TOWN OF WESTFORD

SUMMARY OF THE

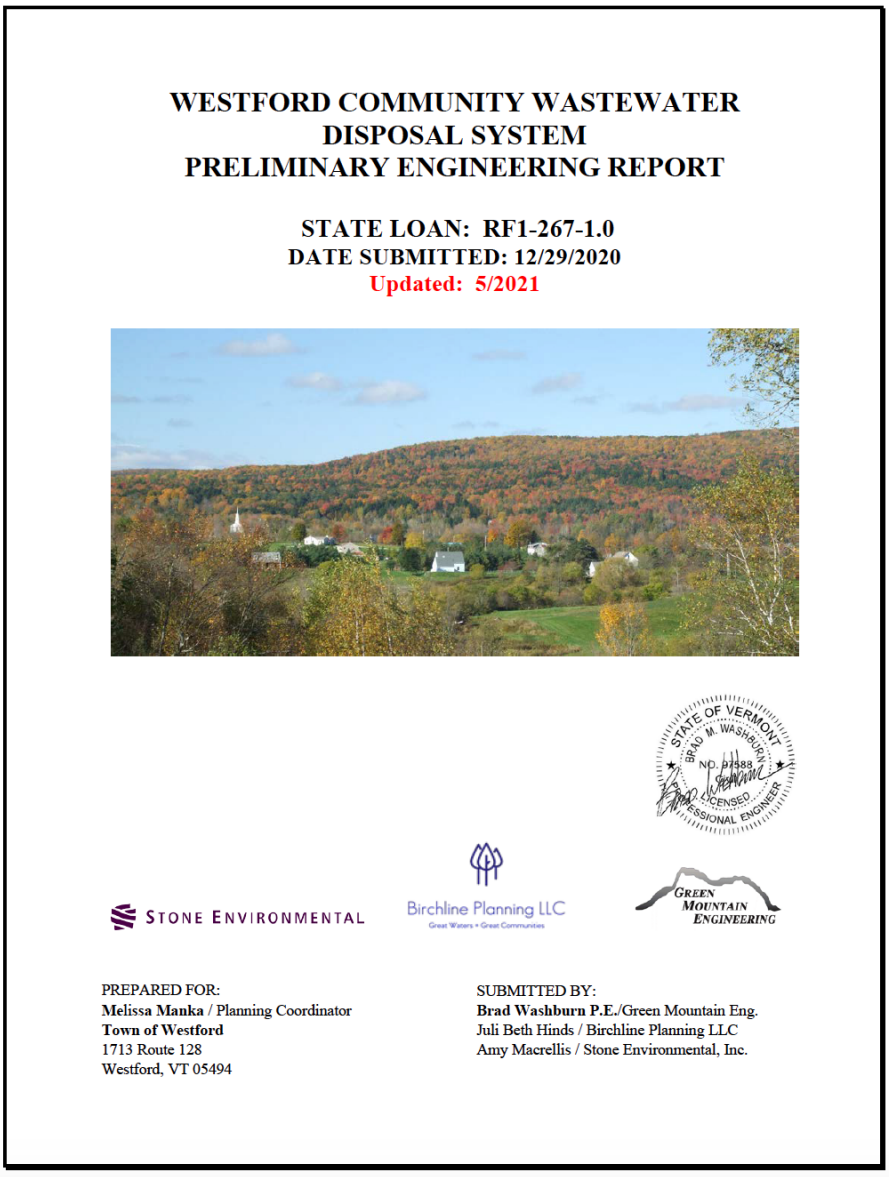
COMMUNITY WASTEWATER PROJECT PRELIMINARY ENGINEERING REPORT (PER)

PREPARED BY
GREEN MOUNTAIN ENGINEERING
STONE ENVIRONMENTAL, INC.
BIRCHLINE PLANNING LLC

ACCEPTED BY VERMONT DEC
MARCH 30, 2021
UPDATED JUNE 2021
WEB: HTTPS://WESTFORDVT.US/WP-CONTENT/UPLOADS/2021/06/WESTFORD-COMMUNITY-WW-PER_5-21-2021.PDF

Westford Community Wastewater Project
Preliminary Engineering Report

REPORT SUMMARY



WESTFORD COMMUNITY WASTEWATER DISPOSAL SYSTEM
PRELIMINARY ENGINEERING REPORT

STATE LOAN: RF1-267-1.0
DATE SUBMITTED: 12/29/2020
Updated: 5/2021

STATE OF VERMONT BRAD M. WASHBURN NO. 07588 LICENSED PROFESSIONAL ENGINEER

STONE ENVIRONMENTAL

Birchline Planning LLC
Great Waters + Great Communities

GREEN MOUNTAIN ENGINEERING

PREPARED FOR:
Melissa Manka / Planning Coordinator
Town of Westford
1713 Route 128
Westford, VT 05494

SUBMITTED BY:
Brad Washburn P.E./Green Mountain Eng.
Juli Beth Hinds / Birchline Planning LLC
Amy Macrellis / Stone Environmental, Inc.

After many years of community planning and engineering evaluations, the Town of Westford submitted a Preliminary Engineering Report (PER) evaluating the engineering design options for a community wastewater system serving the Town Center Area, the estimated cost of each option, and associated financial implications both for the Town and for prospective system users. The PER was accepted as complete by the Vermont Department of Environmental Conservation on March 30, 2021, allowing the Town to proceed to the next step of engineering and funding development. This document provides a summary of the PER's contents and findings.

https://westfordvt.us/wp-content/uploads/2021/06/Westford-Community-WW-PER_5-21-2021.pdf

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Preliminary Engineering Report

PLANNING CONTEXT

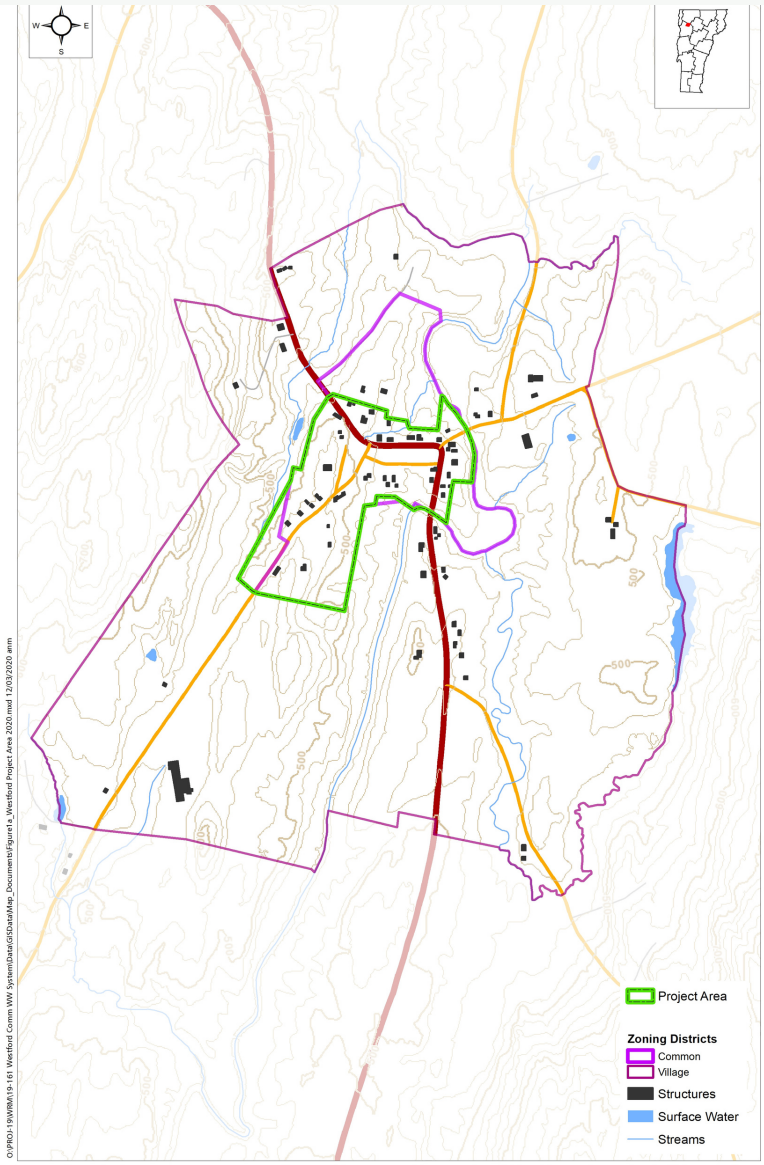


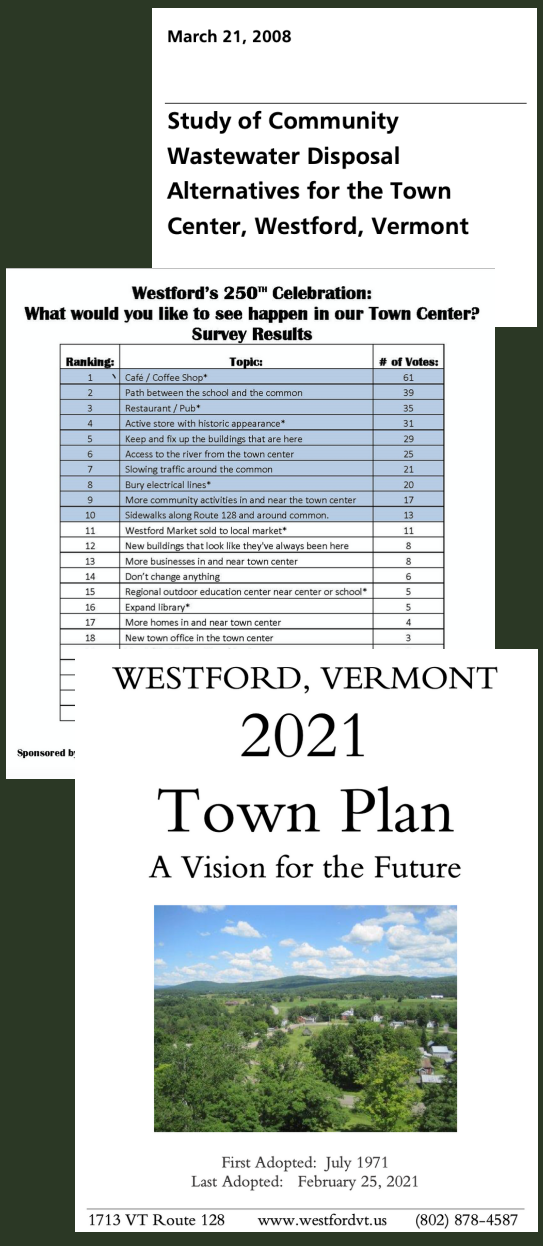
FIGURE 1: LOCATION MAP AND PROJECT AREA
Westford Community Wastewater Disposal System
Westford, Vermont

The Town of Westford has explored options for a community wastewater disposal system to serve the Town Center Area since 2007. All properties n the Town currently are served by on-site wastewater (septic) systems. Many of these systems pre-date current standards, making replacement or expansion challenging. Land uses within this area are compact and varied, making off-site wastewater treatment especially important to long-term function and flexibility of use. The community wastewater system would serve the area shown in green on the map at left.

PROJECT NEED
SUPPORTING POLICIES AND PUBLIC OUTREACH

Why is the Town Center Wastewater Project Needed Today?

Westford's Planning Commission has worked since 2007 to develop policies, secure grants, and take actions that support the vitality of the Town Center. The wastewater situation for existing and new uses in this area is dire. For example, the Public Library and Town Offices share an aging leach field located under the Town Office parking lot that could be nearing the end of its useful life. There are VERY few wastewater disposal options if existing on-site wastewater systems fail, and extremely limited ability to expand existing on-site systems. Community surveys, the 2015 and 2021Town Plans, and numerous studies have established the need for, and physical feasibility of a Town Center area community wastewater system.



March 21, 2008

Study of Community Wastewater Disposal Alternatives for the Town Center, Westford, Vermont

Westford's 250™ Celebration:
What would you like to see happen in our Town Center?
Survey Results

Ranking:	Topic:	# of Votes:
1	Café / Coffee Shop*	61
2	Path between the school and the common	39
3	Restaurant / Pub*	35
4	Active store with historic appearance*	31
5	Keep and fix up the buildings that are here	29
6	Access to the river from the town center	25
7	Slowing traffic around the common	21
8	Bury electrical lines*	20
9	More community activities in and near the town center	17
10	Sidewalks along Route 128 and around common.	13
11	Westford Market sold to local market*	11
12	New buildings that look like they've always been here	8
13	More businesses in and near town center	8
14	Don't change anything	6
15	Regional outdoor education center near center or school*	5
16	Expand library*	5
17	More homes in and near town center	4
18	New town office in the town center	3

Sponsored by

WESTFORD, VERMONT

2021

Town Plan

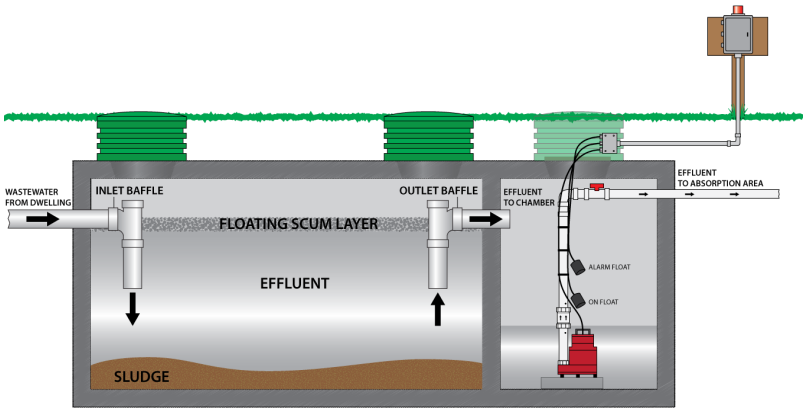
A Vision for the Future

First Adopted: July 1971
Last Adopted: February 25, 2021

1713 VT Route 128 www.westfordvt.us (802) 878-4587

Westford Community Wastewater Project
Preliminary Engineering Report

SYSTEM COMPONENTS

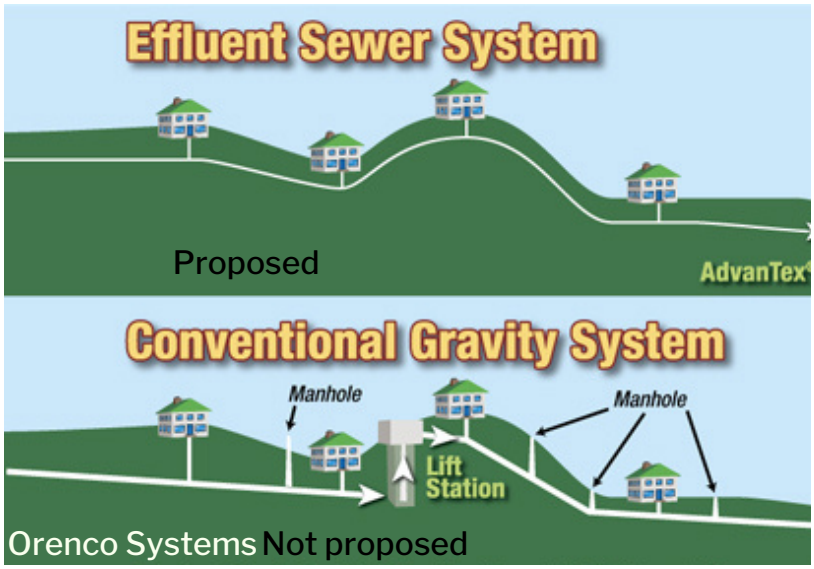


STEP
Septic Tank & Effluent Pump

"STEP" tanks & pumps collect household sewage after the septic tank and pump it to the sewer, located in the street.

The engineering options evaluated for Westford all involve the use of a low-pressure sewer collection system and "dosing" pump station across from the Maple Shade Town Forest disposal field. A low-pressure sewer system is a network of sealed pipes and small, below-ground pump stations called "STEP" tanks & pumps at each connected property. Low-pressure sewer systems, which require electricity, are preferred in places like Westford where topography and bedrock make gravity sewers both impractical and expensive.

Low Pressure Sewers



Low Pressure or Effluent Sewers bring liquid waste that has been through a Septic Tank & Effluent Pump through a pressurized pipe to the disposal field. Solids in septic tanks at each parcel are pumped periodically.

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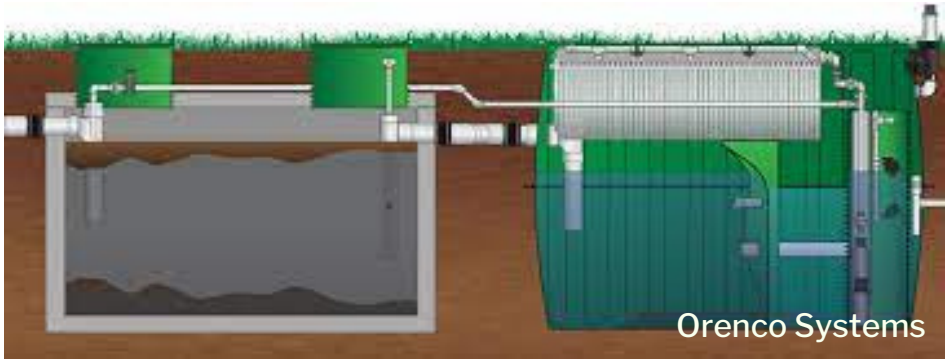
Preliminary Engineering Report

TREATMENT COMPONENTS

Continued

Effluent Pre-Treatment System



A diagram of a typical pre-treatment system; septic tank effluent goes through a filter medium to remove solids and organics before the wastewater is discharged to the disposal field.

Two alternatives would increase the system's capacity and ability to handle higher-strength waste from restaurants and food-related uses by using a common collection pump station and/or a mechanical pre-treatment system. A pre-treatment system removes solids and organics from effluent before it is applied to the disposal field, allowing for higher loading rates per square foot and also extending the field's useful life. The collection pump station would eliminate some STEP tanks and provide more system storage capacity. Both elements require additional electricity and maintenance, but create more robustness and flexibility for Town Center land uses.

Collection Pump Station Control Building

A collection pump station control building (top left) and underground pre-treatment system (lids, foreground) serving the Winter Park Business Park on Route 100 in Waitsfield.

Adding a collection pump station would provide for greater storage within the system to "equalize" flows, making the system more resilient in the event of power loss, and better able to handle periodic high flows from community events or business activity.

Westford Community Wastewater Project
Preliminary Engineering Report

ALTERNATIVES CONSIDERED

Alternative 1

STEP tanks at all properties
Low-pressure sewers
No pre-treatment

Total Project Cost $1.93 million
Annual O&M Cost $20,660

Alternative 2

STEP tanks at all properties
Low-pressure sewers
Pre-treatment system

Total Project Cost $2.25 million
Annual O&M Cost $26,660

Alternative 3

STEP tanks at all properties
Low-pressure sewers
Collection pump station
No pre-treatment

Total Project Cost $2.04 million
Annual O&M Cost $22,360

Alternative 4

STEP tanks at all properties
Low-pressure sewers
Collection pump station
Pre-treatment system

Total Project Cost $2.38 million
Annual O&M Cost $29,160

Alternatives Evaluated

Any publicly–funded wastewater project must consider alternative approaches that meet the project purpose. Four alternatives for the Westford Town Center area were considered in the PER. Cost estimates were prepared for the costs of system engineering, construction, and ongoing operation & maintenance. The table above shows the key system elements, the estimated total project cost, and the estimated annual operation and maintenance cost for each of the four project alternatives.

Westford Community Wastewater Project
Preliminary Engineering Report

PREFERRED ALTERNATIVE

ALTERNATIVE 4 - PRE-TREATMENT WITH A COLLECTION PUMPING STATION - IS RECOMMENDED

It is recommended that the Town move ahead with studies to evaluate Alternative 4 at this time. These studies, with Alternative 4 as the Preferred Alternative, will be applicable and useful if any of the four Alternatives ultimately is chosen. The Town must bond for a share of the cost; a range of $700,000 to no more than $1 million is recommended. A prospective bond vote in March 2022 (see schedule, next page) would include language authorizing the Town to evaluate and move forward with the final selected alternative, with bonding authority not to exceed the estimated total indebtedness needed to build Alternative 4.

Estimated Total Project Cost

$2.4 million

Target Bond Vote Amount:

$700,000 - $1 million

Town's Annual Obligation after user fees, including O&M

$16,000 - $33,000

@$16 - $36 per tax parcel per year

Monthly Fee/Equivalent User

$61-$130/month

Funding Sources Sought

VT Clean Water State Revolving Fund

- 35% to 75% potential grant
- Up to 30 year, 2% financing for remaining capital cost

Northern Borders Regional Commission

- $400,000 grant applied for in May 2021

ARPA-Congressional Appropriation Requested

Westford Community Wastewater Project
Preliminary Engineering Report

PROJECT MILESTONES

With the current availability of substantial federal funding through the Northern Borders Regional Commission program, Vermont Clean Water State Revolving Fund, American Rescue Plan Act (ARPA), and potentially a special Congressional appropriation, the Town of Westford has an opportunity to implement the Town Center system within the next three calendar years – if voters approve a bond to support the Town's share of the total cost. The schedule submitted with the PER anticipates Select Board authorization to proceed with Step II engineering in 2021, a bond vote at March 2022 Town Meeting, and construction begining in the summer of 2022, with the system completed by the end of the first quarter of 2023.

	2021 Q2-Q4	2022 Q1-Q2	2022 Q3 2023 Q1
Community Process	Outreach & financial proposal	Town Meeting - Bond Vote	System connections
System Engineering	Hydro-geology & final design	Permits & bid documents	
Construction			Construction

Westford Community Wastewater Project
Preliminary Engineering Report

PROJECT INFORMATION AND CONTACTS

Project information and updates are available on the Town website: https://westfordvt.us

Planning Commission members:
Koi Boynton (Vice-Chair)
George Lamphere (Chair)
Gordon Gebauer
Seth Jensen
Mark Letorney
Contact: planningcommission@westfordvt.us

In the spring and summer of 2021, the Town's staff, Planning Commission, and project engineering team will be reaching out to the community and potential system users, and working to build the best financial package possible for the Town. Impacts and opportunities for individual properties in the prospective service area will be addressed through this effort.

Your input is important in shaping the policies and funding approach that ultimately is proposed to the voters. Please see the project website or contact the Town Planner, Melissa Manka, for more information planner@westfordvt.us