Cost-Effective Rehabilitation with Mechanical Point Repair Sleeves

spot repair case study:
Franklin Township, NJ

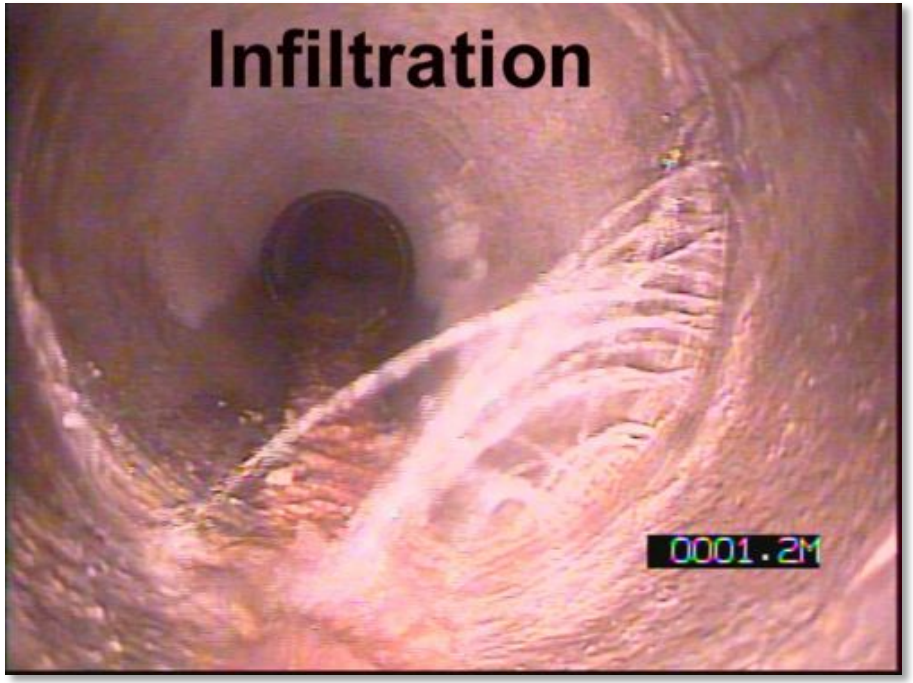
PRT

Franklin Township Sewer Authority

- Manages over 200 miles of sewer pipe; inundated with infiltration
- Believes in a proactive approach to sewer maintenance
- In 2016, decided their current rehabilitation program was not enough

FTSA's Problem: Infiltration

- Took weeks to address simple defects
- Meanwhile, water from the infiltration was robbing capacity from the collection system and treatment plant
- "If we are knowingly paying to treat clean water we are doing something wrong," says Scott Nocero, FTSA Operations Manager



FTSA's Existing Workflow to Address I&I:

- Inspection crew reported defects causing infiltration to staff engineers who would decide whether the defect was critical enough to require rehabilitation
- Once rehabilitation needs were established, a bidding process would take place to see who would perform the work
- The whole process took a couple of weeks from start to finish

FTSA's Needed a New Solution, Fast

- Nocero needed to find a better way to tackle I&I.
- Going through the bidding process was taking too much time and effort, especially for minor repair needs
- Requirements
    - Minimal disruption
    - Cost-effective
    - Make use of current equipment/crew

The Solution: Mechanical Point Repair System

- Stainless steel sleeve with rubber gasket that structurally reinforces deteriorating sewer lines and seals out infiltration
- Delivered to the repair location on a wheeled flow-through packer pushed by a CCTV crawler
- Once in position, air pressure supplied to the packer expands the sleeve tightly against the host pipe wall—sealing up any defects in the pipe

Mechanical Point Repair System

- Now, FTSA only relines pipes that show multiple defects within a four-foot segment and could benefit from comprehensive relining—for everything else they use mechanical point repair
- Multiple sleeves can be daisy-chained to provide more reinforcement to pipes

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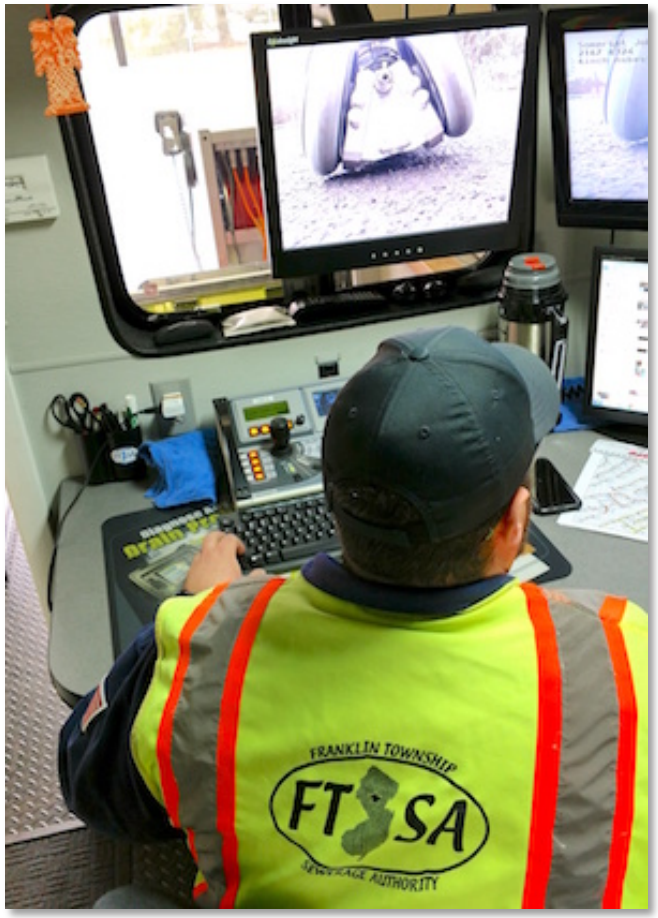
Implementation

- FTSA's initial investment for in-house point repair capability: <$10,000
- "It was eye-opening to see that we had most of the equipment and manpower needed to perform point repair in-house," says Nocero
- "The process was quick and simple and my crew was most excited about adding another skill with little to no training—we quickly decided we needed to add mechanical point repair sleeves to our toolbox."

The Results: Cost Benefits

- The cost savings from instituting this program has been substantial:
    - Sometimes as much as 80% less than what they were paying for end-to-end repairs
- They've been able to use point repair technologies to save time, money, improve their response time and tackle I&I head-on



The Results: Cost Benefits (continued)

- With their new point repair program they're able to rehabilitate pipe segments within an hour instead of waiting weeks
- In the first two months, FTSA performed seven Quick-Lock point repairs—saving them over $6,500 per month

Other Benefits of Point Repair

- “Even FTSA’s Board of Commissioners have applauded our efforts to embrace and use point repair technology to save time, money, decrease our response time and tackle I&I head-on”, says Nocero. “Being able to show them our progress with implementing a point repair workflow through before-and-after videos has been very fulfilling.”
- An often-overlooked benefit of trenchless spot repair—risks due to excavation are eliminated.

Durability and Long-term Impact of Spot Repair

- Nocero also appreciates the durability and low profile of mechanical point repairs
- After inspection of early installations, the repairs exhibit negligible flow reduction and no obstructions that catch debris

Reaping Cost Benefits of Spot Repair

- Spot repairs can avoid trenching, lengthy service interruptions and bypass pumping
- When a spot repair can quickly seal off a major source of I&I, it may soon pay for itself by reducing treatment costs and extending section lifespans
- A spot repair can keep a section in service for a few years until scheduled, presumably cheaper, maintenance takes place along with other sewers in the area

Is Mechanical Spot Repair for You?

- End-to-end repairs usually address more linear feet and is important in some circumstances
    - Sometimes it can be ‘overkill’
- A range rehabilitation options are available to repair sewer pipes. A host of considerations come into play when deciding which route to take

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Conclusion

- Sewer rehabilitation is essential to any sewer maintenance program, but comprehensive rehabilitation is often not necessary or cost effective
- Point repair technologies offer a localized solution
- Mechanical point repair sleeves can be used to address infiltration, offset joints, root intrusions, abandoned laterals, longitudinal cracks, holes and circumferential cracks
- These technologies work at a localized capacity to restore a pipe's structural integrity and seal out groundwater

Questions?

- Visit Nick Sebastian at booth #400
- Email Nick at nsebastian@pipelinert.com
- Call Nick at (814) 490-0451

- Download *free* sewer rehab resources at www.pipelinert.com/resources