

#8.

TO: Board of Commissioners
FROM: Josh Tyler
DATE: May 25, 2022
RE: ODF Trommel Screener Procurement

District staff have identified, as a critical function, the need to control and minimize the rising amount of contamination entering the Organics Diversion Facility (ODF) as incoming feed stocks. Plastics (bags and containers) are the most notable of the increasing contaminants entering the ODF feed stock and ultimately needing removal from the final product. Two changes in recent years have led to the significant increase in the amount of plastic contamination. The first was a rise in plastic liner bags being used by residents to divert organics from the trash stream to conform with Vermont's fully implemented Act 148 Universal Recycling Law. The second change was the addition of a new windrow turner to the ODF composting system. While providing significant operational efficiencies in the production process, the aggressive turning action resulted in the unintended byproduct of shredded plastic film contained within the curing mix.

The increase in film plastics within the composting process coincides with a greater awareness around microplastics in composts and other forms of organics management. After more than a year of discussion and testimony, the legislature recently passed the first round of legislation aimed at increased research around microplastics in organics streams. CSWD is approaching these concerns proactively and prefers to stay ahead of the curve on these topics. The District needs to employ several changes to enable considerable contaminant reduction in compost and gain more control over incoming plastic contamination.

Multiple initiatives have begun already or are in process that focus on decreasing contaminants, including film plastics, entering the compost stream. The 2022 District ban on compostable products and the FY23 hiring of a scale operator, who will implement ODF's contamination protocols for food waste and yard waste, are the first major steps in this direction. Because change and total compliance will not occur overnight, the addition of a trommel screener between compost phases is a critical need for maintaining compost quality.

In late summer of 2021 ODF staff received a trommel screen for a one-week demonstration to identify the effectiveness of removing plastic content between the active composting stage and the windowing stage. The demonstration was very successful, effectively pulling more than 95% of the film plastic leaving the aeration phase of the composting process. The demonstration machine has additional capabilities including efficiently removing fines from "mid" and "large fraction" overs separated at the end of the composting process.

ODF produces roughly 2,500 cubic yards of "overs" on an annual basis, which primarily comprise of moderately composted wood chips, rocks, and (currently) unwanted contaminants. When this material is sufficiently free of plastics, it can easily be incorporated back into the compost for further breakdown and additional volume production. When it becomes overly contaminated with plastics, separation with existing machinery is unattainable and much of this stream needs to be landfilled. Landfilling of the entire stream of material would likely result in expenses upwards of \$95,000 per year. The proposed trommel screen will effectively separate approximately 38% of the mass of the final overs in the form of reusable soil fines thereby saving over \$22,000 in disposal fees and resulting in over \$10,000 worth of saleable topsoil. The 2021 demonstration showed that approximately one year's worth of final overs can be processed within two days. Given the nature of the

“overs” material, it is not possible to effectively screen it on the existing Komptech star screener that performs the majority of the screening work at the ODF. Utilizing a trommel screener to separate this final overs stream is estimated to net approximately \$30,000 per year in operational savings. Keeping film plastic out of the ‘mids’ overs stream represents even greater savings both in terms of landfill avoidance and increased volumes of compost and soil production.

Additionally, ODF stands to benefit greatly from having a second screener onsite. While the main purpose of the trommel screen will be to clean up the pre-windrowed materials and overs streams, it is also perfectly capable of serving as a backup screener to our primary star screener in the event of equipment failures or other unforeseen events. ODF spent \$37,000 on screener rentals in FY21 so with added screening redundancy the rental contingency can be removed from the ODF operating budget.

Staff issued RFB No. 20220401 for a tracked trommel screener. RFB No. 20220401 - ODF Trommel Screener Procurement was posted online to the VT Business Registry and was also emailed to three regional vendors:

- Tora Crushing and Screening, Syracuse, NY
- Simplicity Equipment and Service, Westfield, MA
- Ecoverse, Avon, OH

Vendor Name	Ecoverse	Simplicity Engineering	Simplicity Engineering
Make/Model Proposed	Doppstadt SM720.2K	2023 Komptech Nemus 2700	2023 Komptech Portafil MT6
total	\$416,526	\$426,548	\$316,507
Bid Selection Score			
Total Score	7.75	5.75	7.25

The bid selection criteria were based on the following:

- Delivery Schedule
- Quality of Service and Maintenance
- Functionality
- Total Bid Cost

Upon review of each bid the Simplicity Engineering, 2023 Komptech Portfil MT6 was the lowest cost but also provided the lowest level of functionality due to a small load hopper, small stacking height, no option for a magnet, the lowest horsepower engine of all the bids, no extended warranty, and no additional hydraulic capacity. The Komptech lead time is May of 2023 and the service and maintenance capabilities of Simplicity have most recently not met District needs in regard to the Komptech star screener existing on site.

Staff is recommending the purchase of the Ecoverse Doppstadt SM720.2K as all functional requirements are met with the bid, the lead time is August 2022 and Ecoverse has the closest maintenance and service representative out of all the bidders. The approved CSWD FY23 ODF Capital Budget has \$420,000 identified for this equipment purchase and staff is bringing this purchase forward to maintain a lead time of August 2022. The District will not pay for the equipment until received and inspected by staff in August of FY23.

BE IT RESOLVED that the Board of Commissioners authorizes the Executive Director to enter into a contractual agreement for the purchase of a Doppstadt SM720.2K trommel screener from Ecoverse, Avon, OH, for an amount not to exceed \$420,000.