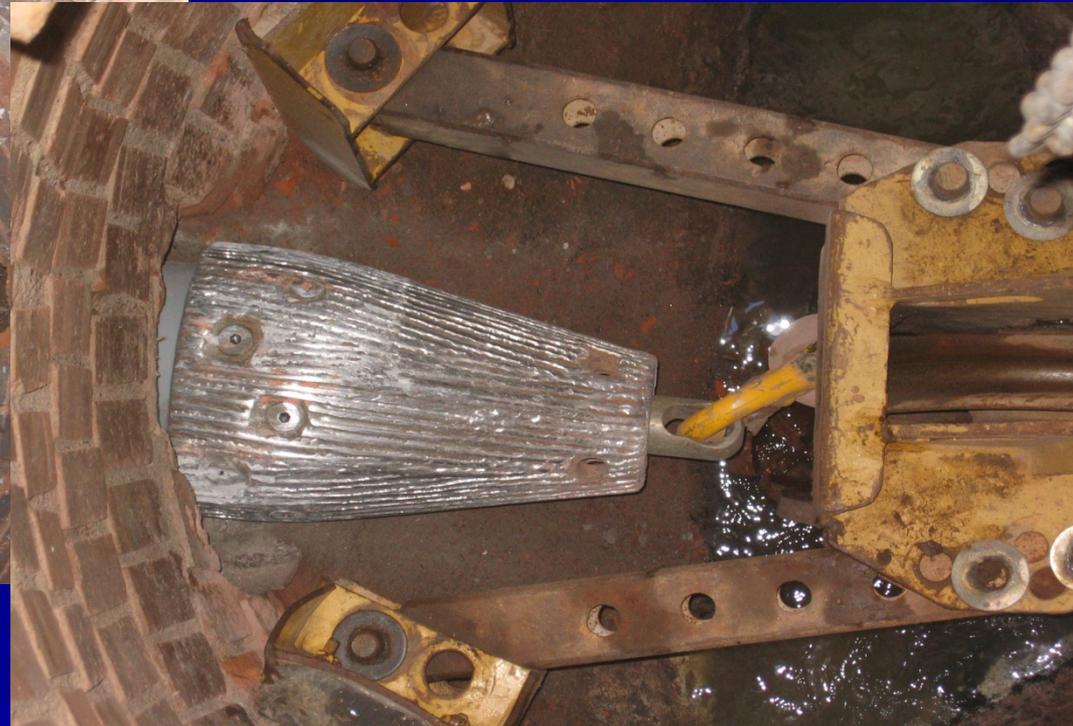
# Typical Bursting Process(cont.)

✓BURST AT LAST!



# Typical Bursting Process(cont.)

✓ Bursting Head Arrives in MH.



# Typical Bursting Process(cont.)

✓ Air test Sewerline



# Typical Bursting Process(cont.)

✓ Reconnect Sewer Services



# On Location: Roswell, NM



**Project:** Adkinson Sewer Rehabilitation  
**Upsize:** 3,370' of **15" VCP to 20" HDPE**  
&  
2,400' of **12" VCP to 18" HDPE**  
**Equipment:** 20 Ton Winch,  
16" HammerHead Mole,  
Rear Mounted Pulle  
20" & 18" bursting heads



# On Location: Jemez Springs, NM

**Project:** SewerLine Rehabilitation

**Upsize:** 1,512' of **8" PVC to 8" HDPE**

**Equipment:** 8 Ton Winch,  
7" HammerHead Mole,  
Front mount burst head, manhole exit



# On Location: Prescott, AZ

- **Project:** Ruth Street and Demerse Sanitary Sewer Rehabilitation of Sewermain and Residential Services
- **Upsize:** 7,039' of Existing **6" VCP to 8" HDPE** & **4" VCP to 4" PVC**
- **Equipment:** 12 & 20 Ton Winch, 7" HammerHead Mole, Front mount burst head, manhole exit

