

# ***Barnstable Town Council***

## ***Water Resources Management Update***

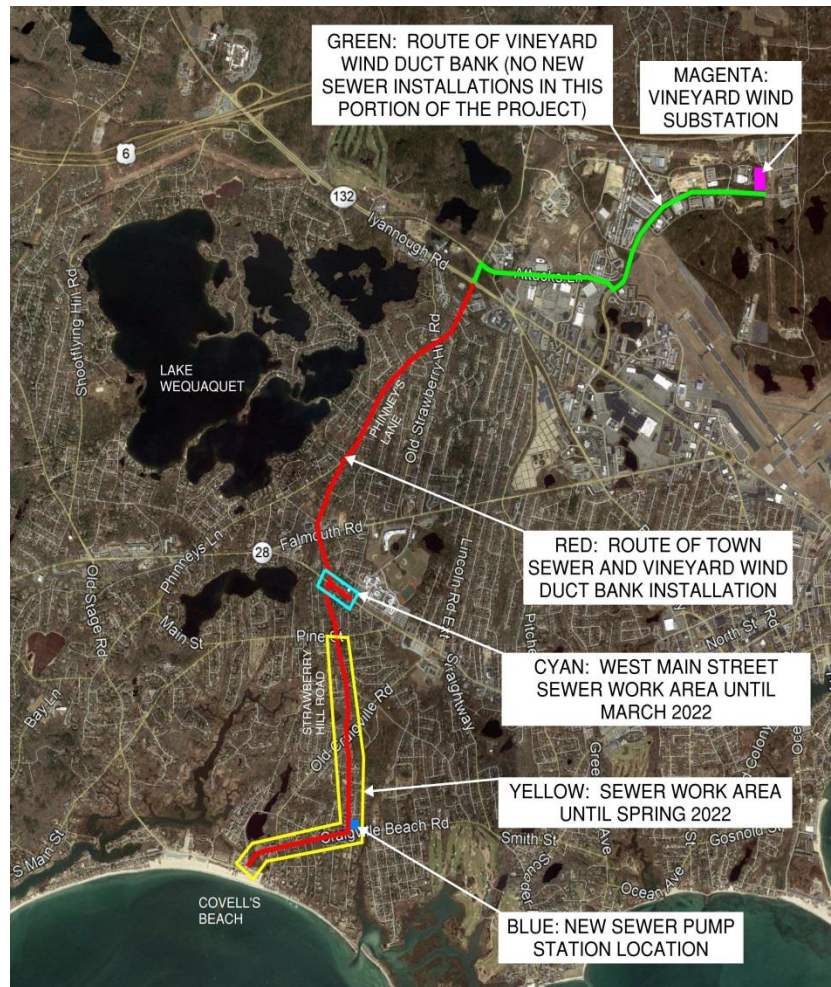
Department of Public Works  
March 17, 2022



# CWMP Project Updates

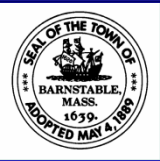


## • Strawberry Hill Road Sewer Expansion Project



- $\pm 7,800$  LF ( $\pm 40\%$ ) 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.

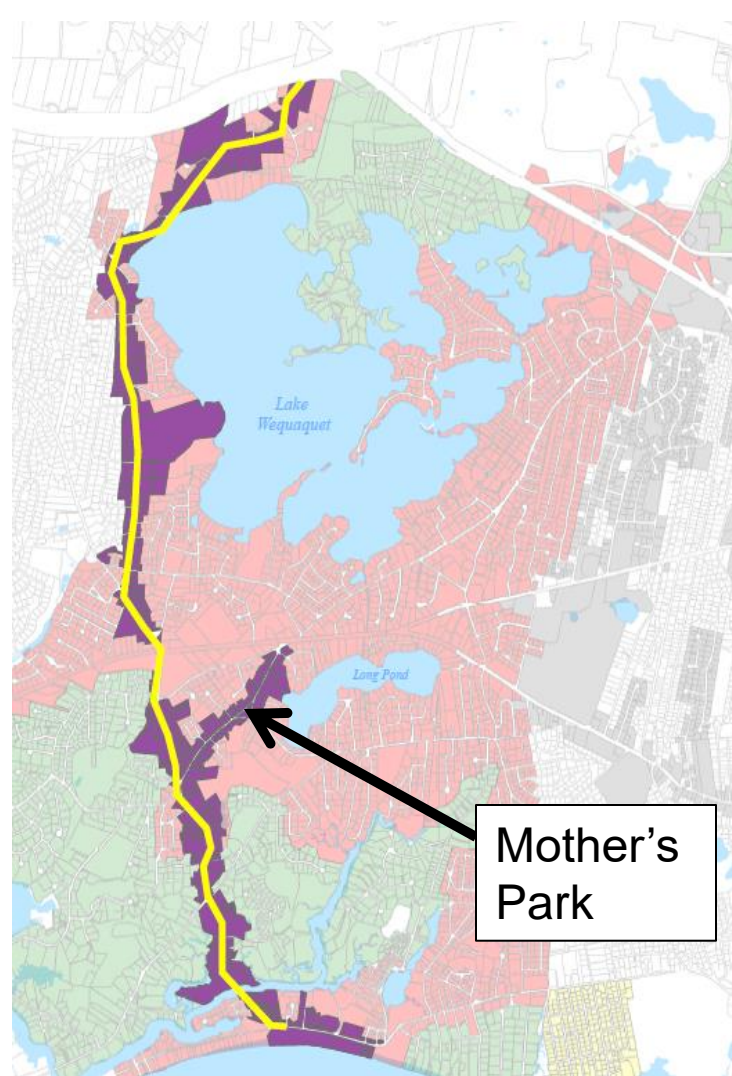




- *SRF Loan Application under review*
- *Finalizing Design and permitting*
  - *Received DEP approval*
  - *Received draft DOT Permit*
  - *Discussing construction hours w/ DOT*
- *PS Project – Advertised yesterday (3/16/22)*
- *Sewer Project – Advertised next week*
- *Construction expected to commence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



# CWMP Project Updates

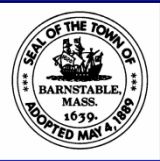


- *Park City Wind On-Shore Route*
  - *DPW finalizing in-house preliminary design.*
  - *DPW proceeding w/ retaining a designer for the project.*
  - *DPW continues to meet w/ Park City Wind to coordinate survey and design efforts.*
  - *DPW evaluating potential construction impacts along Main Street,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

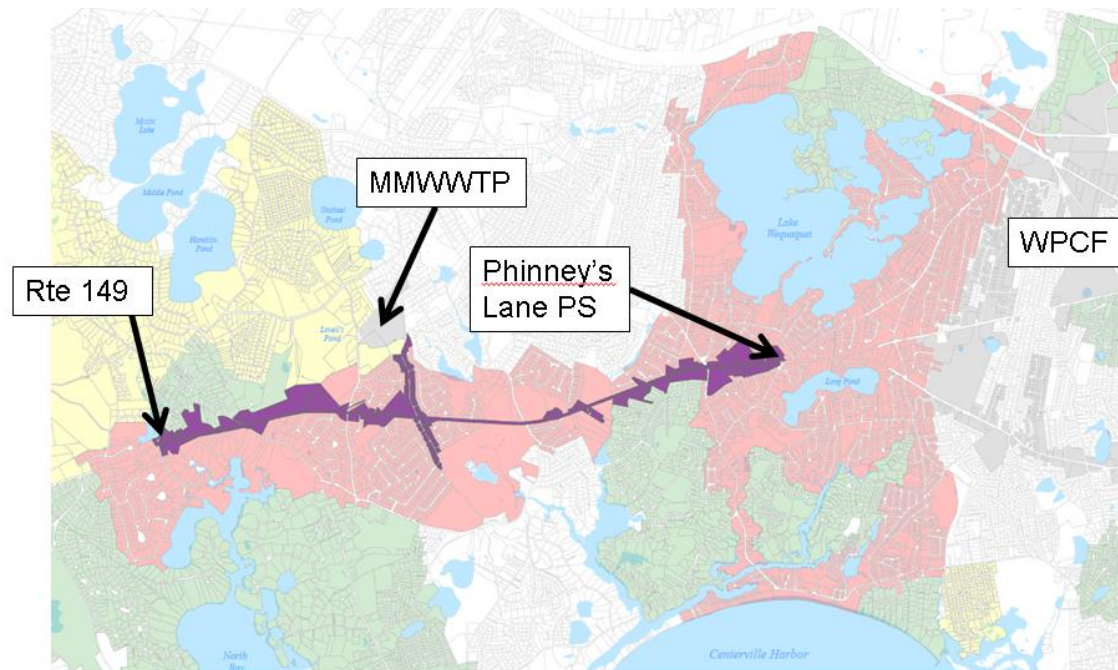




# CWMP Project Updates



- *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*



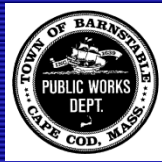
- *Route 28 / Yarmouth Road – MassDOT*
  - *Utility work underway.*
  - *KAM building demolition scheduled for April.*
  - *More significant work anticipated to commence in spring 2022. Schedule has not been provided.*
    - *Schedule of sewer work has not been provided.*
- *Planning on-going for other 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

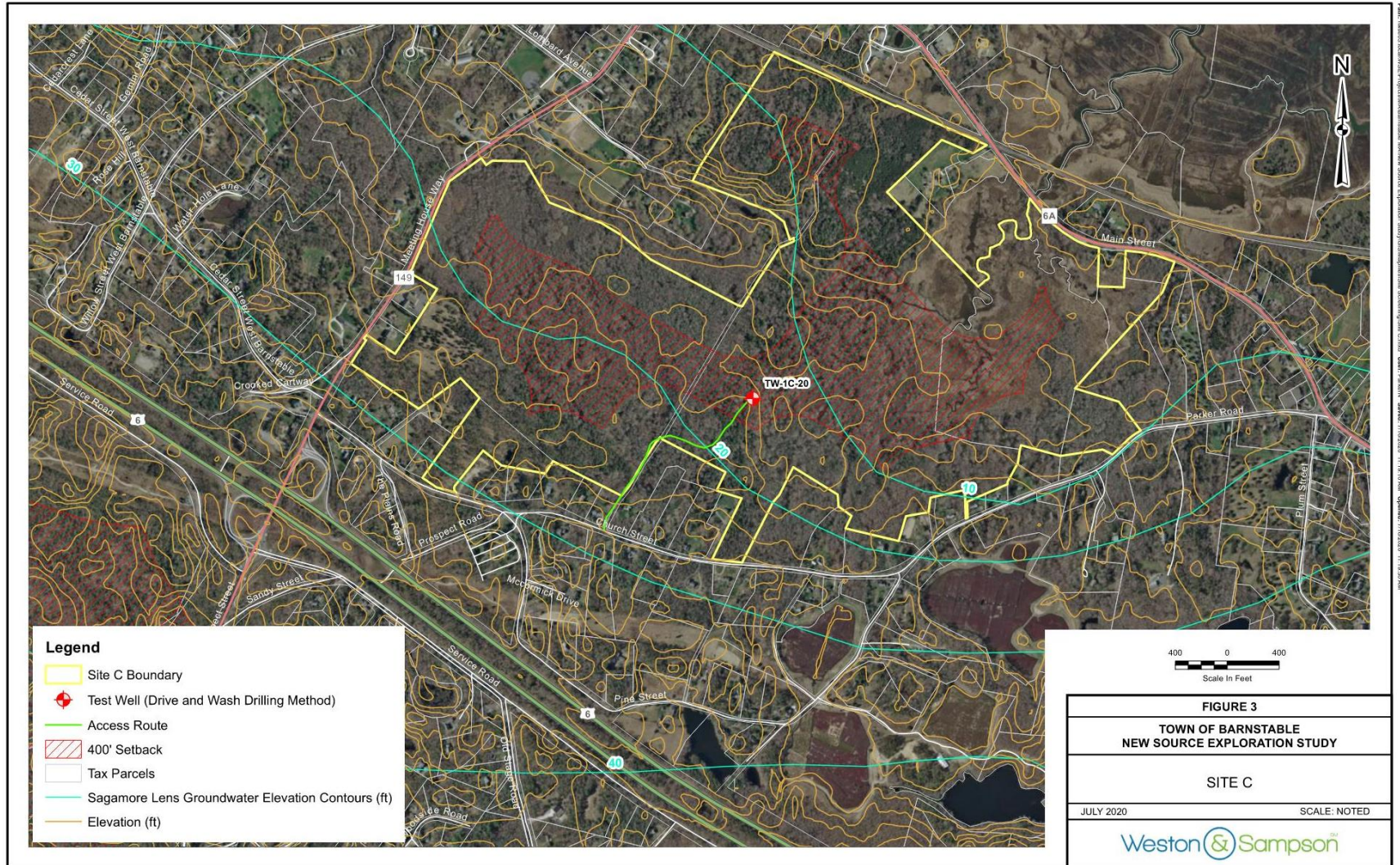
Analyte	TW-2B-20 3/3/20	TW-1C-20 5/19/20	TW-2D-20 2/19/20	TW-1E-20 1/27/20	TW-1F-20 2/26/20 <sup>7</sup>	TW-1G-20 3/12/20 <sup>7</sup>	Max. Contaminant Level (MCL)
Total Fe (mg/L)	0.078	0.131	0.054	ND <sup>1</sup>	0.194	ND	0.3 mg/L
Total Mn (mg/L)	ND	ND	0.041	ND	0.028	ND	0.05 mg/L
pH	6	5.8	6.2	5.7	5.6	6	6.5 - 8.5
Total Pb (mg/L)	ND	ND	0.0078	ND	ND	ND	TT <sup>2</sup> 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 <sup>3</sup> (ng/L)	ND	11.23 <sup>4</sup>	ND	ND	ND	ND	20 ppt
Other PFAS (NEIFOSAA <sup>5</sup> ) (ng/L)	1.86	ND	ND	ND	ND	ND	N/L <sup>6</sup>

- 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



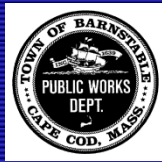


# Site C – Bridge Street Conservation Area









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

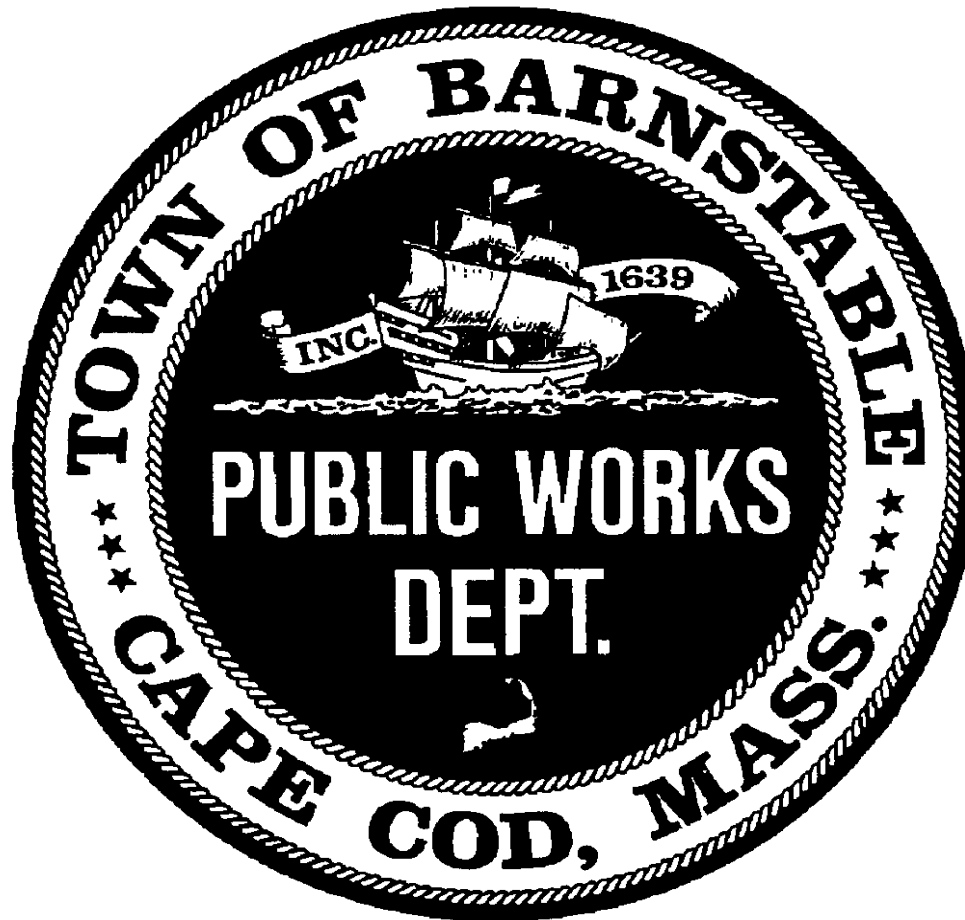


- In Fall 2020, the Town hired Kleinfelder to assist in completing pilot studies on the Town's existing Hyannisport & Straightway Water Treatment Facilities and the Mary Dunn Water Treatment Facility.*
- Spring 2021, Kleinfelder conducted field testing at the Hyannisport, Straightway and Simmons Ponds 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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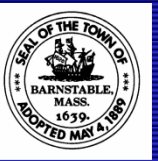
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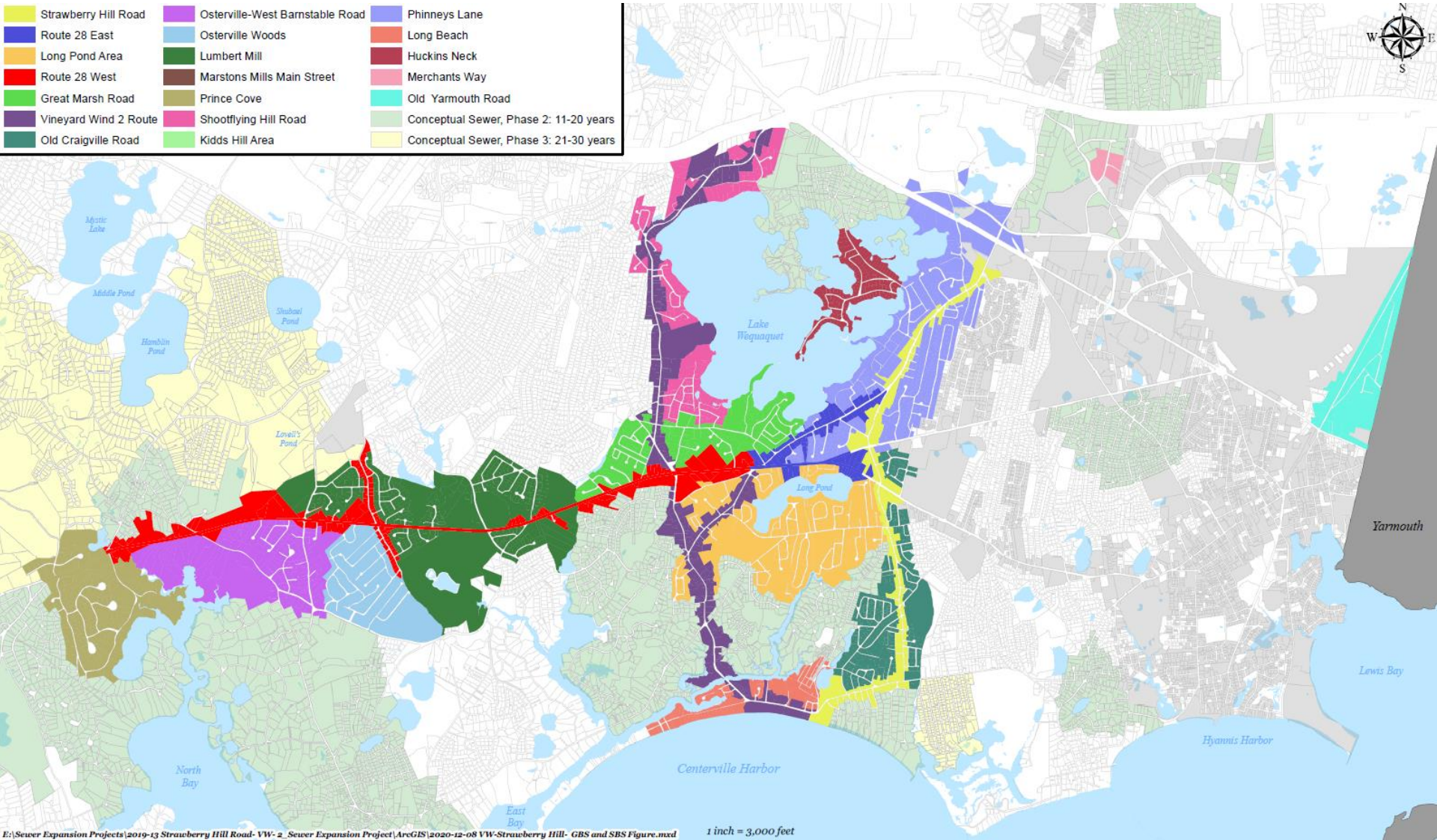
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# Phase 1 Implementation Plan



- |                       |                                 |  |
|-----------------------|---------------------------------|--|
| 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 |



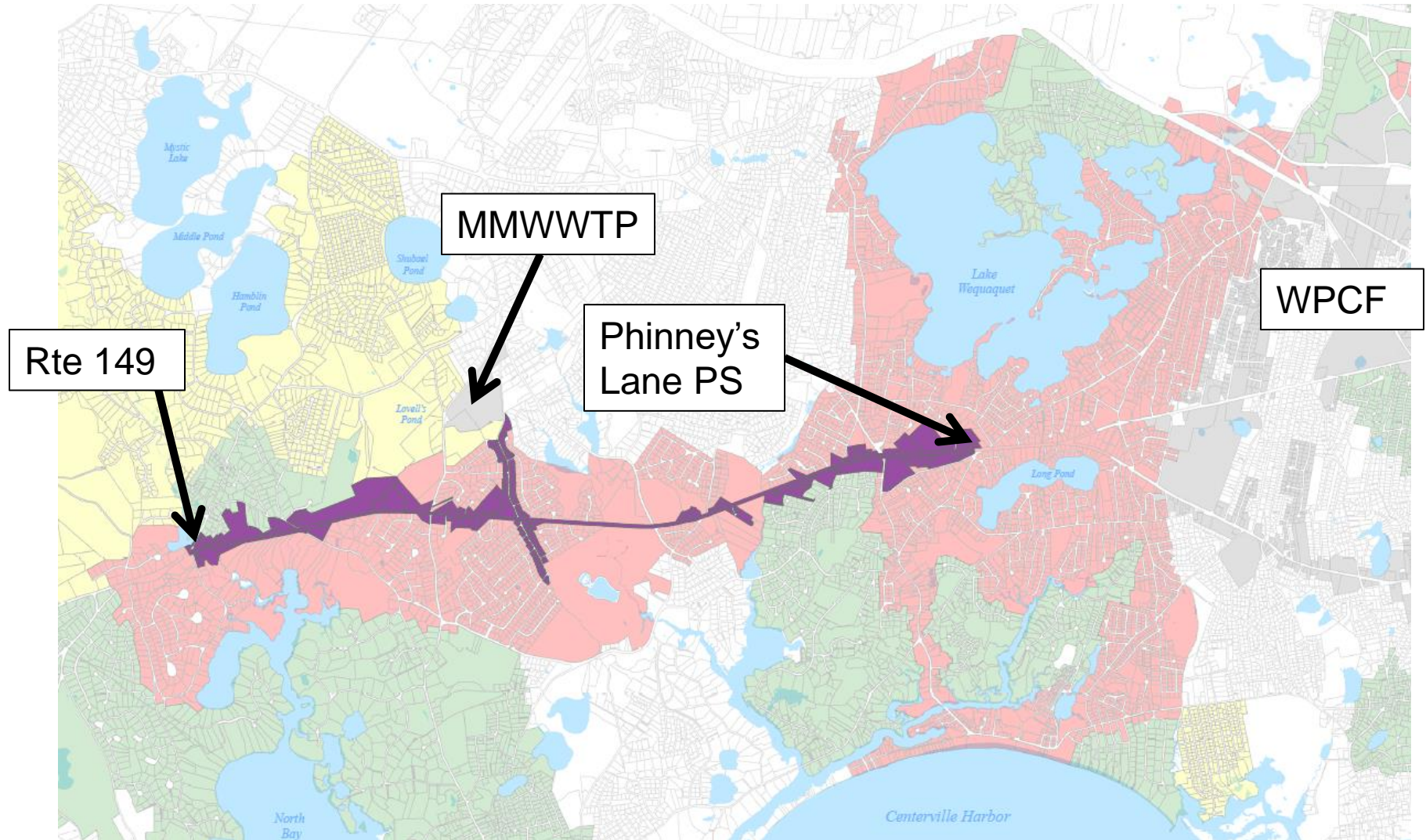


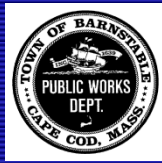






# CWMP Project Updates





# ***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*