



West Barnstable Water Commissioners

Update on New Well Source Investigation

Department of Public Works
January 18, 2022



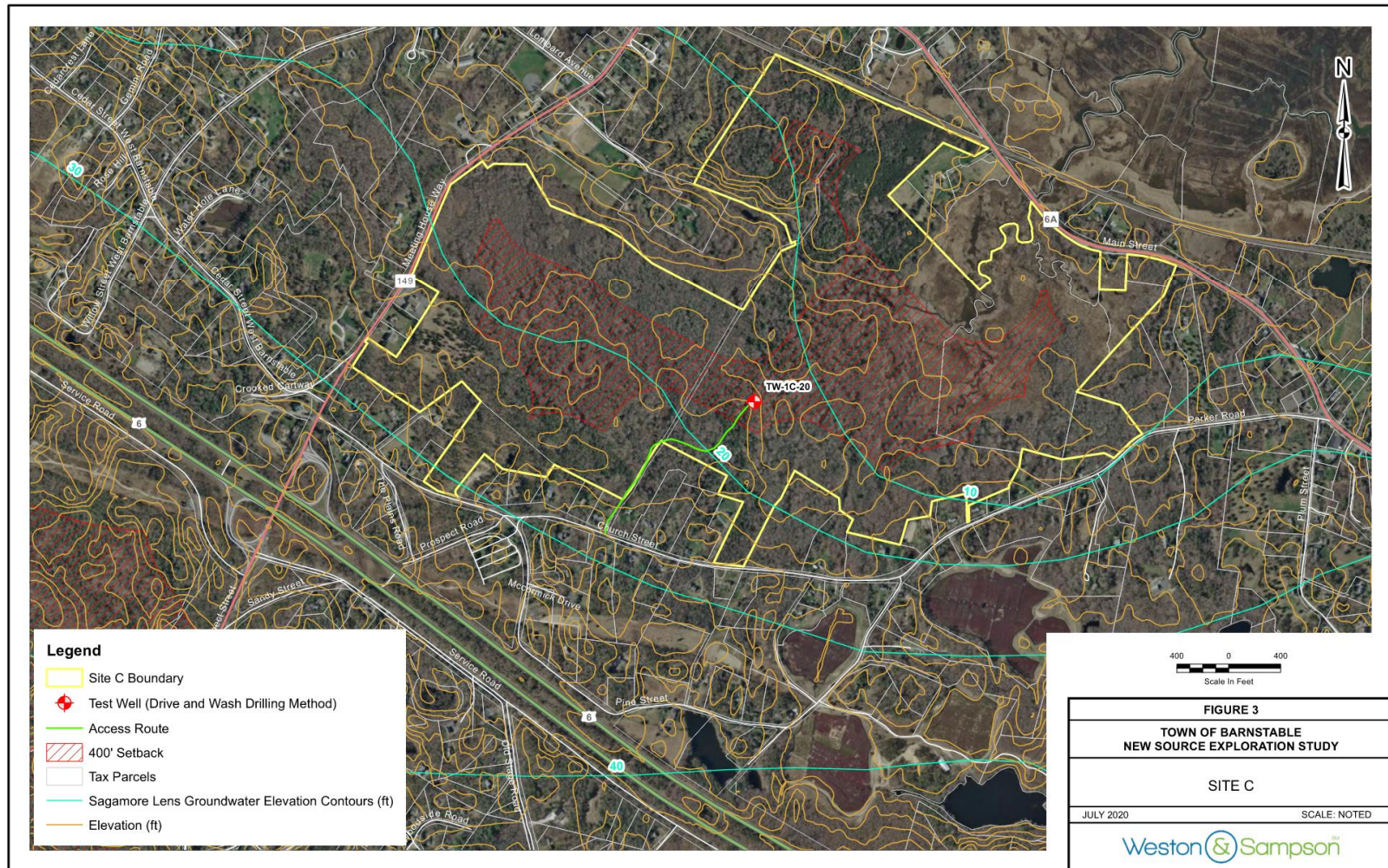
Summary of Work Completed



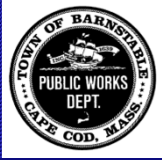
- *2019 New source alternatives evaluation report prepared by Weston & Sampson (WS) concluded Hyannis Water System (HWS) had a deficit of 1.87 MGD in 2020 and 3.23 MGD in 2040.*
- *Based on need for new source, 11 sites were identified and ranked using the following seven criteria;*
 - *Use Restrictions*
 - *Acreage of site*
 - *Distance to HWS, COMM, Cotuit or West Barnstable Well*
 - *Distance to Hyannis water distribution main*
 - *Distance to Route 6*
 - *Parcel Ownership*
 - *Distance to HWS Mary Dunn storage tanks.*
- *7 sites were determined for additional test well drilling, based on results of ranking.*
- *9 wells were constructed across the 7 sites in spring 2020, six of which were deemed hydro geologically favorable for the 4-hour pumping tests.*
- *Sites were evaluated and ranked based on pump yield and water quality test results. Site C (Bridge St Conservation Area) was selected as the most advantageous site due a potential yield almost 10-times greater than other sites.*



Site C – Bridge Street Conservation Area



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Pumping/Testing Data



Table 4: Highest Ranked Sites by Yield

Site ID / Location	Well ID	Potential Yield (acfm)
Bridge St. Conservation Area (Site C)	TW-1C-20	5,087
Hathaway's Pond (Site E)	TW-1E-20	565
West Barnstable Conservation Area (Site D)	TW-2D-20	529
North of Rt. 6 (Site B)	TW-2B-20	519

Table 5: Water Quality Results Summary

Analyte	TW-2B-20 3/3/20	TW-1C-20 5/19/20	TW-2D-20 2/19/20	TW-1E-20 1/27/20	TW-1F-20 2/26/20 ⁷	TW-1G-20 3/12/20 ⁷	Max. Contaminant Level (MCL)
Total Fe (mg/L)	0.078	0.131	0.054	ND ¹	0.194	ND	0.3 mg/L
Total Mn (mg/L)	ND	ND	0.041	ND	0.028	ND	0.05 mg/L
pH	6	5.8	6.2	5.7	5.6	6	6.5 - 8.5
Total Pb (mg/L)	ND	ND	0.0078	ND	ND	ND	TT ² 0.015 mg/L
Perchlorate (mg/L)	0.000088	0.000082	0.000077	0.000054	0.000084	ND	0.002 mg/L
Chloroform (mg/L)	0.00053	0.00077	0.0016	0.001	0.0059	0.0022	0.07
PFAS 6 ³ (ng/L)	ND	11.23 ⁴	ND	ND	ND	ND	20 ppt
Other PFAS (NEtFOSAA ⁵) (ng/L)	1.86	ND	ND	ND	ND	ND	N/L ⁶

- Notes:
- 1) ND = Not Detected
 - 2) TT = Treatment Technique. If > 10% of tap water samples tested exceed the action level of 0.015 mg/L, additional steps must be taken for water treatment.
 - 3) The sum concentration of the six PFAS compounds regulated by the current MassDEP MCL including PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA).
 - 4) Three of six PFAS compounds proposed by MassDEP for regulation were detected: PFHxS, PFOA, PFOS
 - 5) NEtFOSAA = N-Methyl Perfluorooctanesulfonamidoacetic Acid
 - 6) N/L = Not Listed
 - 7) Sites sampled for completeness, however not favorable for development due to limited yield potential



Discussion?

