

Bristol County Water Authority

Transmission System Improvements for Emergency Supply

Pawtucket Pipeline Phase I



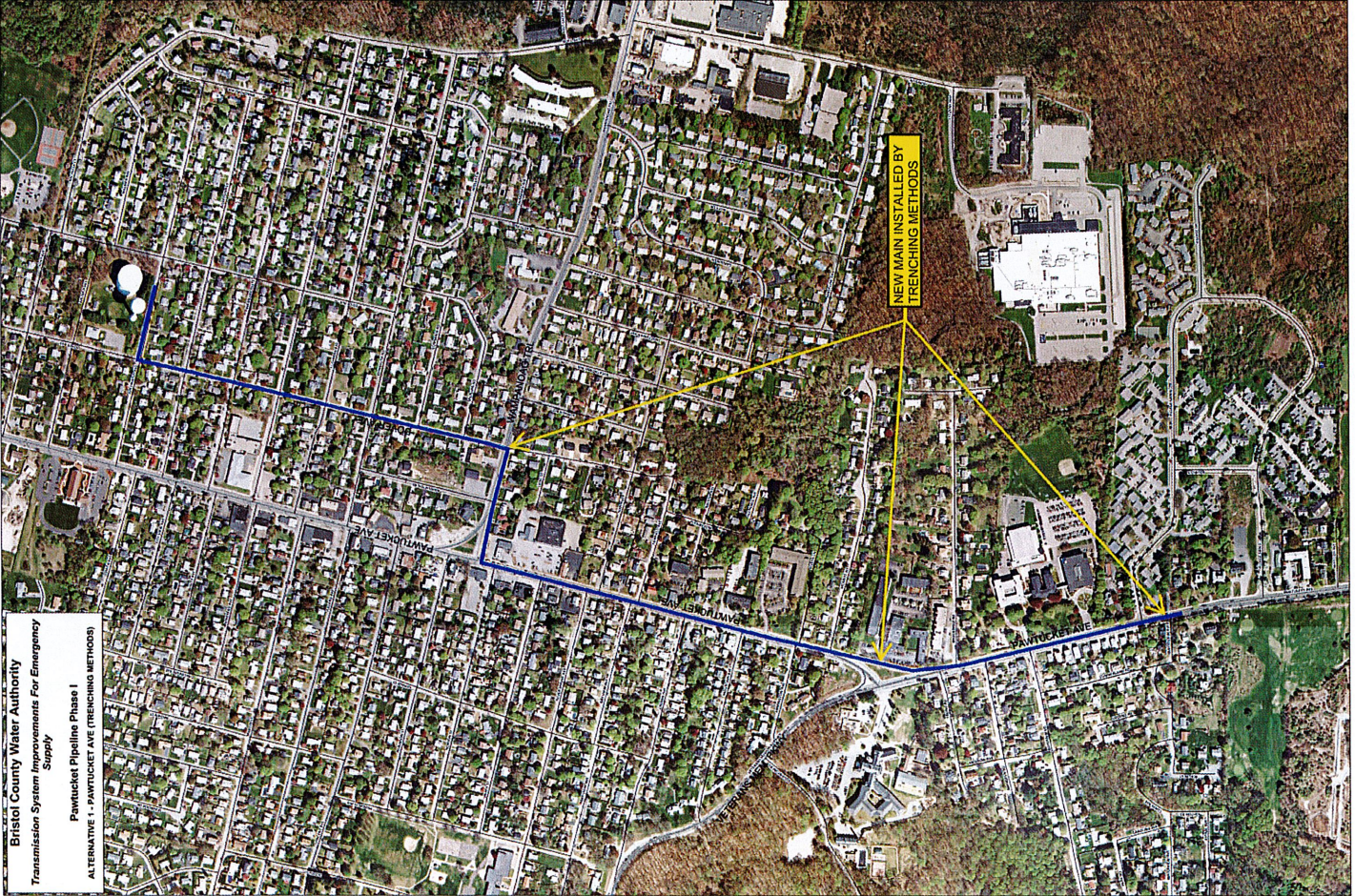
February 2019

PROJECT SUMMARY

Project Background – Both BCWA and East Providence get their water from Providence Water through separate cross-bay pipelines. Neither water system has a backup water supply, as both are completely reliant upon Providence Water.

Project Goals – Create water system redundancy to ensure a continued supply of water should something happen to the supply from Providence Water.

- *Phase 1 – Establishes an interconnection between BCWA and E. Providence water systems.*
- *Phase 2 – Establishes an interconnection with Pawtucket’s water system, providing for a second water supply to both BCWA and E. Providence.*



Alternative 1 - Open Trench Methods

- Pawtucket Ave
- Wampanoag Trail
- Dover Ave

PROS	CONS
Shortest path	Required depth of pipe due to existing utilities (± 10 ft. – Top of Pipe)
Pipe remains in the R.O.W	Utility Coordination/Impacts/Relocations Impacts to traffic Impacts to businesses Roadway Restoration Environmental Concerns Permitting - DOT (Pawtucket Ave & Wampanoag Trail) State Road Work Hour Restrictions Rock/Ledge

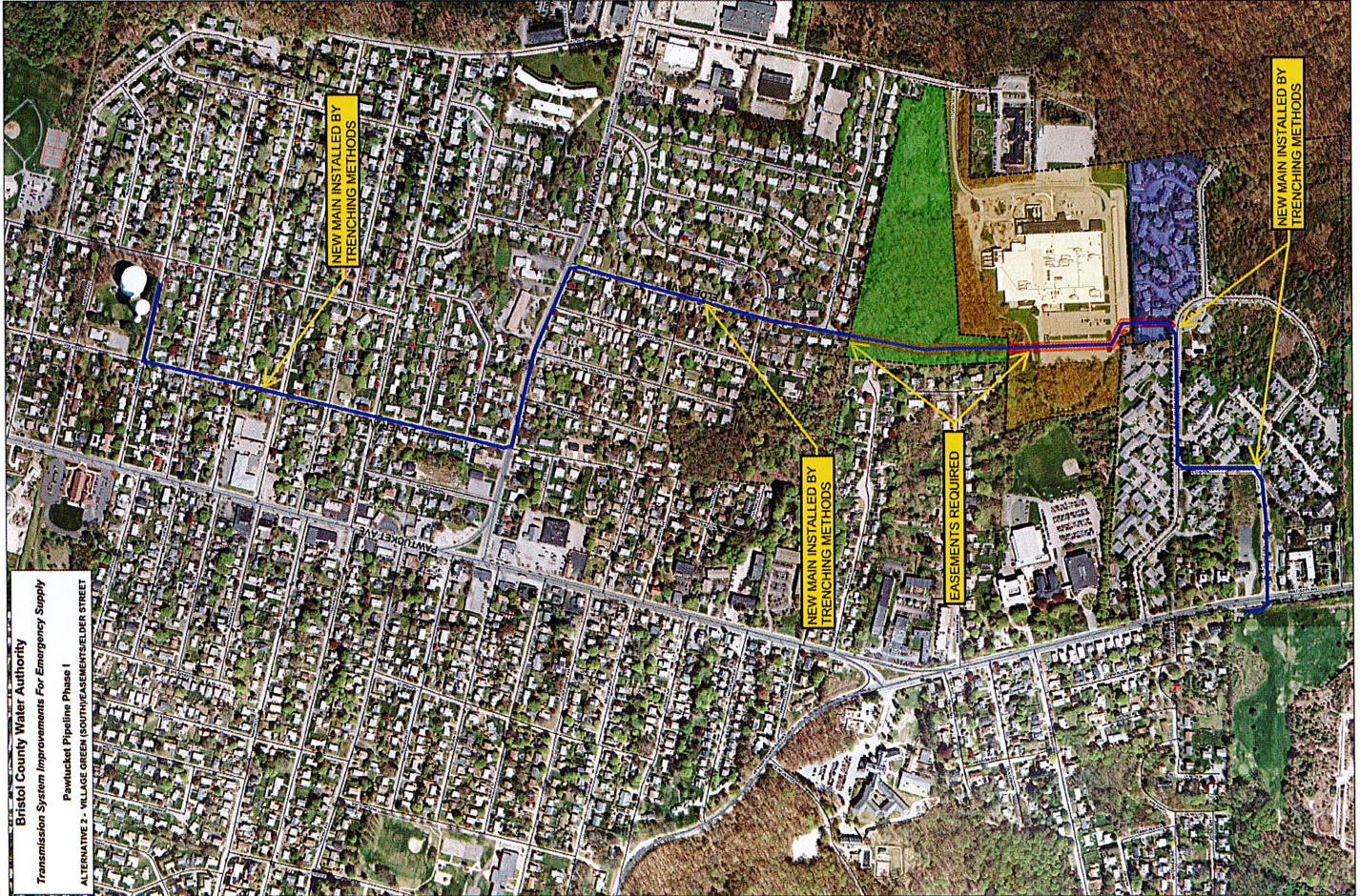
Approx. Pipe Length (ft.)	Approx. Construction Cost
6,700	\$ 5,100,000
	\$ 761/ft

Alternative 2 - Open Trench Methods

- Pawtucket Ave
- Village Green (South)
- Easements (3)
- Elder Street

PROS	CONS
Minimizes exposure on Pawtucket Avenue	Additional pipe length (20%)
Minimizes conflicts with existing utilities	Permitting - DOT (Pawtucket Ave)
Majority of pipe to be in Exist. R.O.W	Permitting - DOT (Wampanoag Trail)
Fewer traffic impacts than Alt. 1	Easement Required - Village Green Apartment
	Easement Required - Citizens Bank
	Easement Required - City of East Providence

Approx. Pipe Length (ft.)	Approx. Construction Cost
8,300	\$ 4,750,000
	\$ 572/ft



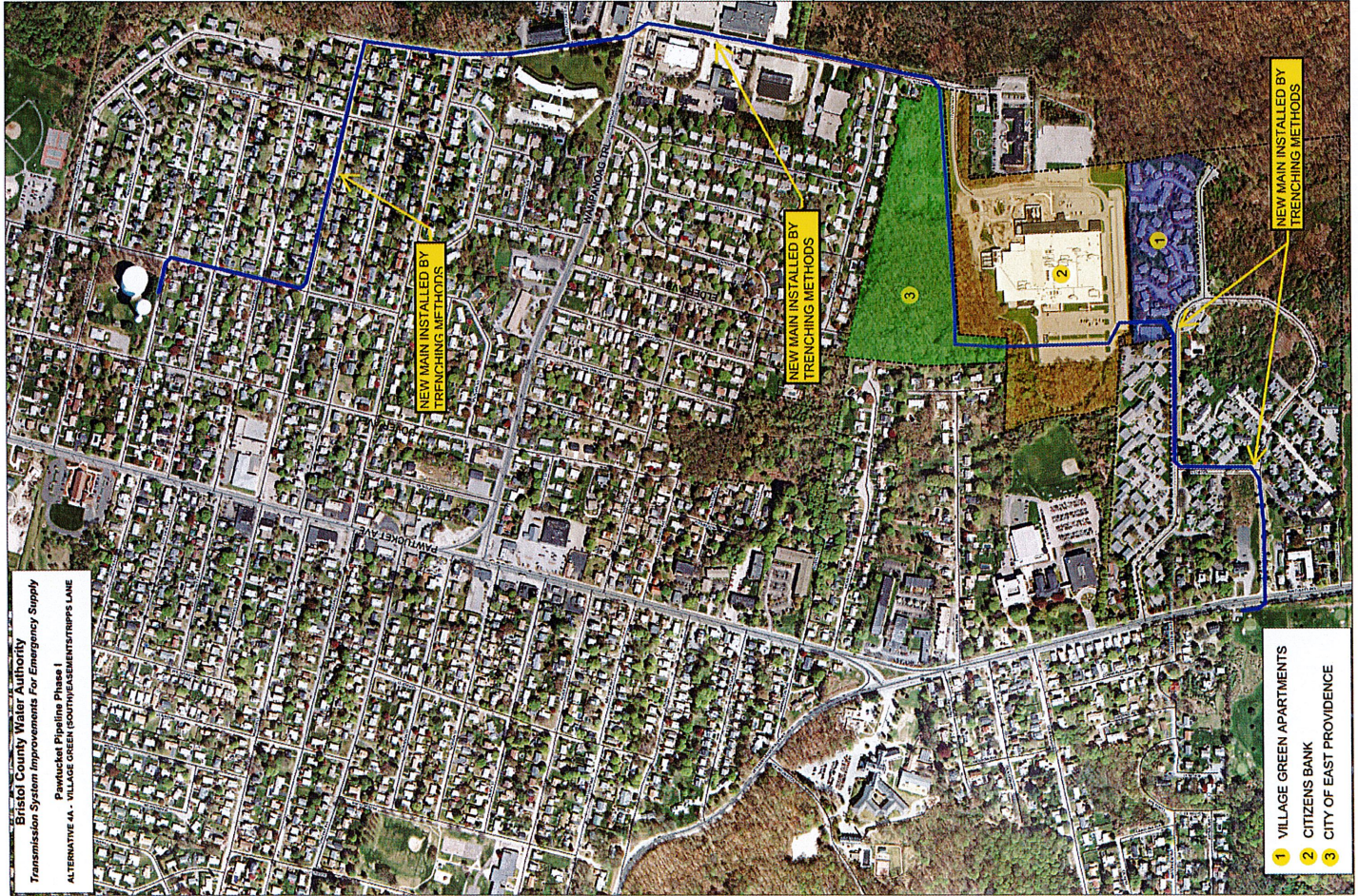
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 ALTERNATIVE 2 - VILLAGE GREEN (SOUTH)/EASEMENTS/ELDER STREET

Alternative 4A - Open Trench Methods

- Pawtucket Ave
- Village Green South
- Easements (3)
- Tripps Lane, Boyd Ave, Howland Ave, Clyde Ave

PROS	CONS
Minimizes exposure on Pawtucket Avenue	Additional Pipe Length (1800 lf)
Fewer traffic impacts	Higher Potential for Contaminated Soil
	Algonquin Gas Transmission Pipe Permitting - DOT (Pawtucket Ave)
	Permitting - DOT (Wampanoag Trail)
	Easement Required – Village Green Apartments
	Easement Required – Citizens Bank
	Easement Required - City of East Providence

Approx. Pipe Length (ft.)	Approx. Construction Cost
10,100	\$ 6,200,000
	\$ 614/ft



Summary of Alternatives

BCWA - TRANSMISSION SYSTEM IMPROVEMENTS FOR EMERGENCY SUPPLY
 PAWTUCKET PIPELINE PHASE I
 SUMMARY OF ALTERNATIVES

ALTERNATIVE	DESCRIPTION	Approx. Pipe Length (ft.)	Prelimin. Construction Cost
1	Pawtucket Avenue - Wampanoag Trail - Dover Avenue (Trenching Methods)	6700	\$ 5,100,000 \$ 761/ft
2	Village Green (South) - Citizens Banks Property - Elder Avenue - Wampanoag Trail- Dover	8300	\$ 4,750,000 \$ 572/ft
4	Through Citizens Banks and Up Trips Lane	10100	\$ 6,200,000 \$614/ft

Alternative 1 Preliminary Design

- Geotechnical: Rock/Ledge (\pm 5'-8' deep) for much of Pawtucket Avenue
- Existing Pavement: Avg. 5" Pavement on top of 9" Reinforced Concrete
- Water Main: Avg. depth of 10' to top of main due to existing Utilities
- Environmental Concerns: Multiple gas stations and dry cleaners
 - Shallow groundwater at Wampanoag Trail
- State Road work hour restrictions
- Anticipated production of 20-feet/day due to above limitations
- Work within State Road anticipated to take 200 working days
- Impacts to businesses and traffic
- Impacts to existing utilities/utility relocations
- Impacts to School (Bay View Academy)

Alternative 2 Summary

- Minimizes exposure on Pawtucket Avenue
 - Traffic Impacts
 - Business Impacts
 - DOT Work Hour Restrictions
- Minimizes conflicts with existing utilities within easements
- Pipe can be buried at shallower depths within the easements
- Construction Duration – quicker installation
- Easements required