VERMONT

VT DEC Residuals Management Program

April 2019

Facilities/Operations with Solid Waste Certifications:

	Facility/Town	How Managed/Material	Additional Info
1	St. Johnsbury	Land App Class B biosolids	Local Ag fields
2	Swanton	Land App Class B biosolids	Local Ag field
3	Fairfax	Land App Class B biosolids	Lagoon. Town owned Ag field
4	Essex Jct./Casella	Land App Class B biosolids	Local Ag fields
5	Vergennes	Land App Class B biosolids	Lagoon. Town owned Ag field
6	Hartford	Land App Class B biosolids	Not active
7	Windsor	Land App Class B biosolids	Local Ag field
8	Waterbury	Land App Class B biosolids	Lagoon only
9	Bradford	Land App Class B biosolids	Local Ag field
10	Woodstock	Land App Class B biosolids	Local Ag fields
11	Brattleboro	Export Class B biosolids	RMI, NH – compost to EQ biosolids
12	Bennington	Export Class B Biosolids	Hoosac WQD, MA – compost to EQ biosolids
13	Lyndon	EQ Biosolids	Distributed locally
14	Springfield	EQ Biosolids - compost	Distributed locally
15	South Burlington AP	EQ Biosolids	Distributed locally
16	Wilmington	EQ Biosolids - compost	Distributed locally
17	Middlebury	EQ Biosolids	Distributed locally
18	Stowe	EQ / Class B Biosolids	Export to Englobe, Quebec – beneficial reuse
19	Rich Earth Inst.	Land App EQ Urine	Brattleboro
20	Entergy/NorthStar	Land App Septage	Vernon at NorthStar property only
21	P&P Septic	Land App Septage	Richmond/Hinesburg Ag fields
22	Working Dog Septic	Land App Septage	Fairfax – local Ag field
23	Jay's Septic	Land App Septage	Fairlee
24	Michaud Septic	Land App Septage	Hardwick – local Ag fields
25	Londonderry	Land App Septage	Town operated site closed 2018
26	Barre Septic	Land App Septage	Williamstown, local field
27	Silloway Septic	Land App Septage	Randolph/Bethel
28	Ben & Jerry's	Land App – dairy residuals	Ag fields, Waterbury
29	PBM Nutritionals	Export dairy residuals	CT River Agricultural Svcs – NH

KEY: Land App = Land Application; Ag = Agriculture; EQ = Exceptional Quality

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The Benefits and Risks Associated with Management Options for Sludge and Septage in Vermont		
Management	**Benefits**	**Risks**
WWTF = wastewater treatment facility; GHG = greenhouse gas		
Landfill Sludge	• Electrical power generation via methane capture • Only disposal option for WWTFs that do not treat sludge to biosolids standards and a contingency option for WWTFs that do	• Increases landfill methane (GHG) emissions • Reduces landfill space capacity for 'trash' • Increased vehicle emissions/GHGs from hauling • Contributes to landfill leachate –partially treated at WWTFs discharged to waters of state. • Difficult to manage & potential odor complaints
Land Application **Biosolids & Stabilized Septage**	• Provides essential macro and micro plant nutrients, i.e., fertilizer • Recycles carbon and nutrients to soil • Builds soil organic matter, increasing soil water holding capacity & flood resiliency while reducing soil erosion potential • Enhances soil microbial population • Sequesters/stores carbon and GHGs in soil • Land restoration tool • Conserves landfill capacity • Requires permit - siting prohibitions, isolation distances, public access and site use restrictions, soil & groundwater monitoring • EQ biosolids: pathogens further reduced to level at which material is no longer regulated	• Potential for nutrient runoff or leaching to water resources (similar to any fertilizer) • Concentration of nutrients on agriculture fields • Pathogens reduced, not eliminated • Emerging contaminants present in material potentially transported to environmental receptors • Potential for odor complaints • Public perception challenges
Septage disposal at WWTF	• Provides disposal option (during all seasons) • WWTF's charge receiving fee which offsets operating costs	• WWTFs have limited capacity (organic load) • ~ 30% of WWTFs capable of receiving septage • Increased vehicle emissions/GHGs from hauling
Septage land application	• Relieves pressure on WWTF treatment capacity (~10-20% of 50 M gallons, annually) • Reduces hauling distances/vehicle emissions • Allowed for residential septage only	• Potential for non-biodegradables to pass screening • Similar risks for all land application

Definitions

Sludge: solids separated during the treatment of municipal wastewater

Biosolids: treated sewage sludge that meets the EPA pollutant and pathogen requirements for land application

Class B: biosolids meeting VT metals limits, pathogens significantly reduced, vector attraction reduced – site restrictions include no crops for human consumption for ~3 years after last biosolids application

EQ: exceptional quality biosolids that meet VT metals limits, pathogens further reduced and vector attraction reduced such that material is not classified as a solid waste and may be marketed and distributed to the public

Septage: partially treated sludge that is accumulated and stored in a septic tank

Stabilized Septage: treated with lime to raise pH and destroy pathogens and reduce vector attraction