

Thinking Outside the Core...

A New Application Combining Existing Tools

Institution of Gas Engineers and Managers
Young Person's Paper Competition 2008

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Introduction



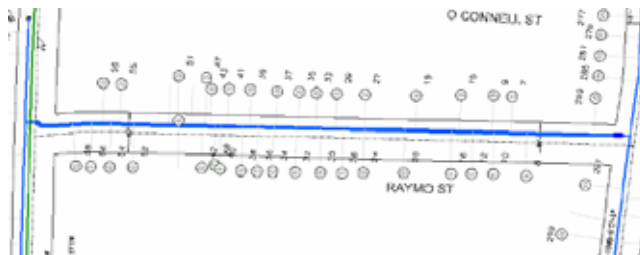
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Challenge

Raymo Street, Albany, NY

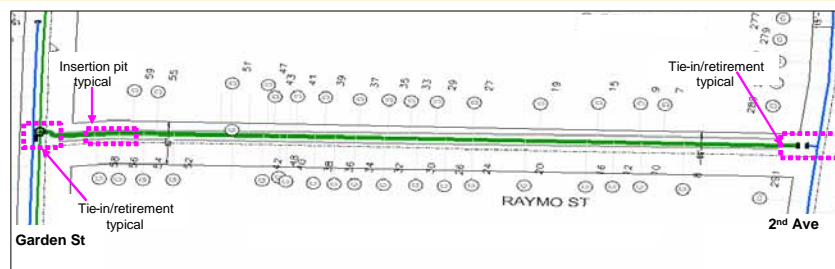
- ◆ Existing infrastructure:
 - ◆ 35 domestic gas service laterals (*will require 35 excavations*)
 - ◆ 980 ft of 6-inch cast iron located on the east side (*in the roadway*)
 - ◆ low pressure system - 8 in. w.c. (21 mbar)



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The Replacement Plan



Replace 980 ft of 6-inch LP CI main with new 2-inch MP PL on the east side of Raymo St from Garden St to 2nd Ave. Install main using Live Main Insertion (LMI).

This main will be fed from an existing 6-inch MP PL gas main on the north side of Garden St. Our records indicate the 6-inch LP CI main is a 2-way feed, but this should be properly verified before any retirement/insertion begins.

- Insertion pit typical 4ft x 10 ft
- 2 Typical tie-in/retirement holes each 4ft x 4ft.
- All service laterals will be tied over to the new main with 35 conventional 3ft x 4ft holes.

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Live Main Insertion (LMI)

- ◆ Historical difficulty with using LMI
 - ◆ Existing main depths in excess of 5 ft (1.5 meters)
 - ◆ Increased costs
 - ◆ Safety risks
 - ◆ Larger excavations for service work



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Checkerboard Patches (3ft x 4ft conventional)



Examples of traditional service excavations/ reinstatement referred to as a "checkerboard pattern" by the LA.

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Thinking outside the “24-inch” Core

Typical uses for small excavation (keyhole) technology:

- ◆ repair of joints/hubs using encapsulation or anaerobic kits
- ◆ curb valve, anode and test station installations
- ◆ service cut offs
- ◆ underground utility verification
- ◆ service line upgrades and repairs.
- ◆ electric distribution and street light pole sets

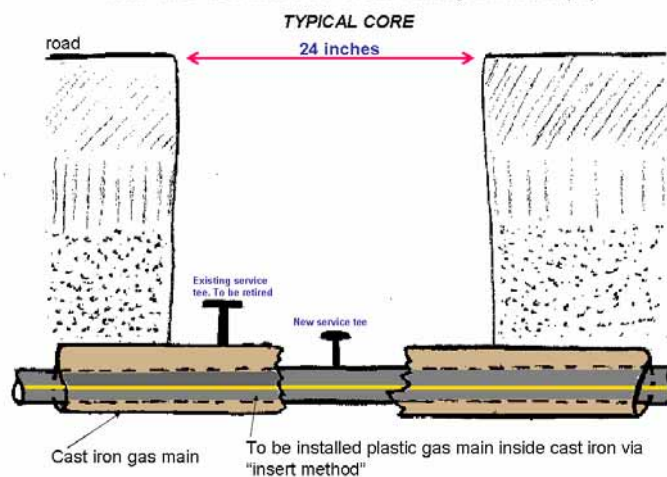


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Key Challenges

There will be a 24-inch core over each existing service tee. (35)



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1. Flow Stopping in a 24-inch Core



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Service Lines – Existing and New



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4. Service cut-off



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Benefits of New Application



Installing vented road plates allows for safer working zones during construction.

- ◆ Environmentally
 - ◆ less pavement disruption as a whole
 - ◆ service work was less invasive than traditional methods
- ◆ Public Safety:
 - ◆ access to the street in off-hours

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Benefits of New Application

- ◆ Reinstatement of the original road cores, dramatically reduces:
 - ◆ Cost
 - ◆ Time of road closures



Final reinstatement for the main replacement project.

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Keys to the Future

- ◆ Foam injection points on the main



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Keys to the Future

- ◆ Core Preparation



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Questions?

