



Barnstable Town Council

Water Resources Management Update

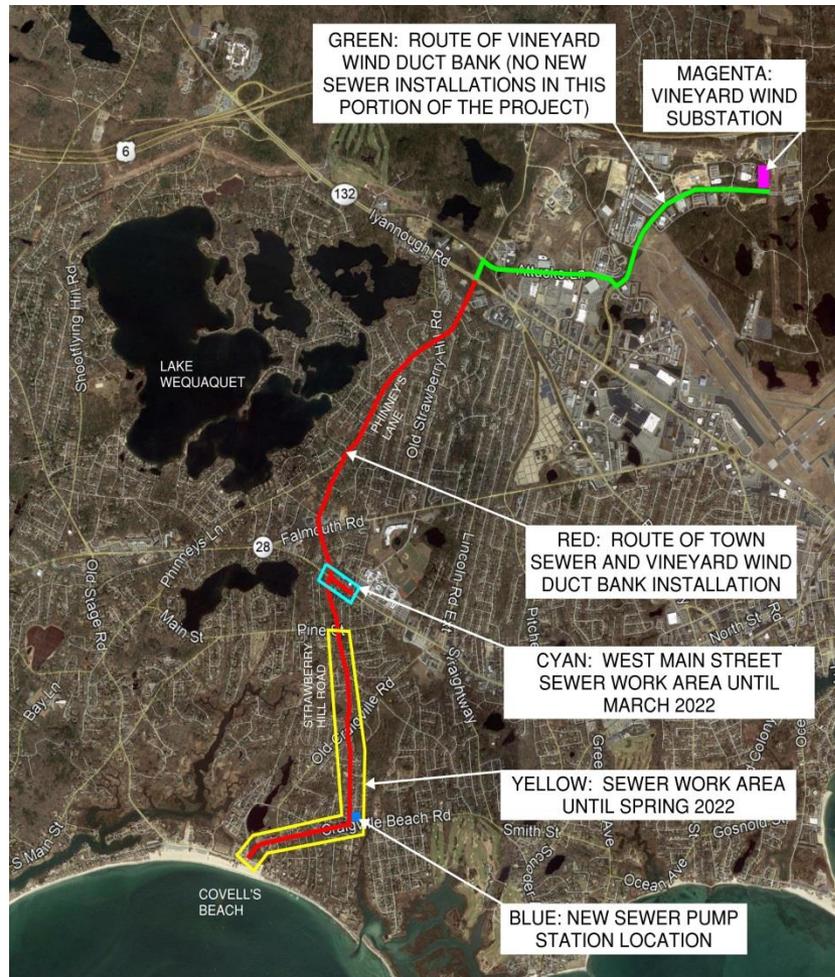
Department of Public Works
March 17, 2022



CWMP Project Updates



• Strawberry Hill Road Sewer Expansion Project



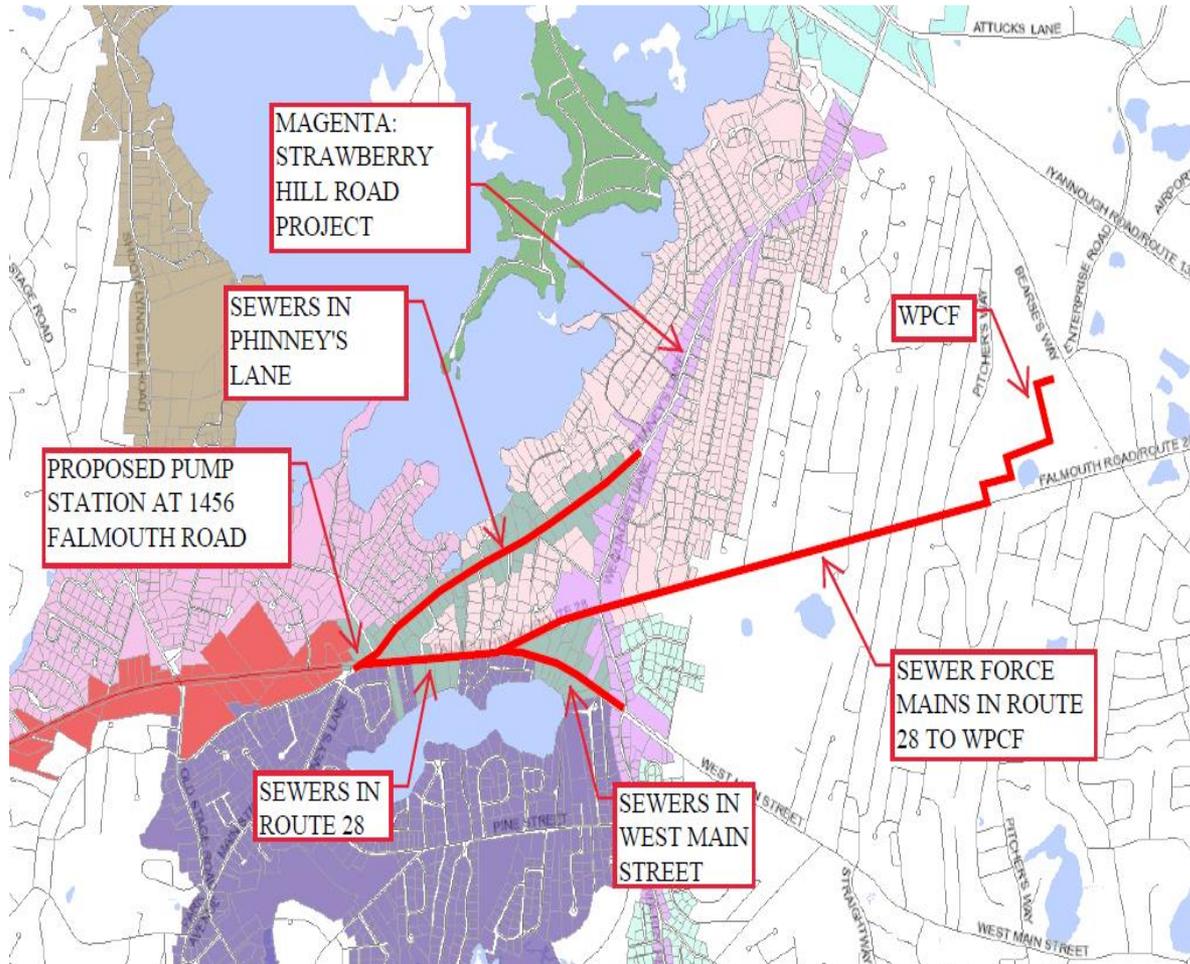
- ±7,800 LF (±40%) of gravity sewer main installed to date
- Three sewer crews
 - Crew 1: West Main Street
 - Crew 2: Force Main on SHR
 - Crew 3: Services on SHR
- Closure of West Main Street continues through end of March from western entrance of High School to SHR.
 - Closure of the intersection of West Main Street and SHR expected to end on Monday.
- Vineyard Wind's crews at Covell's Beach Parking Lot and on Independence Dr, Craigville Beach Rd and SHR.
 - Per HCA, Covell's Beach Parking Lot Construction ends for season on April 30.
- On schedule for completion in Spring, 2023.



CWMP Project Updates



• *Route 28 East Sewer Expansion Project*



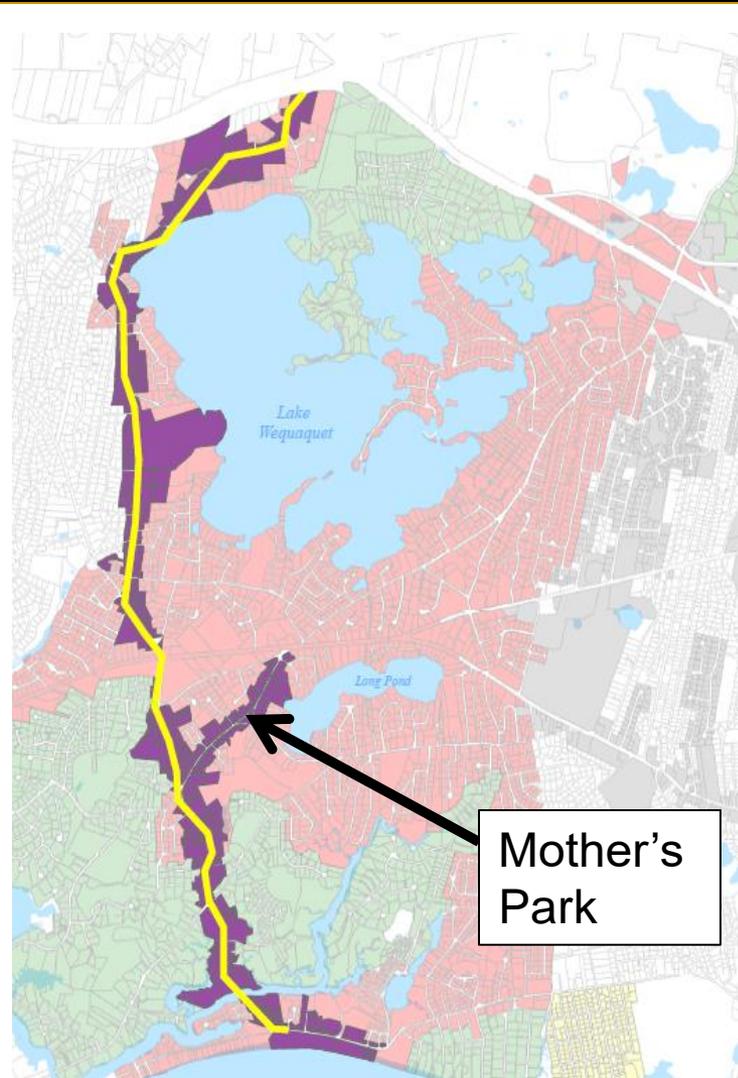
- *SRF Loan Application under review*
- *Finalizing Design and permitting*
 - *Received DEP approval*
 - *Received draft DOT Permit*
 - *Discussing construction hours w/ DOT*
- *PS Project – Advertised yesterday (3/16/22)*
- *Sewer Project – Advertised next week*
- *Construction expected to commence summer/fall*
- *Project completion anticipated Winter 2023.*



CWMP Project Updates



- *Park City Wind On-Shore Route*
 - *DPW finalizing in-house preliminary design.*
 - *DPW proceeding w/ retaining a designer for the project.*
 - *DPW continues to meet w/ Park City Wind to coordinate survey and design efforts.*
 - *DPW evaluating potential construction impacts along Main Street, Centerville and associated improvements.*
 - *DPW coordinating w/ legal team re: Mother's Park.*
 - *Construction start anticipated Winter 2023.*

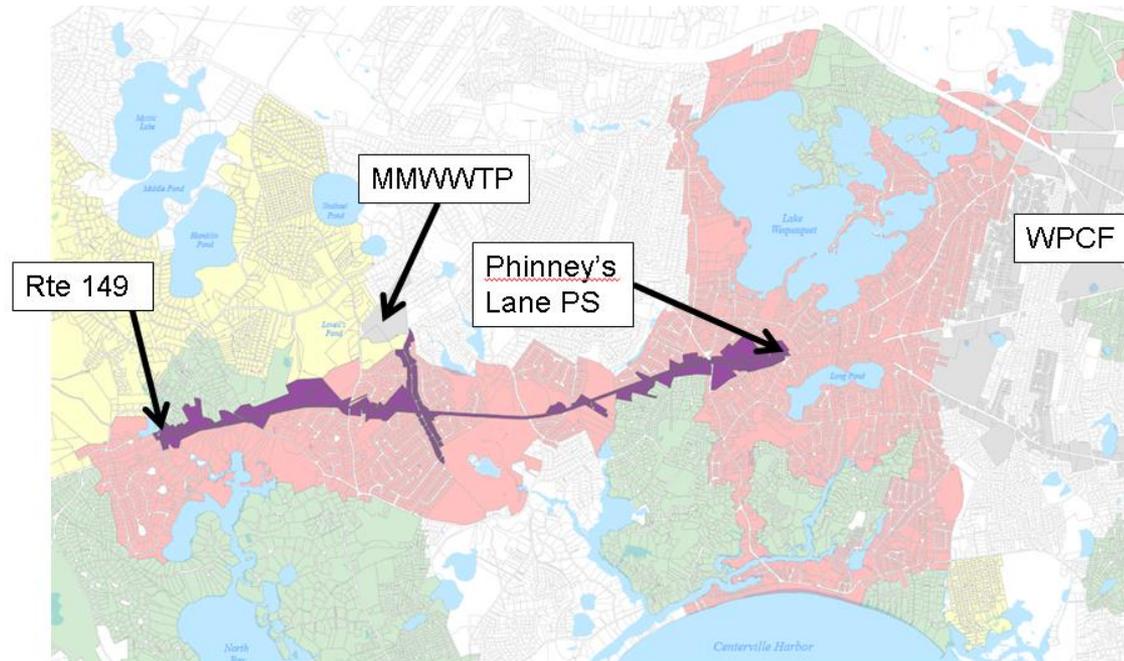




CWMP Project Updates



- *Route 28 “West” Sewer Expansion*
 - *DPW finalizing in-house preliminary design.*
 - *DPW working to identify necessary pump station sites (at least 4 anticipated).*
 - *DPW preparing RFP for final design services.*
 - *First project anticipated to involve work on a private road (Old East Osterville Road).*

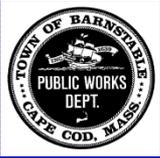




CWMP Project Updates



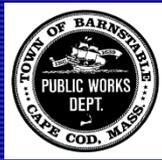
- *Route 28 / Yarmouth Road – MassDOT*
 - *Utility work underway.*
 - *KAM building demolition scheduled for April.*
 - *More significant work anticipated to commence in spring 2022. Schedule has not been provided.*
 - *Schedule of sewer work has not been provided.*
- *Planning on-going for other Sewer Projects*
 - *Phinney's Lane and Long Pond Sewer Projects*
 - *Surveys complete, preliminary design (in-house) on-going.*



CWMP Project Updates



- *WPCF Updates*
 - *Evaluation of Nitrogen Removal Improvements*
 - *Evaluation on-going and anticipated to be completed in the Spring of 2022.*
 - *Effluent Disposal Evaluation*
 - *CDM Smith conducting refined modeling evaluation of identified options*
 - *Solids Processing Facility Upgrades*
 - *Construction on-going*
 - *WPCF Engineering Facility Study*
 - *Study on-going*



Drinking Water New Source Study Update



- New source alternatives evaluation report prepared by Weston & Sampson in 2019 concluded Hyannis Water System has a deficit of 1.87 MGD in 2020 and 3.23 MGD in 2040, if largest source is lost.
- 11 sites were identified and ranked using the multiple criteria. 7 sites were selected for additional test well drilling, based on results of ranking.
- 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.
- In January of this year, DPW met with the West Barnstable Water Commissioners to present these findings.
- A public informational meeting is being held on Wednesday, April 13, 2022 to discuss the potential development of a test well and further sampling at Site C.
- Site B is also anticipated to be further tested.

Table 4: Highest Ranked Sites by Yield

Site ID / Location	Well ID	Potential Yield (gpm)
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

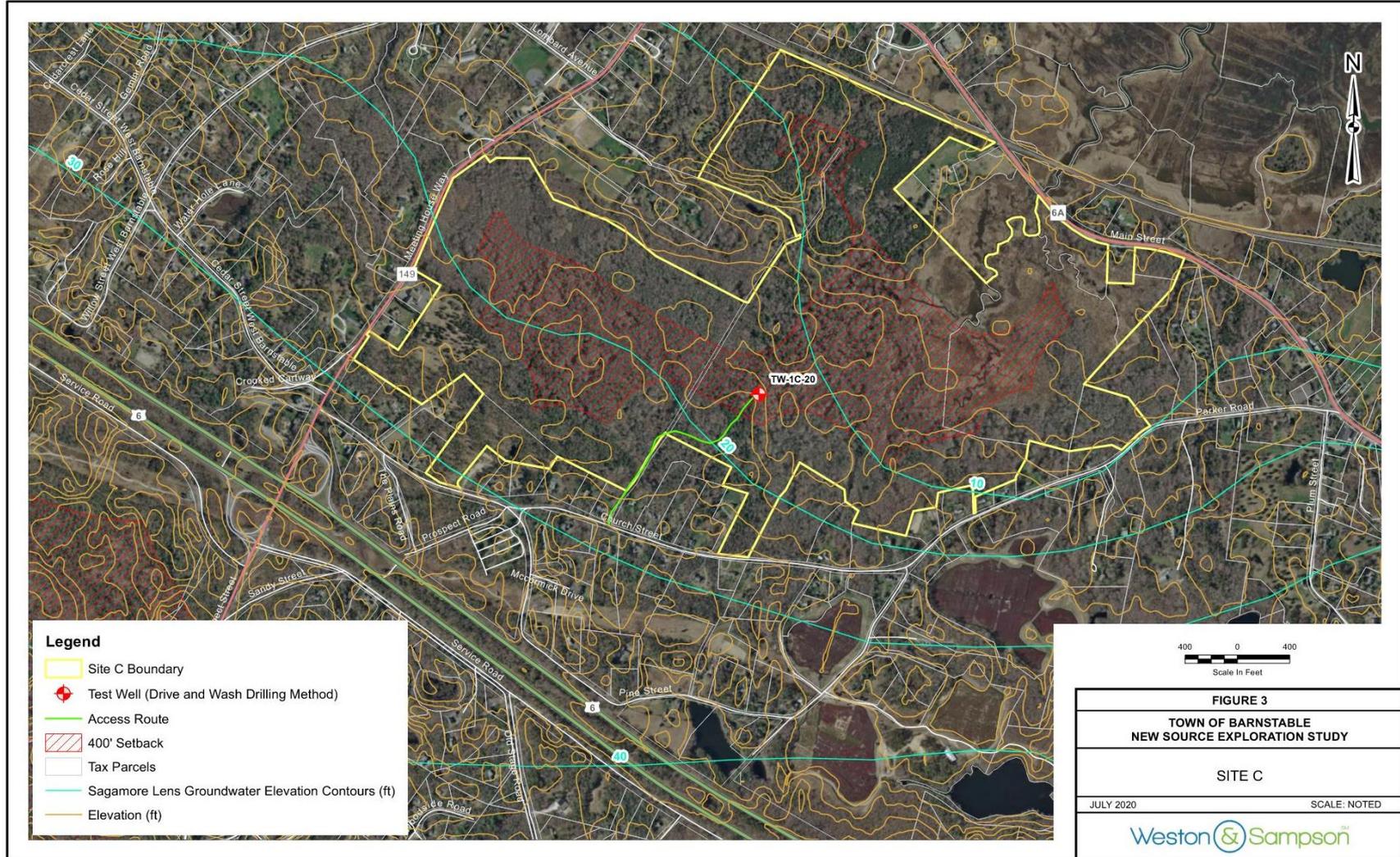
Table 5: Water Quality Results Summary

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 (NEIFOSAA 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) NEIFOSAA = N-Methyl Perfluorooctanesulfonamidoacetic Acid
 - 6) N/L = Not Listed
 - 7) Sites sampled for completeness, however not favorable for development due to limited yield potential



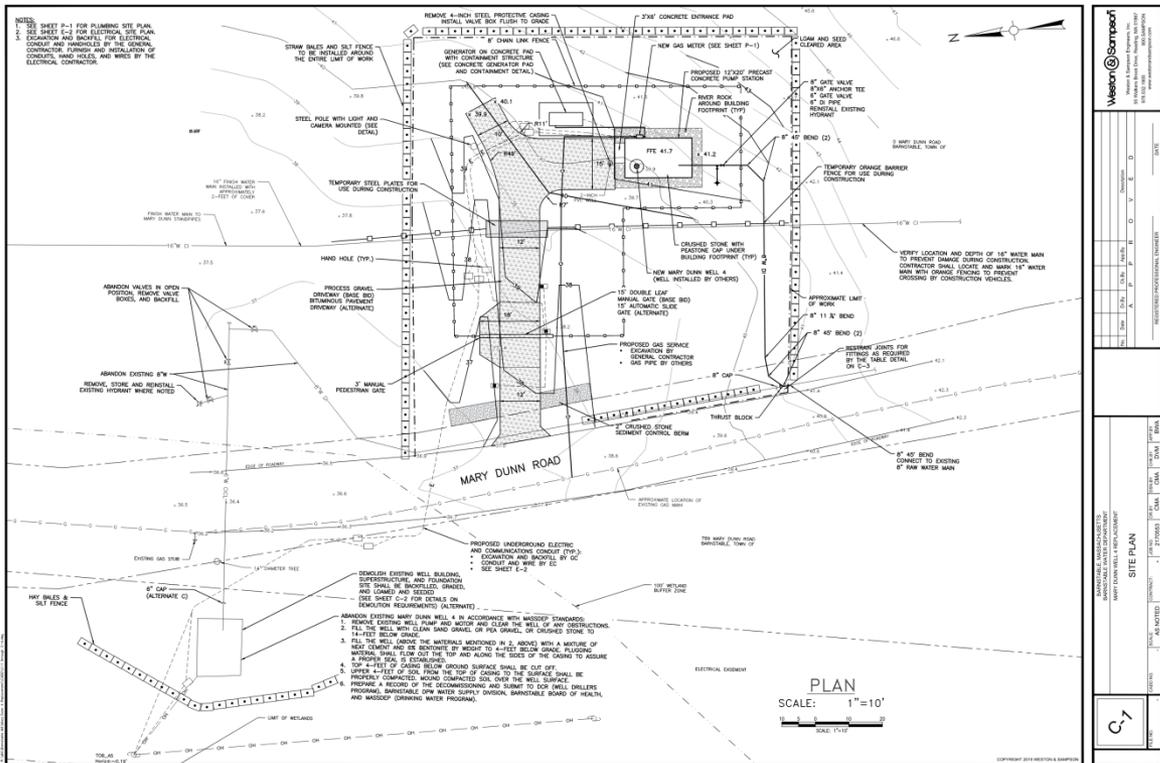
Site C – Bridge Street Conservation Area



Path: \\wsc01\source\proj\newsource\Barnstable_Mass\New_Source_Exploration_Study\GIS\Map\MapInfo_Schematics\Draw_Map_Parcels_Sheet_7102020_11-19-20.AMX Opened: 7/10/2020 11:19:30 AM



Mary Dunn Well #4 Summary of Work Completed



- In Spring 2019, F.G. Sullivan installed a new 24" x 48", gravel packed well across the street from the existing Mary Dunn Well #4 pump station & well that has been out of service.
- 2019-2021: Design of the new Mary Dunn Well #4 pump station, which includes a new pre-cast concrete pump station building, has been completed by Weston & Sampson.
- Project is scheduled to bid in Spring 2022, with final completion by December 2022.



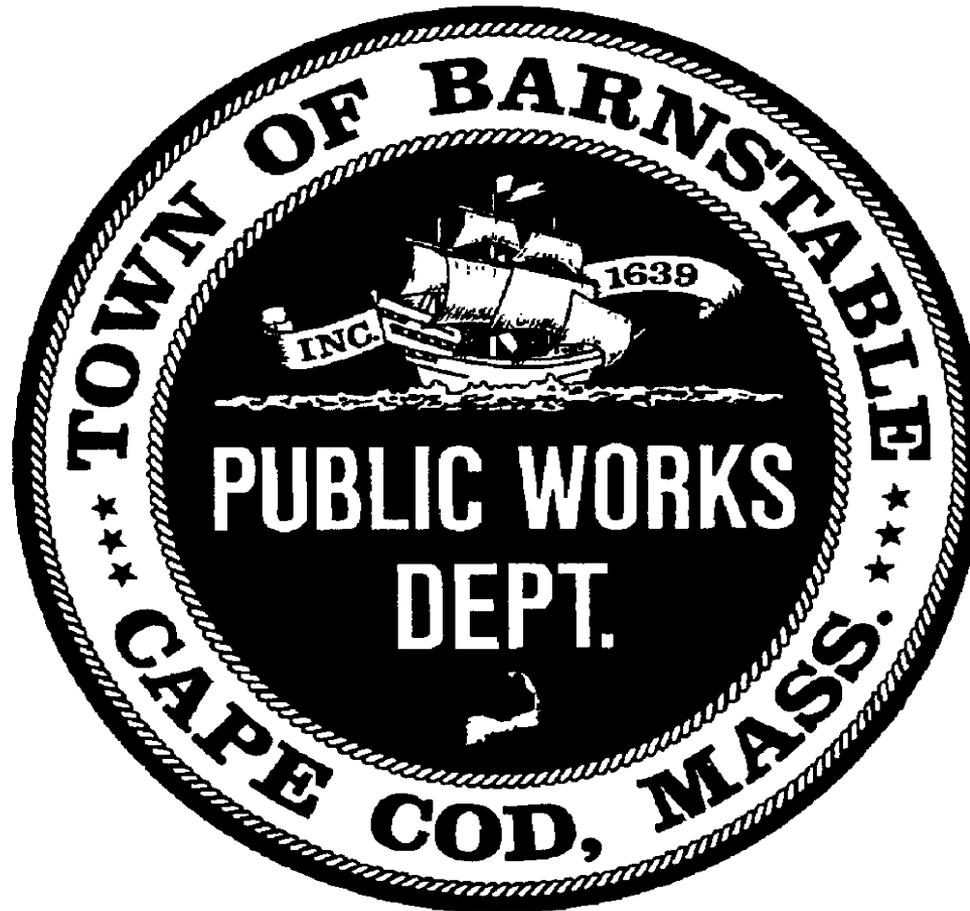
Pilot Studies – Hyannisport & Straightway & Mary Dunn Water Treatment Facilities



- In Fall 2020, the Town hired Kleinfelder to assist in completing pilot studies on the Town's existing Hyannisport & Straightway Water Treatment Facilities and the Mary Dunn Water Treatment Facility.*
- Spring 2021, Kleinfelder conducted field testing at the Hyannisport, Straightway and Simmons Ponds wells.*
- Fall 2021, Kleinfelder prepared a draft Pilot Study report providing recommendations for water treatment, based on completed field testing for the Hyannisport & Straightway Treatment Facilities. This report was finalized and submitted to DEP, and subsequently DEP approved the proposed treatment processes on February 22, 2022.*
- The pilot study for the Mary Dunn Treatment facility is on hold until the Mary Dunn Well #4 pump station is online, currently scheduled for December 2022*



Discussion?





Pumping/Testing Data



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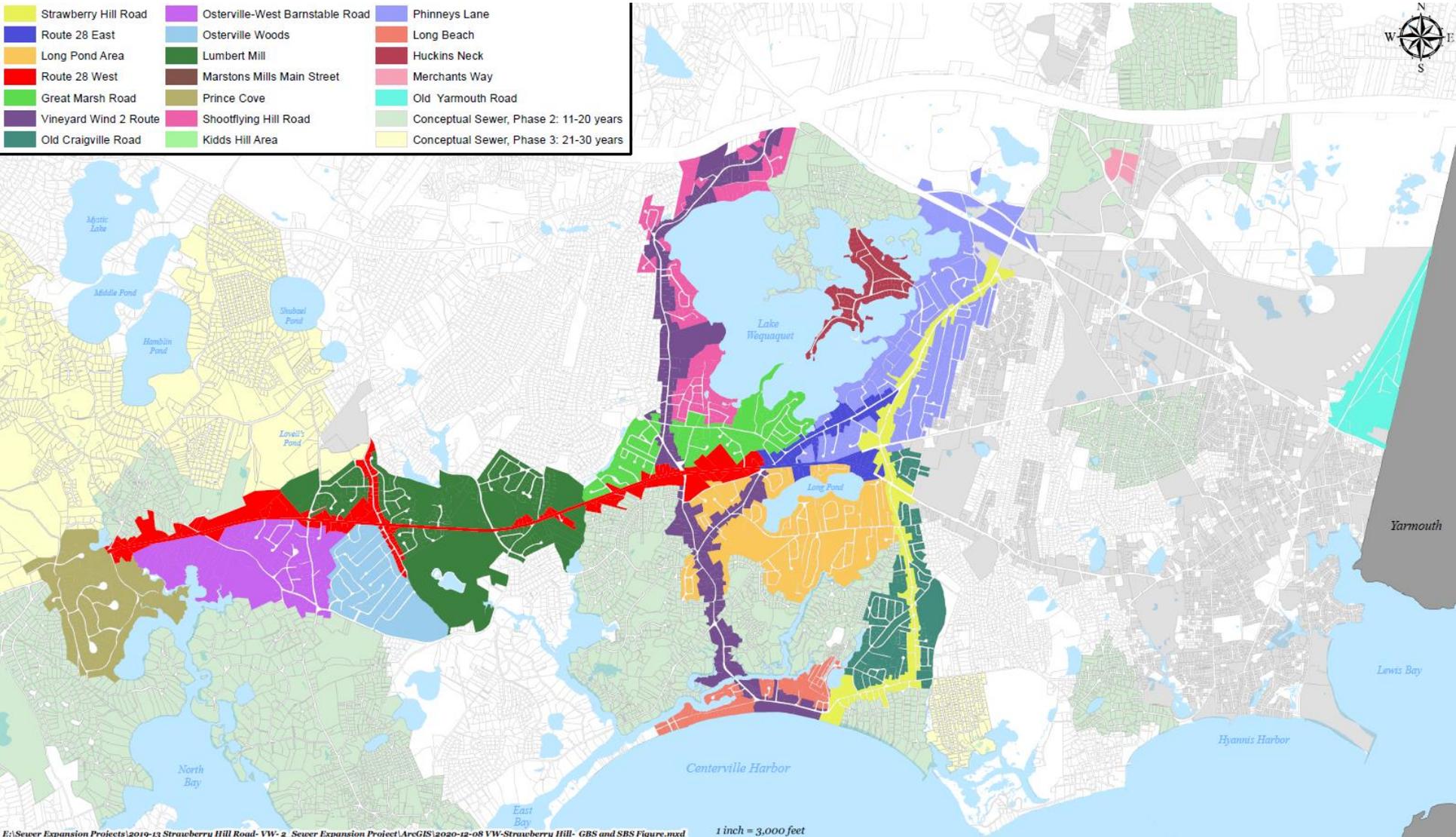
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Phase 1 Implementation Plan



- | | | |
|-----------------------|---------------------------------|--|
| Strawberry Hill Road | Osterville-West Barnstable Road | Phinneys Lane |
| Route 28 East | Osterville Woods | Long Beach |
| Long Pond Area | Lumbert Mill | Huckins Neck |
| Route 28 West | Marstons Mills Main Street | Merchants Way |
| Great Marsh Road | Prince Cove | Old Yarmouth Road |
| Vineyard Wind 2 Route | Shootflying Hill Road | Conceptual Sewer, Phase 2: 11-20 years |
| Old Craigville Road | Kidds Hill Area | Conceptual Sewer, Phase 3: 21-30 years |





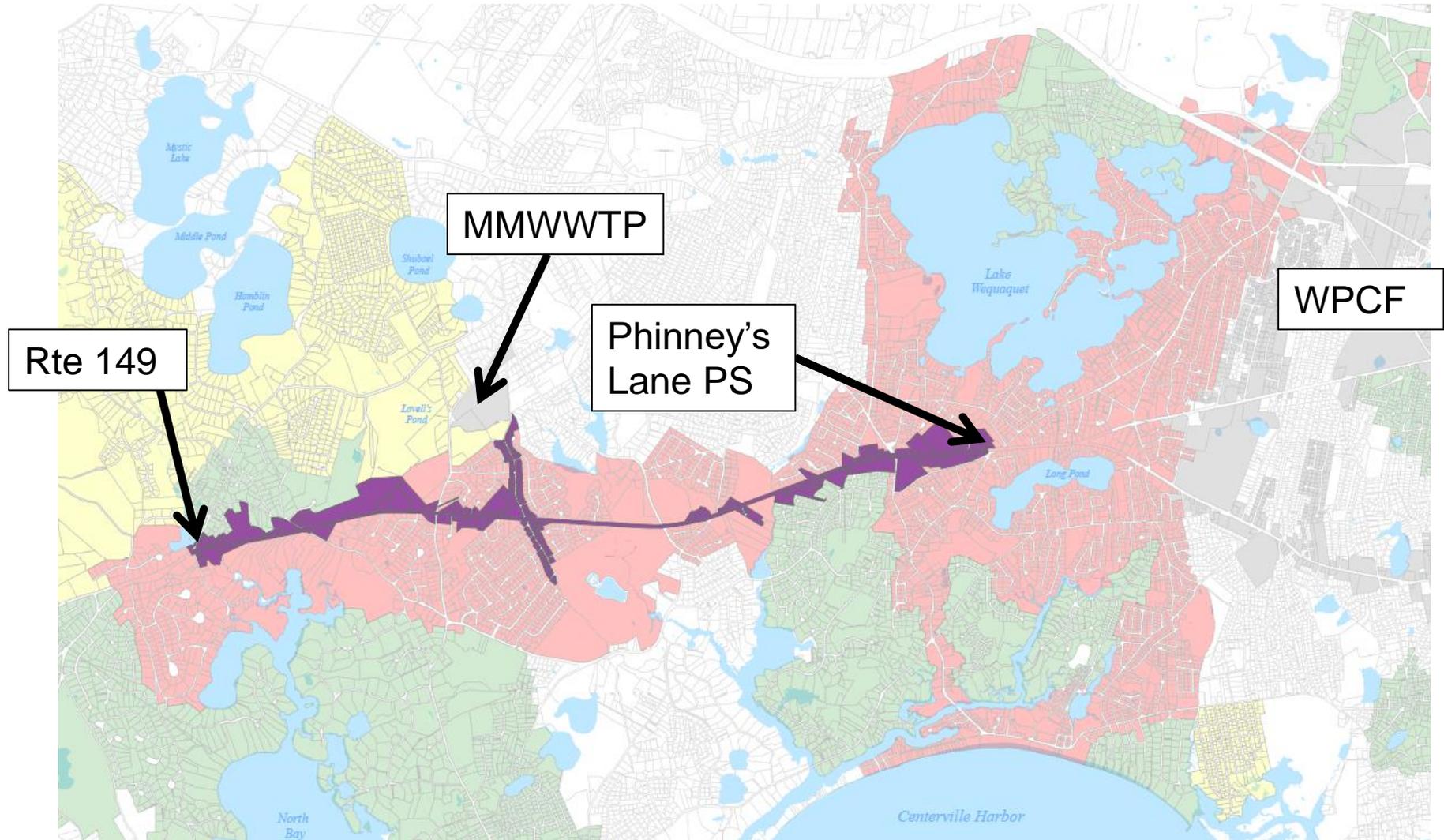
Park City Wind Route



(Map Source: Office of Geographic Information, Massachusetts Department of Transportation, Aerial Imagery, December 2018)



CWMP Project Updates





Clean Water SRF Update (From February)



- *SRF*
 - *2020 Projects*
 - *All loans have been secured and projects are underway (4 projects)*
 - *Mass Clean Water Trust announced total loan forgiveness for the 4 projects of \$876,534*
 - *2021 Projects*
 - *Route 28 East Sewer Expansion Project – Loan Application under review*
 - *Freezer Road Sewer Pump Station Rehabilitation – Currently out to bid*
 - *2022 Projects*
 - *Draft Intended Use Plan (IUP) released today*
 - *720 Main Street Pump Station Relocation listed*