

*The most pervasive and
least condemned form of
dishonesty is not doing
the best you can.*

Colonel Jeff Cooper
USMC RET

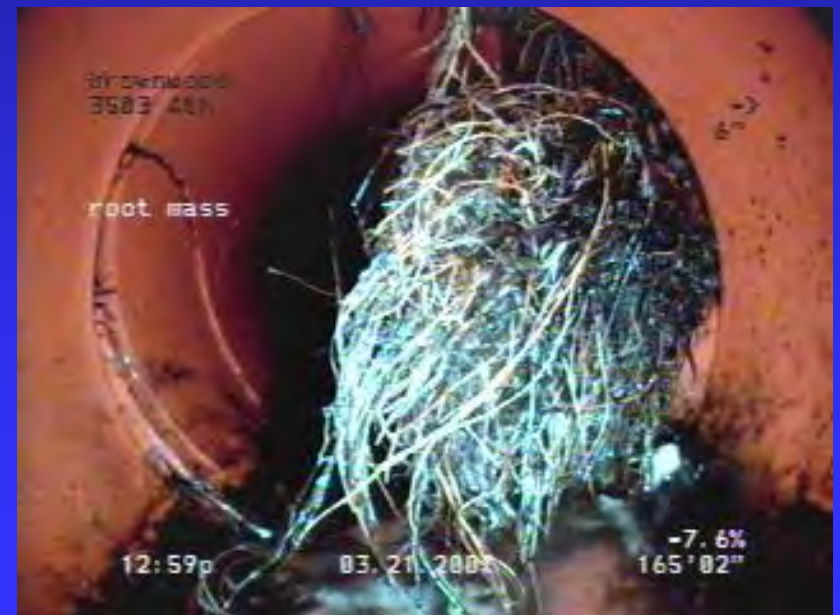
Sewer Collection System Problems

- The sewer collection system is 148 +/- miles long with approximately 7800 taps, 1100 manholes and 5000 cleanouts.
- 6" Clay sewers are the largest problem type estimated at 50% of the system.
- Root intrusions, cracks, offset joints collapsed mains, hammer taps and grease just for starters.
- Pictures speak louder than words

“Hammer Taps”



Root Intrusions



Collapsed Mains



Cracks



Offset Joints



Grease



What are our options?

- Contractor using “Open Cut Method”.
- Contractor using Trenchless Method
- City Crews using “Open Cut Method”.
- City Crews with Static Pipe Bursting Method.

Contractor Prices

- Open cut replacement ranges from \$65 to \$100/foot in Brownwood for 6" to 10" mains.
- Trenchless work bid at \$78/foot in 2006.

Open Cut Method 6" PVC

- Conventional “Open Cut” method with City of Brownwood crews cost estimated at **\$40/ft** with main at 6 feet deep in an unpaved alley. Increased depth increases cost proportionately due to labor and backfill material cost.

Pipe Bursting

Pipe Bursting 6" VCT with 8"
RJPVC City of Brownwood
crews estimated average is
\$25/ft for all materials, labor
and fuel.

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Larson



"Listen up, my Cossack brethren! We'll ride into the valley like the wind, the thunder of our horses and the lightning of our steel striking fear in the hearts of our enemies! ... And remember—stay out of Mrs. Caldwell's garden!"

*Excellence is to do
a common thing in
an uncommon way.*

Booker T. Washington



10/01/2008



GME
Trench Protection Specialists
800-348-2084 • www.gme-shield.com

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GME
Trench Protection Specialists
800-318-2054 • www.gme.com/safety



DANGER: Heavy loads on components that
may fail under the influence of pressure during operation.

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LINE
Trench Protection Solutions
www.lineusa.com

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EME
Protection Specialists
www.emeprotection.com

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10/01/2008



10/30/2007



10/30/2007



28.11.200





08/13/2008







Why do we static pipe burst in Brownwood Texas?

- Lower Cost of Replacement
- We can use PVC
- Increased Safety for Crews
- Higher Efficiency in tight easements
- Improved Customer Relations
- Reduce SSO's to keep the EPA happy!

Good Tap & Main



Lessons Learned

- RJ PVC is more efficient and can be used in a wider range of applications than HDPE.
- Video inspections are necessary to prevent major problems.
- Flat, firm pulling surface for burst machine is necessary for efficiency and safety.
- Correct placement of bursting equipment will make pull more efficient and safe.
- Selecting technology to match the job will make your life easier.

- There is no substitute for experienced staff with a can do attitude!!!



The Crew

Questions?