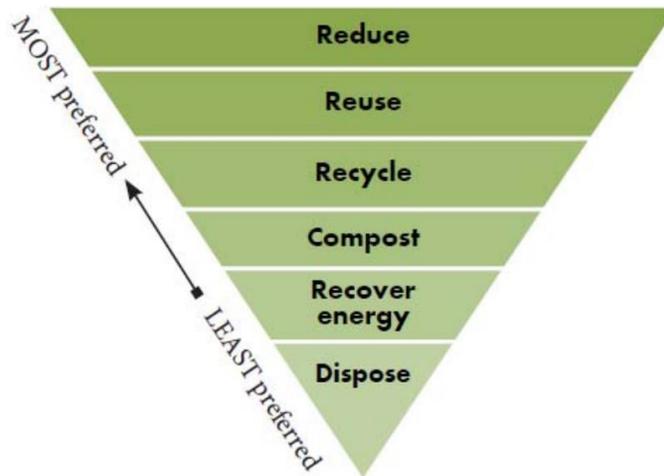


White Paper on Food Waste Composting

Objective: The State of Oregon has established a hierarchy in the handling of waste. This is reflected in the graphic below where disposal is the least preferred option and reduction in waste is the most preferred. All materials that we use and consume are made of natural resources. Waste reduction, reuse, recycling and composting all help to conserve natural resources and reduce pollution. By reusing the materials that we have already extracted, the environmental impact of consumption is minimized. Further, there is a high cost to find, develop and operate waste disposal facilities. Currently such wastes are transported out of the region to appropriate facilities. This results in transportation costs. Waste reduction through recycling and composting can reduce the quantity of the waste stream and therefore cost to transport. Further, this reduced waste stream extends the life of current landfills.



Source: Oregon Revised Statutes 459.015; Oregon DEQ; RSWMP 2008-18, 2008.

Locally, this effort is part of Forest Grove's commitment to sustainability. As will be discussed below, there would be increased cost to rate payers but part of those costs would be somewhat offset by the availability of compost.

The proposal is to implement a program to combine residential food waste with yard waste and deliver the material to a suitable facility for composting. The original approach was to pursue this on a one year trial basis. However, once the program starts, expectations will occur and would be difficult to resume past service approaches.

Due to potential operating issues, the focus of this effort would be residential customers. This program is an effort to divert food wastes from disposal to composting which can be used to benefit agricultural output and help residents in maintaining their landscaping and gardens. Compost helps prevent soil erosion, retain water, suppress plant disease and block weeds.

Background: Waste Management provides solid waste pickup for the City of Forest Grove. It currently picks up yard waste and transports it to a facility in Cornelius operated by S & H Logging for composting. This facility is not equipped or certified to allow food waste as part of its composting process. A facility in North Plains, Nature's Needs (operated by Recology), has been designed and operated to accept combined food and yard waste. Located in unincorporated Washington County, the facility was approved through a conditional use permit by the County a number of years ago. It operates by a permit issued by the State Department of Environmental Quality (DEQ) and a franchise agreement issued through Washington County. The agreement was recently extended by the County for an additional five years and is valid to 2020. Through the County franchise agreement, the facility is authorized only to accept residential food waste. The County did not allow the facility to accept commercial food waste because there was concern about potential odors.

The facility currently accepts combined yard and residential food waste from the City of Portland. A non-system license was issued by Metro to allow Recology to deliver this material to Natures Needs from the Portland area.

According to Washington County staff, there are no other similar programs in the Metro area and only a few in the State of Oregon. County staff indicated that combined yard and food waste facilities and programs are common in Washington State but they are limited in Oregon because they are not allowed in Exclusive Farm Use (EFU) areas.

Waste Stream: It is estimated that 26% of the waste stream is organic material that can be composted. Based on the experience with the City of Portland, residential food waste is about 5% to 7% of the yard waste. Currently, Waste Management indicates that 2,828 tons of yard debris is collected annually in Forest Grove. Based on the Portland experience, the inclusion of food waste would add between 141 to 198 tons to the city's recovered material. This would increase the waste stream up to 3026 tons annually or about 58 tons per week on average. The compost material can benefit agricultural operations in the area as well as citizens using the compost in their yards. It also reduces the amount of material that would otherwise be disposed of at a landfill.

Natures Needs indicate that their facility is permitted to process 80,000 tons per year. They currently process 50,000 tons per year. On a weekly basis, there is a seasonal variation of the amount processed. On average, the facility processes about 1000 tons per week with about 1100 to 1200 tons per week during the peak season. The plant manager indicates that the facility can accommodate the additional weekly increase created by Forest Grove. Thus, the facility has capacity to accept the additional 3,026 tons annually of material from Forest Grove.

Players and their roles: To implement a combined food/yard waste composting program involves three primary organizations to implement:

Waste Management: Waste Management is the company that provides the waste pickup service for Forest Grove and would be the organization that would collect the food and yard waste from residential areas and deliver it to the appropriate composting site. Waste Management has agreed to provide the new program with the needed rate adjustment.

Nature's Needs: Natures Needs is a composting facility in North Plains operated by Recology. It currently receives combined yard and food waste from the City of Portland and has the needed capacity.

City of Forest Grove: The City of Forest Grove is responsible for the collection of solid waste in the community through franchise agreements. At this time, the agreement is with Waste Management and can be modified with mutual consent.

Metro: Responsible for the transfer and disposal of solid wastes within the Metro region. Any facility that is outside the Metro region must receive approval by Metro to receive solid waste from a jurisdiction within Metro. This material can flow to Nature's Needs through a Non System License issued by Metro to the transporter, Waste Management.

Approaches Considered for Operation: There were two aspects considered about the approach for this program: what land use type to serve and whether to focus on a particular area in the community as a pilot project or the entire community.

Type of Generator: There were two aspects in discussing land use types to include with the initial effort: commercial/residential, and multi-family residential/single family residential.

Commercial/Residential: Implementing this program could be extended to all land uses in the city to include both non-residential and residential land uses. However, there is no nearby facility that is permitted to compost commercial food wastes. It was concluded that the program at this time would focus on residential yard wastes.

Multi-Family/Single Family: Multi-family composting requires active on-premises management to minimize recycling waste contamination. That is, to minimize the amount of non-compostable material being placed into the yard/food waste stream. As a result, it was determined that the focus would be on providing the yard and food waste composting service for single family residents.

Test Project Area or City Wide: Waste Management's concern with focusing on a test area is that it would create inconsistent operating procedures since the yard waste for one area would be delivered to North Plains while the waste from other areas would be delivered to the facility in Cornelius. This results in dissimilar run times and potential confusion for pickup and would result in a less efficient and more costly operation. As a result, a citywide approach rather than selecting a test area is the preferable way to approach this service.

Operation: The proposal is as follows:

- Begin an informational program with residents about 6 months prior to the beginning date of service (see discussion below on "Public Awareness").

One possibility is to provide containers for each single family household to place food waste. This approach has been used elsewhere but there is a cost for the containers.

- Residents would place food waste into their yard waste container.
- Waste Management trucks would pick up the combined yard and food waste.
- After a truck's collection run, the waste would be delivered to Nature's Needs. An alternative was discussed to deliver the material to the Waste Management site and transfer to larger

vehicles. This was considered by Waste Management and rejected because of additional costs associated with the transferring process.

- Nature’s Needs would receive the material and begin the composting process. It takes about 60 days to complete the composting process.

Issues: There are several issues associated with this proposal that staff has identified:

- Status of Nature’s Needs: According to County staff, food waste is considered recycling of a solid waste. As such, food wastes from jurisdictions within Metro are subject to Metro authority. For Natures Needs, its location outside the Metro region means that it cannot accept solid waste from jurisdictions within the Metro region unless authorized by Metro. To receive the combined food and yard material from Forest Grove, Metro must approve a non-system license. This will require 30 to 60 days to complete, and should not be an obstacle to implementing the program.
- Cost: The food waste program will result in additional cost in order to collect and transport the material to North Plains rather than Cornelius. In addition, there will be a cost to dispose the material at Nature’s Needs. Waste Management has estimated that the additional monthly cost for each household to include the food waste would be \$1.68 per month. This includes \$1.23 per household for increased direct costs, \$.20 per household for education efforts and \$.25 per household for increase in franchise fees and margin. The franchise fee and margin is based on a 10% rate of return before taxes and 5% franchise fee to the City. The additional cost for the food waste composting is about a 7.2% increase in customer rates.

Staff estimates that there are 4980 single family residences in the community. Using this estimate, the approximate revenue total and breakdown annually and per month would be as follows:

<u>Item</u>	<u>Revenue</u>	
	<u>Monthly</u>	<u>Annual</u>
Net Direct Costs	\$6125	\$73,505
Education Funding	\$ 996	\$11,952
Franchise Fee/Margin	<u>\$1245</u>	<u>\$14,940</u>
Total	\$8366	\$100,397
Cost per diverted ton		\$507.00

There are questions about the educational costs, particularly at start-up. Which agency would be responsible for the education piece; Forest Grove or Waste Management? It is estimated by Waste Management that direct mailing to all customers would cost about \$10,000 and additional advertising in the newspaper would be about another \$5,000 to \$10,000. It is estimated by the company that there would be about \$10,000 annually for ongoing educational costs. More discussion is provided below under “Public Awareness”.

- Odor at North Plains facility: Over the years, North Plains has experienced odor from the Nature Needs facility. However, about two years ago, Recology installed a \$5 million upgrade to the

facility to intercept and process previous odor discharges. North Plains staff has indicated that the odor has been greatly reduced for the past 1 ½ to 2 years. Also, the character of the odor that does come from the facility has changed. Before the improvements, the smell was characterized like food waste. After the improvements, the odor is described as that coming from a farm. They did indicate that there are still a few individuals that complain about odor. What is not always clear is whether the odor is from this facility or nearby farms.

- Public Awareness: A key to make this effort effective is a substantial educational effort to make residents aware of the program. It is recommended by County staff that this informational program should begin about 6 months prior to the beginning date of the service. This time period could be shortened to begin the service two weeks to one month after announcement. There is some opinion that since the service would be available over time, beginning the service will allow more persons to use the service as time passes. That was the experience with the beginning of GroveLink. There was a one month public information push before operations began. As a result of the service being available, ridership has increased over time.

Washington County staff has expressed interest in assisting in these efforts and has a variety of materials available for education. Inserts in the Waste Management billing as well as in the City Utility Billing insert would be used. This could begin at the earliest time feasible in advance of the service beginning on a monthly basis. Use of the City's website is another source to provide information to citizens. During that time, the City has a standing offer to provide newspaper articles that could be used as a basis to inform residents on the program. CCI could hold one or two workshops as part of the start-up effort to further educate residents. A workshop could be held about 6 months before service to explain the program while a follow-up workshop could be held about 1 one prior to the beginning of the service. This analysis is not intended to completely flush out the initial approach but to indicate that an initial \$1,000 to \$5,000 would be needed for start-up for material preparation, printing and other miscellaneous costs. This estimate is based on efficiently using City resources for printing and distributing informational materials.

If direct mailing and other efforts are needed, this cost could increase to the estimate provided by Waste Management above. Keep in mind that the educational costs built into the revenue item above would not be available until about one year after the service begins and would be used for ongoing educational efforts.

Another key will be ongoing reminders to residents to encourage them to properly dispose of food waste and the appropriate materials to include. This effort would not only promote the use of the service and reduce the landfill waste stream, but also would minimize contamination. One possibility would be to distribute containers to each household to place food waste into before disposing it into the yard waste bins. The cost for such an item would be over and above the education funding identified above and would need to be determined. Estimate of \$7.00 per under counter bucket or one time cost of \$35,000 for the 5,000 customers. This is not included in the education component of the rate structure.

- Compost to Citizens: Initial discussions with Natures Needs manager indicate that residents could be entitled to obtain one yard of compost per year. Such an arrangement would help promote the program and offer a benefit to residents. The manager indicated that a way to

implement this program is the use of coupons distributed to eligible residents. The City or Waste Management could provide the vehicle to distribute the coupons. Details of this program would need further development if there is interest to pursue the program.