



# Bristol County Water Authority

## Transmission System Improvements for Emergency Supply

Pawtucket Pipeline Phase II

February 2021





# Project Background

## Providence Water Supply Board

- 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
- Insufficient system redundancy

## East Providence

- (2) 32" steel water mains crossing the Providence River, installed in 1967
- Pipes are situated on the bottom of the river
- Several miles of 42" prestressed concrete cylinder pipe (PCCP) to Cranston

## BCWA

- 24" steel main installed in bedrock in 1998

## Existing Interconnection

- 16" interconnection
  - Insufficient size to meet either systems water demand
  - Not a transmission main





# Why is Redundancy Important?

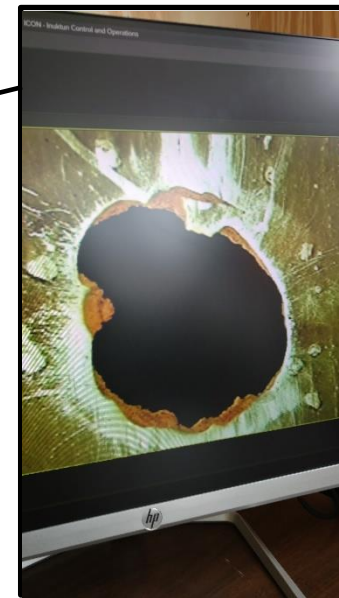
## Water Main Break - Providence

- Significant impacts to both E. Providence and BCWA Water Systems
- Both systems could be without water due to nature of break

## Water Main Break – E. Providence or BCWA River Crossing

- Significant impacts to the water system that the break occurs in
- Water system likely without water due to nature of the break
- Extremely difficult repair to complete

## Water Main Break (2019)



# PROJECT GOALS

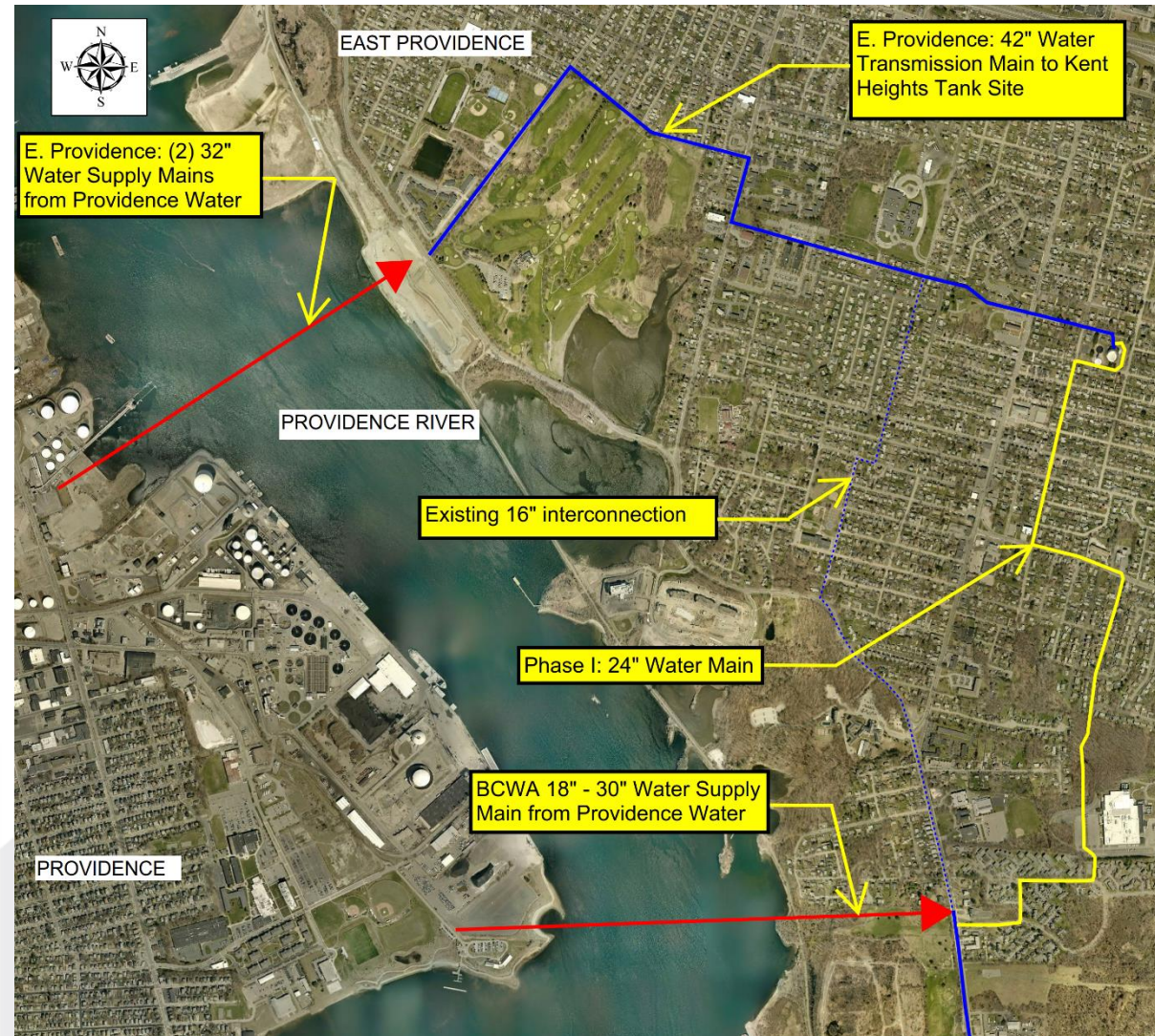
Project Goals – Create water system redundancy to ensure a continued supply of water should something happen to the supply from Providence Water or the cross-bay pipelines.

- Phase 1 – Establishes a large diameter interconnection between BCWA and East Providence water systems.
  - Emergency interconnection between E.P. and BCWA, but it has its limitations due to BCWA's recent repair of their Providence River Crossing
- Phase 2 – Establishes an interconnection with Pawtucket's water system, providing for a second water supply to both BCWA and E. Providence.
  - Allows for the continued supply of water to both E. Providence and BCWA in the event of a major supply interruption in Providence, Pawtucket or the cross-bay pipelines.



## Phase 1

- Contract bid and awarded in September 2020 to CB Utility Co., Inc.
- Construction to commence in April 2021
- Establishes a large diameter interconnection between BCWA and East Providence water systems
- Scheduled to be active and online by the end of 2021



# PHASE 2 ALTERNATIVES

- In 2013 E.P. initiated a study to evaluate/develop alternatives to establish an interconnection with Pawtucket Water to provide a redundant water supply. 3 alternatives were evaluated as part of this process.
- BETA and BCWA met with E. Providence in early 2020 to discuss these alternatives. BETA was requested to complete an alternatives analysis of up 4 routes.
- BETA evaluated 4 alternatives for the routing of a new dedicated 24"/30" water transmission main that will connect the BCWA and East Providence interconnection at Kent Heights to the Pawtucket water system (Approx. 25,600 linear feet).
- Pipeline size is based on E.P. being a party to the project.





Seekonk River

Alternative 2: City Streets - Broadway Route

Alternative 4: City Streets - Pawtucket Ave Route II

Alternative 1: Waterfront Drive Route

Alternative 3: City Streets - Pawtucket Ave Route

RT-44

I-195

I-195





End Point: Connect to  
Pawtucket Water System

Alternative 1: continued

Alternative 2: continued

Alternative 4:  
continued

Seekonk River

Omega Pond

Alternative 3:  
continued

Ten Mile River

RR Tracks

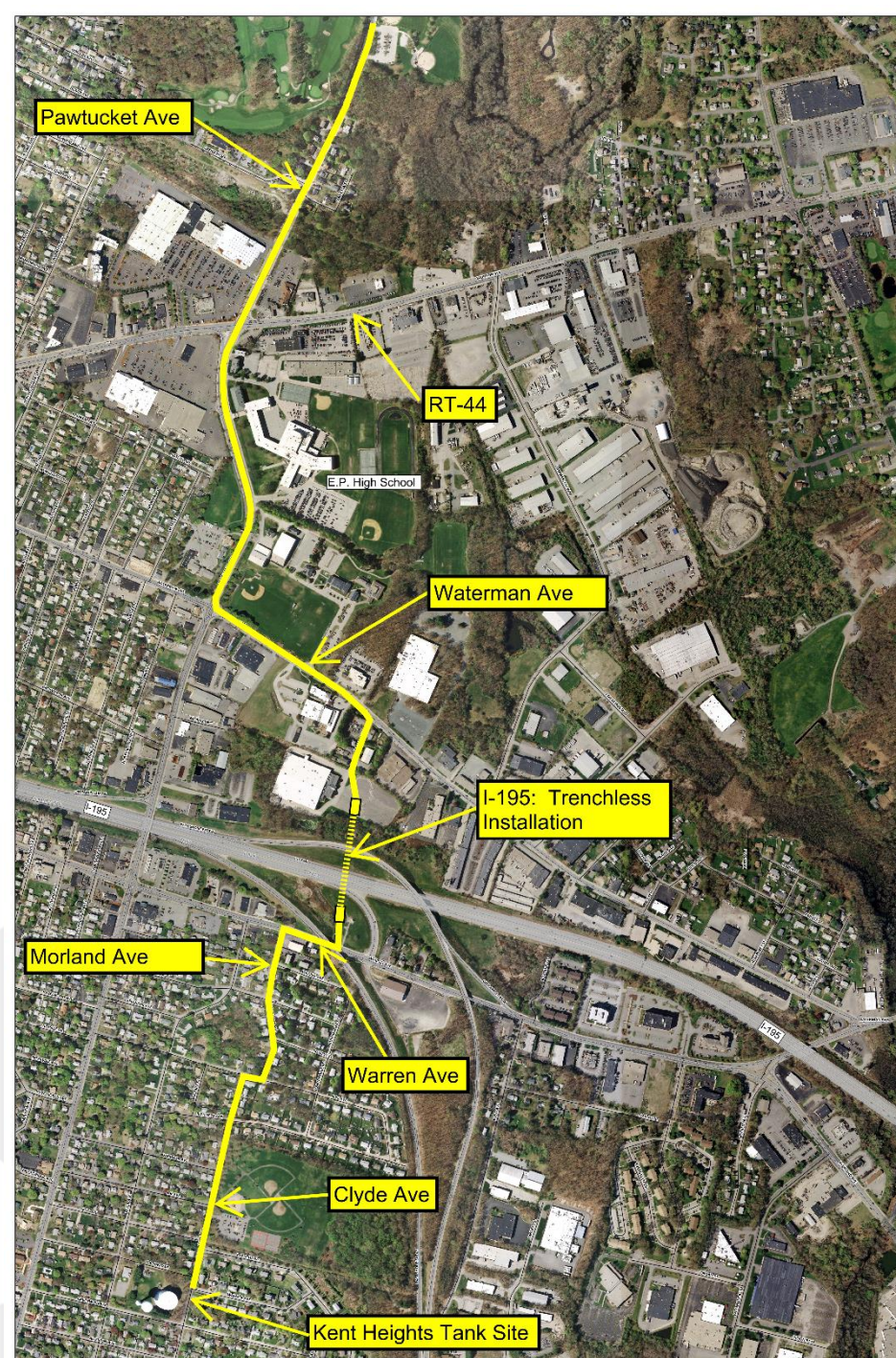
RR Tracks



## Alternative 4 – Pawtucket Route II/City Streets

### ROUTING ALIGNMENT

- Kent Heights, Clyde Ave, Morland Ave to Warren Ave
- I-195 Crossing (Trenchless Installation)
- Parking lot to Waterman Ave
- Waterman Ave to Pawtucket Ave
- Pawtucket Avenue to RT-44
- Continue northerly up Pawtucket Avenue



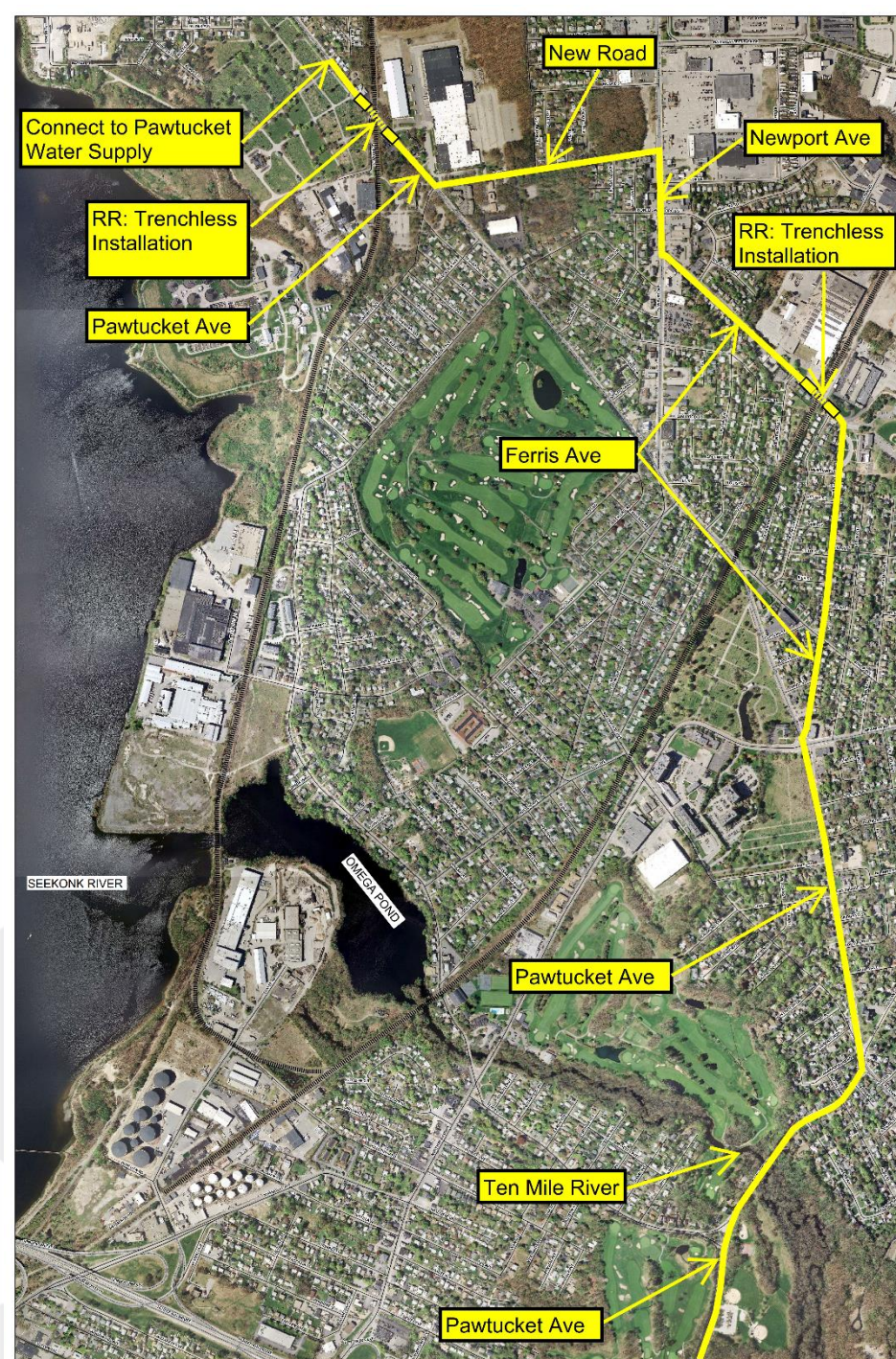


## Alternative 4 – Pawtucket Route II/City Streets

### ROUTING ALIGNMENT

- Continue northerly up Pawtucket Avenue
- Ten Mile River Crossing (Cole's Bridge)
- Continue on Pawtucket to Newman Ave
- Ferris Ave
- RR Crossing – At Grade
- Newport Avenue to New Road
- New Road to Pawtucket Ave
- RR Crossing – At Grade
- Connection to Pawtucket Water

**Total Length: 25,700 linear feet (4.9 miles)**





# Summary of Alternatives

## BCWA - PAWTUCKET PIPELINE PHASE II EVALUATION OF ALTERNATIVES

ALTERNATIVE	DESCRIPTION	Approx. Pipe Length (ft.)	PROS	CONS
1	Waterfront Drive/RR Option	27,300	Waterfront Drive Constructability I-195 Crossing beneath overpass Minimizes Traffic and business impacts	Oil Terminal contamination Railroad ROW permitting, easements, constructability, and Omega Pond RR Bridge Permitting - DOT Permitting - Railroad Permitting - CRMC Permitting - DEM (Soil Contamination)
2	City Street - Broadway	26,200	Pipe Remains in the R.O.W Portions of the Project on less traveled roads (N. Hull St. and Wilson Ave)	Crossing of I-195 on Broadway Major Traffic impacts Bridge crossing of Ten Mile River RR Crossing - Arched bridge Permitting - DOT Permitting - Railroad
3	City Streets - Pawtucket Ave	23,200	Shortest path Pipe Remains in the R.O.W	Aerial Bridge Crossing of I-195 Crossing of Ten Mile River Aerial Bridge RR Crossing on Pawtucket Ave Almost entirely on Pawtucket Avenue Traffic impacts Permitting - DOT Permitting - Railroad
4	City Streets II - Pawtucket Ave	25,700	Minimizes traffic related impacts crossing I-195  Allows for At-grade crossing of RR tracks Pipe mostly Remains in the R.O.W Avoids large sections of Pawtucket Ave	Crossing of Ten Mile River Permitting - DOT Permitting - Railroad



# Moving Forward/Next Steps

- In December 2020, BETA presented the four alternatives to the BCWA Board of Directors. At that time, the Board endorsed Alternative 4
- BCWA is seeking E.P. endorsement of Alternative 4 allowing survey to commence in the spring
  - Critical for design and construction schedules
  - Critical for avoiding wasteful spending on survey of multiple alignments
- Project requires a blending study be completed due to the mixing of two water sources (Providence and Pawtucket)
- BCWA is requesting E.P. become a partner with BCWA on this critical project



# Bristol County Water Authority

## *B.C.W.A and E.P. Transmission System Improvements For Emergency Supply - Phase 1*



## Phase 1 - Update

- Construction to Commence in April 2021
  - Contractor: CB Utility
- (2) Crews
  - (1) Pawtucket Avenue working easterly into Village Green South
  - Pawtucket Avenue work is night work in accordance with DOT Permit
  - (1) Crew on southern end of Elder Avenue working northerly towards Wampanoag Trail
- BETA/BCWA communication with EP is ongoing
  - Coordination meetings upcoming
  - Public notification upcoming