Zero Percent Rate of Interest Loans for Wastewater Nutrient Management Projects Financed Through the Clean Water State Revolving Loan Fund

Town Council

September 21, 2023

Clean Water State Revolving Fund

- **Federal-state partnership that provides below-market-rate financing to assist municipalities in complying with federal and state water quality requirements**
- Every summer, the Mass Dept. of Environmental Protection solicits projects from Massachusetts municipalities for consideration for subsidized State Revolving Fund (SRF) loans

Intended Use Plan Project Listing

- **Projects' readiness to proceed and priority rating**, the Department assigns projects to a fundable list called the **Intended Use Plan Project Listing (IUP)**.
- **$903 million** to finance clean water projects
- Mass DEP and Mass Clean Water Trust

Clean Water State Revolving Fund

- Current standard subsidy is provided via a **2% interest, 20-year loan,** but there are opportunities for some projects to receive **30-year loans, and/or lower interest rates**
- A major goal is to provide incentives to communities to undertake projects with meaningful **water quality and public health benefits** and which address the needs of the communities and the watersheds

Barnstable & IUP

- **$43.6M** in IUP Projects between 2020-2022
- Base subsidy of **1.5%** - Housing Choice

Barnstable & IUP 2023

FY24-25 BWPCF Improvements	$6,121,800
Centerville Sewer Expansion	$30,900,000
Wastewater Pump Station Improvements	$3,320,000
Sewer Extension and Vacuum Sewer Removal	$1,120,000
	$41,461,800

Zero Percent (the 5 criteria)

Mass Dept. of Environmental Protection seeks to finance projects that **mitigate documented impacts to public health or the environment**, and for which proponents have completed **comprehensive planning and alternatives analysis**. MassDEP **provides zero-percent interest (0%) rate loan financing to wastewater nutrient removal projects that meet the following criteria**:

(1) The project is primarily intended to remediate or prevent nutrient enrichment of a surface water body or a source of water supply;

(2) Not currently subject, due to a violation of a nutrient-related TMDL standard or other nutrient based standard, to any enforcement orders

(3) Has a CWMP approved pursuant to regulations adopted by MassDEP;

(4) The project has been deemed consistent with the regional water resources management plan – 208 Plan

#5 – Land Use Controls

(5) The adoption of land use controls, subject to the review and approval of MassDEP in consultation with the Executive Office of Housing & Livable Communities & and the Cape Cod Commission, **intended to limit wastewater flows to the amount authorized under the land use controls that were in effect on the date the CWMP** was approved

**MassDEP expects that the thresholds established by the Legislature will limit the number of projects that qualify for the zero-interest loans.*

Example of Savings on Loan with Zero Percent Interest

20-Year Amortization			30-Year Amortization*		
Amount borrowed	$10,000,000	$10,000,000	Amount borrowed	$10,000,000	$10,000,000
Interest Rate	0.0%	1.5%	Interest Rate	0.0%	1.9%
Amortization method	level payment	level payment	Amortization method	level payment	level payment
Annual Payment	$500,000	$582,457	Annual Payment	$333,333	$440,383
Total interest paid	$0	**$1,649,147**	Total interest paid	$0	**$3,211,497**

* If 30 year amortization is chosen the loan will incur a higher interest rate per MA Clean Water Trust officials. The estimate used in this example is 0.4% more.

Flow Neutrality

- Local ordinance or regulation
- Town must demonstrate that sewers will not **enable more growth than otherwise would be allowed** under the land use regulations in effect when the CWMP is approved

Flow Neutrality

- Wastewater flows based on a full build-out under the land use controls in effect at the time the CWMP is adopted (pre-sewer build-out)
- Wastewater flows based on a full build-out in effect at the time construction of the project for which a zero rate of interest is being sought is expected to be completed (post-sewer build-out)

Flow Neutrality

- Future total wastewater volume will not exceed the pre-sewer buildout
- Flexibility to allocate flows for new growth and expansion of existing development

CWMP Existing WW Generation

Table 2-8: Existing Wastewater Generation by Watershed

Watershed	Water Use (gpd)	Wastewater Generation (gpd)	Nitrogen Generation (kg/day)
Lewis Bay	1,698,200	1,528,380	42.6
Halls Creek	280,910	252,810	14.4
Centerville River	1,529,540	1,376,590	132.3
Three Bays	1,361,000	1,224,900	121.4
Rushy Marsh	4,200	3,780	0.4
Popponesset Bay	181,720	163,550	16.2
Barnstable Harbor	879,200	791,280	65.5
Undefined	282,020	253,820	25.2
TOTALS:	6,216,790	5,595,110	418.0

CWMP Buildout

Table 2-12: Future Residential Wastewater Generation – "Ultimate" Buildout

Watershed	Existing Residential Dwelling Units	Additional Dwelling Units at "Ultimate" Buildout	Additional Wastewater Flow at "Ultimate" Buildout (gpd)[1]
Centerville River	7,789	403	65,290
Three Bays	5,328	835	176,600
Rushy Marsh Pond	8		
Popponesset Bay	858		
Halls Creek	2,53		
Lewis Bay (not including Halls Creek)	5,48		
Scorton Creek	6		
Barnstable Harbor	3,71		
Uncategorized (outside all watersheds)	966		
TOTALS:	26,69		

1. Flows are based upon 90% of the Average Wate
in Table 5-11 of the 2011 Needs Assessment Re

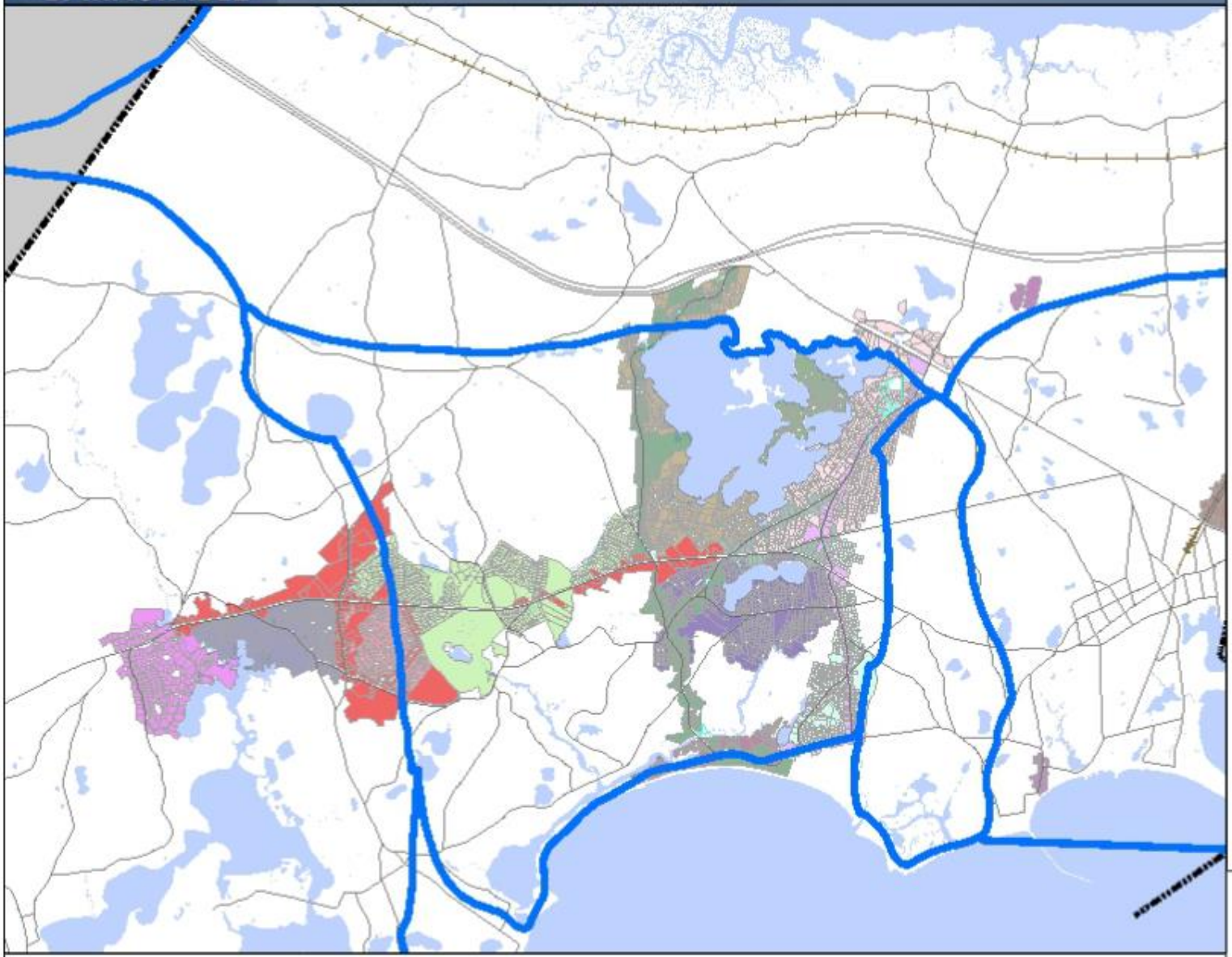
Table 2-13: Future Commercial Wastewater Generation – "Ultimate" Buildout

Watershed	Existing Commercial Building Square Footage	Additional Commercial Building Square Footage at "Ultimate" Buildout	Additional Wastewater Flow at "Ultimate" Buildout (gpd)[1]
Centerville River	1,559,488	732,439	38,090
Three Bays	1,164,866	1,325,995	79,560
Rushy Marsh Pond	0	0	0
Popponesset Bay	62,764	112,884	10,720
Halls Creek	428,089	347,762	27,470
Lewis Bay (not including Halls Creek)	9,066,887	18,309,511	1,446,450
Scorton Harbor	0	0	0
Barnstable Harbor	2,239,471	4,053,546	283,750
Uncategorized (outside all watersheds)	148,960	375,054	52,880
TOTALS:	14,670,525	25,257,190	1,938,920

1. Flows are based upon 90% of the Average Water Consumption per 1,000 SF of Non-Residential Use in each watershed as provided in Table 5-12 of the 2011 Needs Assessment Report (See Appendix R)

TOWN OF BARNSTABLE

CWMP IMPLEMENTATION



Legend

- Coastal Embayment Watersheds
- Projects (2023)
  - No_Sewer
  - Strawberry Hill Road
  - Hyannis Ave Sewer Ext
  - Route 28 East
  - Long Pond Road
  - Route 28 West
  - Centerville Village Sewer Exp
  - Old Craigville Road
  - Osterville-West Barnstable Road
  - Osterville Woods
  - Lumbert Mill
  - Marstons Mills Main Street
  - Prince Cove
  - Shootflying Hill Road
  - Phinneys Lane
  - Long Beach
  - Huckins Neck
  - Merchants Way
  - Old Yarmouth Road
- Parcels2023
- Town Boundary
- Major Road Centerlines
- Railroad Tracks
- Water Bodies
- Neighboring Towns

Map printed on: 9/21/2023

0 — 5,333 — 10,667 Feet

Approx. Scale: 1 inch = 5,333 feet

This map is for illustration purposes only. It is not adequate for legal boundary determination or regulatory interpretation. This map does not represent an on-the-ground survey. It may be generalized, may not reflect current conditions, and may contain cartographic errors or omissions.

Parcel lines shown on this map are only graphic representations of Assessor's tax parcels. They are not true property boundaries and do not represent accurate relationships to physical objects on the map such as building locations.

Town of Barnstable GIS Unit

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Zoning Changes

- Accessory Dwelling Units
- Mixed Use Subzone of Medical Services Overlay District (Wilkins/New England Development)
- Shopping Center Redevelopment Overlay (Cape Cod Mall)
- Downtown Hyannis Zoning

Additional Analysis & Guidance

- Seeking additional guidance on how regulations apply to Barnstable – town-wide and multiple watersheds
- Limits or reallocation of growth to achieve zero percent interest

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Barnstable & IUP 2020

83	Wastewater Pump Station Improvements Project	$1,000,000
65	Solids Handling Upgrade Project	$7,493,000
65	Route 28 and Yarmouth Road Intersection Sewer	$2,000,000
57	Strawberry Hill Road Sewer Expansion	$8,500,000

Barnstable & IUP 2021

90	Route 28 East Sewer Expansion Project	$17,106,000
85	Wastewater Pump Station Improvements Project	$2,000,000

Barnstable & IUP 2022

99	Wastewater Pump Station Replacement Project	$5,540,000

Barnstable & IUP 2023

549	FY24-25 BWPCF Improvements	$6,121,800
538	Centerville Sewer Expansion	$30,900,000
433	Wastewater Pump Station Improvements	$3,320,000
7291	Sewer Extension and Vacuum Sewer Removal	$1,120,000

CWMP Realistic Buildout – 50 years, 1/3 of ultimate buildout

Table 2-14: Future Residential Wastewater Generation – "Realistic" Buildout

Watershed	Existing Residential Dwelling Units	Additional Dwelling Units at "Ultimate" Buildout	"Realistic" Additional Dwelling Units at 50 Years	"Realistic" Additional Dwelling Units In Watersheds that contribute to the Wastewater Issues	"Realistic" Future Wastewater Flow - Residential (gpd)[1]
Centerville River	7,789	403	134	134	21,740
Three Bays	5,328	835	278	278	58,810
Rushy Marsh Pond	8	2	1	0	0
Popponesset Bay	858	120	40	40	7,080
Halls Creek[2]	2,531	193	64	0	0
Lewis Bay (not including Halls Creek)	5,488	2,579	859	859	123,670
Scorton Creek	6	2	1	0	0
Barnstable Harbor[3]	3,718	1,827	608	0	0
Uncategorized (outside all watersheds)	966	155	52	0	0
TOTALS:	26,692	6,116	2,037	1,311	211,300

1. Flows are based upon 90% of the Average Water Consumption per Dwelling Unit in each watershed as provided in Table 5-11 of the 2011 Needs Assessment Report (See Appendix R)
2. It is assumed that the majority of additional residential dwelling units in the Halls Creek Watershed are going to occur in areas that are not within the sewer expansion plan or existing sewered areas as these areas are substantially built out with single family dwellings under existing conditions. Halls Creek has assimilative capacity to accept additional nitrogen.
3. It is assumed that the majority of additional residential dwelling units in the Barnstable Harbor Watershed are not going to be in the Millway Subwatershed as this subwatershed is substantially built out with single family dwellings under existing conditions. The remaining portions of the watershed, that are not already sewered, and which have been shown to have assimilative capacity to accept additional nitrogen, will remain unsewered under the plan.

CWMP Realistic Buildout – 50 years, 1/3 of ultimate buildout

Table 2-15: Future Commercial Wastewater Generation – "Realistic" Buildout

Watershed	Existing Commercial Building Square Footage	Additional Commercial Building Square Footage at "Ultimate" Buildout	"Realistic" Additional Commercial Square Footage at 50 Years	"Realistic" Additional Commercial Square Footage In Watersheds that contribute to the Wastewater Issues	"Realistic" Future Wastewater Flow - Commercial (gpd)[1]
Centerville River	1,559,488	732,439	243,902	243,902	11,420
Three Bays	1,164,866	1,325,995	441,556	441,556	23,850
Rushy Marsh Pond	0	0	0	0	0
Popponesset Bay	62,764	112,884	37,590	37,590	3,210
Halls Creek[2]	428,089	347,762	115,805	115,805	8,230
Lewis Bay (not including Halls Creek)	9,066,887	18,309,511	6,097,067	6,097,067	433,500
Scorton Harbor	0	0	0	0	0
Barnstable Harbor[3]	2,239,471	4,053,546	1,349,831	1,349,831	85,040
Uncategorized (outside all watersheds)	148,960	375,054	124,893	0	0
TOTALS:	14,670,525	25,257,191	8,410,645	8,285,752	565,250

1. Flows are based upon 90% of the Average Water Consumption per 1,000 SF of Commercial Units in each watershed as provided in Table 5-11 of the 2011 Needs Assessment Report (See Appendix R)
2. It is assumed that the additional commercial square footage in the Halls Creek Watershed will occur along existing sewer lines and thus is accounted for WPCF design purposes.
3 It is assumed that the additional commercial square footage in the Barnstable Harbor Watershed will occur in the Millway Subwatershed and other areas where there is existing sewer.

Falmouth

Orleans

Chatham