



Chittenden Solid Waste District

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MEMORANDUM

TO: Executive Board of Commissioners
FROM: Josh Tyler, Director of Operations
Dan Goossen, Director of Composting
DATE: January 13, 2020
RE: CSWD Organics Recovery Facility, Preliminary Site Optimization and Cost Benefit Analysis

Vermont’s Universal Recycling Law (Act 148) takes a phased-in approach to banning organics from landfill disposal. On July 1, 2020 the final phase becomes effective. In order to accommodate expected growth in the amount of material managed at CSWD’s compost facility, District staff has worked diligently for the past three years to identify operational efficiencies and prioritize economic optimization and long-term facility stability. Economic optimization was the first step and is well under way with the business model shift made at the beginning of FY2020 (July 1, 2019).

In this memo CSWD staff presents the second step—operational optimization. It is important to note that expansion and optimization focuses on handling an organic throughput that matches the volume of leaf and yard waste received on site (as directed at the March 2019 BOC meeting). DSM Environmental identified critical inefficiencies in our current composting operation. The key inefficiencies are 1) the time spent moving material around the site, and 2) the equipment used to move and mix that material. **Regardless of the process the District decides to employ to accept additional food scrap tons, changing the mixing, active composting, and curing process is absolutely necessary to ongoing successful compost production.**

Based on preliminary analysis by SCS Engineers, staff offers the following site process optimization, expansion and capital equipment purchase recommendations:

Operational Optimization	Site Expansion	Capital Equipment Purchase
<ul style="list-style-type: none"> • Eliminate Phase 2 composting process • Eliminate material screening before curing • Eliminate material site transport via loader • Eliminate inefficient curing pile turning • Decommission all equipment past useable life <ul style="list-style-type: none"> ○ Power screen (1995), McCloskey trommel screen (2005), Enviro Supreme Mixer (2008), Excavator (2011) 	<ul style="list-style-type: none"> • Expand curing area to allow for windrow turning • Develop useable and accessible screening and mixing area • Construct year-round dump truck access to all areas 	<ul style="list-style-type: none"> • Windrow turner • Triaxle dump truck

Preliminary estimates from SCS Engineers indicate operational efficiencies in the following core activities related to compost processing: Aerated static pile (ASP) composting, turning curing material and blending final product:

Reduction in labor costs	68%
Reduction in diesel consumption	58%
Reduction in equipment maintenance costs	82%

The 2019 VTANR \$500,000 matching construction grant awarded to CSWD was granted under the terms of increasing our ability to accept additional food scraps when the landfill ban is in full effect. In order to be able to manage additional food scraps on the existing ODF site, District staff has identified two potential additional organic diversion alternatives:

- Develop an on-site organics transfer option where material will be aggregated and transported to another facility; or
- Develop onsite depackaging that will generate an organic slurry to be utilized by in-state anaerobic digestion facility in Salisbury

At the February 2020 BOC meeting, SCS Engineers staff and District staff will present a report outlining the anticipated costs of both the compost process optimization phase of the project and the costs of the two additional diversion options. At that meeting, staff will be asking the BOC for a decision on which diversion option with which to proceed in order to satisfy the terms of the grant.