

To: City of Manhattan Beach
From: Waste Management
Re: Commercial and Residential Food Waste Diversion Proposal
Date: February 18, 2015

Introduction

Waste Management (WM) is pleased to present the City of Manhattan Beach with this proposal to provide both commercial and residential food waste diversion for our customers in the City of Manhattan Beach, continuing to add to the reputation of Manhattan Beach as an environmental and sustainability pioneer and leader. This proposal for a permanent food waste recycling solution is based on our successful commercial and residential pilot programs in the City, which currently includes 25 commercial businesses, 777 residences, and has diverted an average of 37.33 tons of food waste per month.

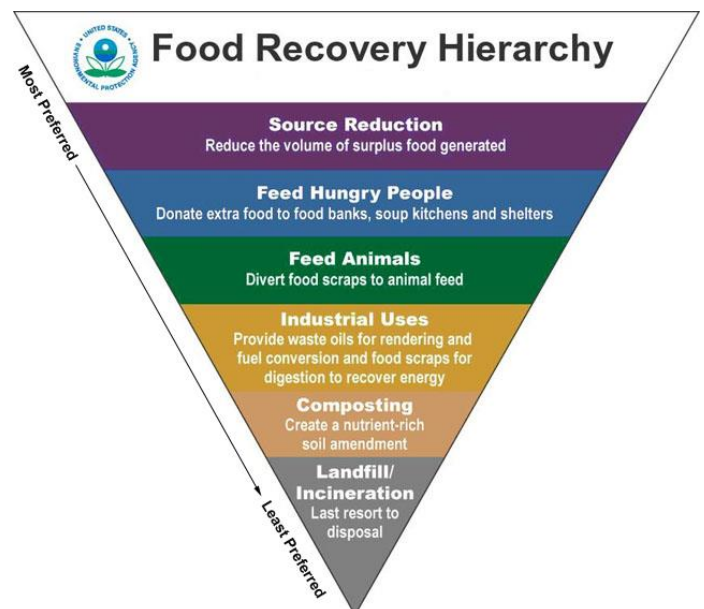
How is Food Waste Recycled by Waste Management?

Food waste collected in Manhattan Beach's food waste program is taken to WM's CORE food waste recycling facility in Orange, CA. CORE technology is unique in Southern California and provides a critically needed local organics recycling solution to help meet AB 32 and AB 1826 requirements.

At the CORE, food waste is diverted from the landfill and turned into alternative energy. This happens by processing organic material (which can include produce as well as proteins, such as meat and dairy) into a BioSlurry, which eventually helps create BioGas, a "green energy." BioGas is used for alternative electric power generation.

The CORE currently processes 40 tons of food waste into renewable BioGas each day; enough renewable fuel to generate over 9,000 kw-hours of electricity per day, or power more than 300 homes. Every ton of food waste that is recycled through the CORE process equates to the removal of about 30 cars from our roadways, or planting about 3,800 trees.

At right is the Food Waste Recovery Hierarchy from the US EPA. Going from the bottom up, our strategy at WM is always to be working to convert organic waste to the highest and best use possible. Obviously, the least work and as the EPA put it "the last resort to disposal" is to put organic materials into a landfill where they sit in the ground.



When our food waste pilot program first began, we were at just the first step above landfilling or incineration - creating composting. All the food and greenwaste was going up to a WM facility called the RAC in Lancaster while we waited for the CORE facility to be permitted and built. It's our goal at WM to be at the highest level possible - for us that's moving beyond composting to this green, renewable energy that WM creates the CORE - at the Industrial Uses category.

In addition, of course, WM is also working at the top of the pyramid in helping to educate people about reducing waste which includes being conscious of food that we might buy but not eat; and working with major food chains to ensure that food is donated or sold to feed hungry people and animals as appropriate.

WM's CORE facility is the only one of its kind locally. By implementing this program, Manhattan Beach is continuing to add to its reputation as a leader in the environmental sustainability movement. The success of Manhattan Beach's program will help create the infrastructure to provide a wide-ranging food waste recycling solution for many local municipalities. At the same time, WM will guarantee capacity for Manhattan Beach food waste volumes at the CORE facility, ensuring the City always has the ability to divert food waste.

Commercial Food Waste Diversion Program Proposal

I. Importance of Establishing a Permanent Commercial Food Waste Diversion Program

Waste Management (WM) and the City of Manhattan Beach implemented a commercial food waste pilot program as part of the new franchise agreement in 2012. Implementing a permanent program is important for the following reasons:

1. Increase commercial diversion rate

Commercial diversion is projected to increase dramatically upon full implementation of the permanent program and will help WM achieve its waste diversion goal in the City franchise. (See Section II Anticipated Results below for goals and timelines.)

2. Ensure compliance with state regulations

The pilot program was developed, in part, in anticipation of future legislation requiring organics recycling for commercial generators. That legislation, AB 1826, was signed into law September 2014, requiring commercial organics recycling for businesses that generate at least eight cubic yards of organic waste per week by 2016. The threshold for participation falls to commercial accounts generating 4 cubic yards of food waste per week in 2017. To meet this requirement, many businesses in the City will need an organics recycling plan in place in the next 15-24 months.

AB 1826 also requires each local jurisdiction to develop an organic waste recycling program. WM's commercial food waste diversion program would provide the City

early compliance with AB 1826 (program design explained in Section III, Custom Designed Commercial Food Waste Recycling Process).

AB 32 requires California to reduce its greenhouse gas (GHG) emissions to 1990 levels by 2020 – a reduction of approximately 15% under a “business as usual” scenario. Commercial food waste recycling will lower the City’s GHG emissions to help meet AB 32 requirements.

The proposed program will also help Manhattan Beach comply with AB341, which established a statewide goal to increase diversion to 75% by 2020.

3. Environmental Leaders in the County

WM’s proposed program positions Manhattan Beach at the forefront of legislation, making the City an environmental leader in Los Angeles County and one of the first municipalities with a local, permanent commercial organics recycling solution. In addition, because of the diversion program that WM is implementing in taking the food waste to the CORE (see Section “How is Food Waste Recycled” below), the City of Manhattan Beach will be a leader in helping to create clean, renewable energy.

4. Embraced by businesses

With AB 1826, many businesses will be required to have some form of organics recycling. Businesses prefer WM’s Custom Designed Program because it is simple to implement and manage. Staff are extensively trained, and, because the program is custom tailored to meet the needs of each individual business (see Section III below), businesses are more likely to participate long term.

Based on feedback we have received, many business want to recycle food waste because it’s important to their customers and helps companies demonstrate good corporate citizenship and meet corporate sustainability goals.

II. Anticipated Results

The pilot program has 25 participants that would continue in the permanent program. WM anticipates citywide rollout of the permanent program in July 2015. Our goal is to add 30-40 additional businesses in 2015, which could potentially generate up to 57 additional tons of food waste per month in the City. The program will continue to increase each year.

WM is also prepared for the possibility of many additional customers adding a food waste program in 2015. Although we don’t expect it given our experience in other Cities and our experience in the pilot program, if the number of additional businesses is 100 or even 200, WM has the capacity and infrastructure to handle that level of material. As noted below in section V. Rates, if participation and/or volumes of materials needed for full implementation of the program are significantly different from our assumptions, WM will need to re-analyze the program performance and propose changes in cost structure at a future time to be mutually determined. WM is not, however, entertaining the possibility of creating a separate rate to fund this program.

III. Custom Designed Commercial Food Waste Recycling Process

- A) **Yellow Bag Program:** Because of Manhattan Beach's unique geography and densely populated commercial zone, WM developed a customized program for the City. For commercial businesses with space constraints, the "Yellow Bag Program" is a great solution for the City, providing a creative and customized solution to food waste collection. Space constraints make the placement of additional carts or bins unfeasible for many businesses in the City; therefore, the "Yellow Bag Program" does not require any additional outside equipment or containers. Instead, restaurant staff collect food waste in heavy duty yellow bags (supplied by WM), tie up the bags and place them in existing recycling carts or bins. The yellow bags are then retrieved, and sorted by WM staff at our Materials Recovery Facility before being sent to the CORE for processing (Additional information on CORE above, "How is food waste recycled?").
- B) **Separate Food Waste Carts:** For businesses without space constraint issues, WM has specially designed yellow carts with green lids just for food waste. The carts can be used in the business and wheeled to the curb for collection or kept at the curb depending on the desires and needs of the business and weight of the cart. For businesses using the carts, they are also provided with the heavy duty yellow bags for ease of collection. For commercial customers generating significant amounts of food waste, WM can also provide 2-yard plastic bins specifically designed for food waste collection.

IV. Implementation Plan

1. *Recruitment and Training*

WM will seek to more than double the size of the current pilot program, adding 30-40 more accounts in the first year. As noted above, if the response is greater than WM anticipates, WM is ready and able to meet that demand. Recruitment will be targeted, with additional outreach to high food waste generating accounts. Of course, all commercial businesses would be encouraged to participate in the program and WM is asking for the City to make the program mandatory but without any enforcement mechanism (like AB 341) to encourage businesses to participate.

WM will provide initial and ongoing training to staff at each participating location to increase participation and quality of materials collected. We have a comprehensive tool kit available to businesses, including bilingual posters, stickers, and FAQ, along with on-site training to ensure employees understand the program.

2. *Yellow Bag Delivery*

WM will deliver monthly supplies of yellow bags to each participating business. Additional yellow bags will also be available to ensure that businesses always have bags in stock. Yellow bags are provided by WM and built into the rate.

3. *Proposed Implementation Schedule*

City Council approves program

Approximately Six Weeks - WM develops materials to announce and promote the program and secures approval from City of Manhattan Beach

Two weeks - WM distributes material about the program to all businesses and sets up initial meetings with customers that self-identify for the program.

July 2015 - WM begins reaching out to all businesses and setting up food waste accounts.

Ongoing - Training, support, education, and bag delivery; reports provided monthly.

July 2015 through contract term - WM continues reaching out to businesses to continually increase the number of accounts and program tonnage.

V. Rates

In order for this program to be effective in terms of both operations and cost, rates must be incurred sector-wide; in other words, rates cannot be subscription-based. Subscription-based rates would be cost prohibitive for most customers and drastically drive down participation.

In addition, as stated above, WM is requesting the City to make commercial food waste diversion mandatory for all businesses but without any compliance or penalties for businesses that chose not to participate.

- **COMMERCIAL RATE INCREASE** - Rate Increase of 3.6% to be included in both commercial and roll-off franchise rates. The most common commercial service level is one 3-yard container that is serviced three times a week. The impact on that level of service would be an increase of \$7.82 per month.

The rate includes the cost of purchasing and delivering the yellow bags, yellow carts, the collection, transportation, processing, sorting of food waste, and outreach costs associated with the program.

WM has developed these rates based on assumptions of participation and volumes. If participation, volumes of materials, and/or equipment needed for full implementation of the program is significantly different from our assumptions, WM will need to re-analyze the program performance and propose changes in cost structure at a future time to be mutually determined.

VI. Project Specifications

- The collection methodology will be utilizing WM's current mini-utility truck and manpower
- The current mini-utility collection truck is a 2013 Ford F 550 with 14-yard capacity. The truck will additionally be built out to handle a 2-yard food waste container.
- The Labor requirements are for one commercial full-time operator
- The type of material containers to be utilized are food waste carts (Rehrig ROC 96U, ROC 65NB or ROC 35MB); recycling carts with yellow bags (Rehrig ROC 96U, ROC

65NB or ROC 35MB) and bags ordered through Associated Bag; 2-yard food waste container (Rehrig 2-YD)

- The program publicity/education and marketing will be as outlined in the Implementation section. WM will provide initial and ongoing training to staff at each participating location to increase participation and quality of materials collected. We have a comprehensive tool kit available to businesses, including bilingual posters, stickers, and FAQ, along with on-site training to ensure employees understand the program.

Residential Food Waste Diversion Program Proposal

I. Importance of Establishing a City-Wide Residential Food Waste Diversion Program

Waste Management (WM) and the City of Manhattan Beach implemented a residential food waste pilot program as part of the new franchise agreement in 2012. Implementing a permanent residential program is important for the following reasons:

1. Embraced by residents

When the residential pilot program was initially developed in 2011, we created a universe of 841 homes with representation from each route in the City including the Sand Section. An amazing 92.5% of the residents chose to participate signed up for the program creating 777 residences that have been participating in the program.

Each time WM sends out information related to recycling and diversion programs, Manhattan Beach residents communicate that they are anxious for the program to be expanded. There is already significant awareness and support for the program among both current and future food waste program participants.

2. Environmental Leaders in the County

As mentioned above, WM's proposed program positions Manhattan Beach as an environmental leader in Los Angeles County and one of the first municipalities with a local, permanent residential organics recycling solution. In addition, because of the diversion program that WM is implementing in taking the food waste to the CORE (see Section "How is Food Waste Recycled" below), the City of Manhattan Beach will be a leader in helping to create clean, renewable energy and the ONLY residential program working on the higher "Industrial Uses" category of the US EPA's Food Waste Recovery Hierarchy pyramid.

3. Increase residential diversion rate

WM anticipates an increase residential diversion upon full implementation of the permanent program that will help WM achieve its waste diversion goal in the City franchise. In addition, residents that have been participating in the food waste pilot have been generating less waste every month - 14.01 tons per month on average less! By making the program available to all residents, it is very likely that the

tonnage of materials generated by residents will go down, also helping to increase the City's diversion.

4. *Ensure compliance with state regulations*

As with the commercial program, the proposed residential food waste diversion program will also help Manhattan Beach comply with AB341, which established a statewide goal to increase diversion to 75% by 2020.

II. Anticipated Results

The pilot program has 777 participants that would continue in the permanent program. WM anticipates citywide rollout of the permanent program in July 2015. Our assumption is that 25% of the residents will participate in any given week - the results that we are currently achieving in the pilot program. With that assumption, a residential program could potentially generate up to 16 additional tons of food waste per month in the City, depending on the Option chosen by the City and participation among residents.

III. Residential Food Waste Recycling Process Options

- A) **Option 1 - Expand the Pilot Approach:** In the current residential food waste pilot program, residents have a kitchen food waste pail with a liner in which they collect food waste scraps. When the pail is full, they place the bag of food waste, securely tied, in their green waste cart. WM staff at our Materials Recovery Facility sort the bags out of the green waste before it is sent to the CORE for processing (for additional information on CORE see "How is food waste recycled?" above).

Option 1 extends that program to all residents in the City. All residents will be provided with a kitchen food waste pail. Because of the sophistication of the CORE, customers will no longer need to line containers with expensive biodegradable bags and can use any liner that they chose. These bags, therefore, will be customer supplied. For residents of the Sand Section, they can chose to either get a Green Waste cart or WM will provide a small separate container that WM will collect separately at the curb. All other residents will place their food waste bags in their green waste carts.

Options 1A and 1B- At the request of the City, WM has explored the option of providing residents with bags. WM's experience indicated that this option will reduce participation - when bags run out, the customer will have to go to City Hall or contact WM to get replacement bags and some will discontinue the program. WM is, of course, happy to implement whatever Option the Council determines best for the City. In the cost structure, Section V Rates, WM has created Option 1A where WM supplies biodegradable bags and Option 1B where WM supplies non-biodegradable bags. WM's CORE facility is compatible with either option.

- B) **Option 2 - Separate Food Waste Containers:** All residents are provided with a kitchen food waste pail. Again, customers may use any liner that they chose. All residents will also be provided with a small separate container that WM will collect separately at the curb.

- C) **Option 3 - Communal Containers:** All residents are provided with a kitchen food waste pail and in which they place their own customer supplied bags. WM would stage 10 commercial food waste containers across the City and residents would deliver their food waste to the containers. WM believes this to be the least attractive and least likely to succeed option, but wanted to present the City with all viable options that had been reviewed.

IV. Implementation Plan

1. Public Education and Outreach

Regardless of the Option chosen by the City, WM will develop public education and outreach materials that will be sent to all residents. Materials will include, but may not be limited to, an informational flyer, a FAQ sheet, a “what can and can’t go in the food waste” sheet, information on where materials go, and the benefits of the WM food waste diversion program. WM will create new stickers for both the trash (black) container and the green (green waste and food waste) containers letting residents know what materials go in each container. The blue (recycling) container will not be re-stickered as those materials will not change. WM will hold kick off education events to educate residents and answer questions about the program. WM will update the website with all information regarding the new program. WM will create press releases on the program and send email blasts.

2. Equipment Delivery

Each option includes the delivery of kitchen food waste pails that are built into the proposed rate options. If the City chooses option 1 or 2, small separate containers that WM will collect at the curb will also be delivered - to residents of the Sand Section in Option 1 and to all residents in Option 2.

3. Proposed Implementation Schedule

City Council approves program

Approximately Six Weeks - WM develops all public education materials referenced above in Section IV Implementation Plan, Sub-Section 1 to announce and promote the program and secures approval from City of Manhattan Beach

Two weeks - WM holds kick off education events to educate residents and answer questions about the program

Three weeks - WM delivers kitchen food waste pails and other necessary equipment (depending on the option chosen by the City of Manhattan Beach).

July 2015 - WM begins collecting residential food waste from all customers.

Ongoing - Training, support, education, and bag delivery; reports provided monthly.

V. Rates

In order for this program to be effective in terms of both operations and cost, rates must be incurred City-wide; in other words, rates cannot be subscription-based. Subscription-based rates would be cost prohibitive and drastically drive down participation.

- **OPTION 1 - Rate Increase of 3% for all residents (equates to an increase of \$0.47 per month on a rate of \$15.70)**
 - **OPTION 1a - (WM provided biodegradable bags) - Rate Increase of 16.9% (equates to an increase of \$2.66 per month on a rate of \$15.70)**
 - **OPTION 1b - (WM provided non-biodegradable bags) - Rate Increase of 6.2% (equates to an increase of \$0.98 per month on a rate of \$15.70)**
- **OPTION 2 - Rate Increase of 6.8% for all residents (equates to an increase of \$1.07 per month on a rate of \$15.70)**
- **OPTION 3 - Rate Increase of 1% for all residents (equates to an increase of \$0.15 per month on a rate of \$15.70)**

The rates above include for all options the cost of public education, new cart stickers, purchasing and delivering the kitchen food waste pails for every residence, the collection, transportation, processing, sorting of food waste, and outreach costs associated with the program. Option specific equipment is noted below:

- For Option 1: additional equipment costs include additional green waste or small curbside containers for residents currently without greenwaste containers
- For Option 1a: in addition to the green waste or small curbside containers, biodegradable bags for all participating residents
- For Option 1b: in addition to the green waste or small curbside containers, non-biodegradable bags for all participating residents
- For Option 2: new small curbside containers for every resident
- For Option 3: new commercial food waste containers

WM has developed these rates based on assumptions of participation and volumes. If participation, volumes of materials, and/or equipment needed for full implementation of the program is significantly different from our assumptions, WM will need to re-analyze the program performance and propose changes in cost structure at a future time to be mutually determined.

VI. Project Specifications

- The collection methodology will be utilizing WM's current green waste truck and manpower
- The current green waste collection truck is a CNG Peterbuilt LT 320 ASL truck. It is a 2012 model with 34 Yard capacity
- The Labor requirements are for two full-time ASL operators
- The type of material containers to be utilized are the current residential greenwaste carts (Rehrig ROC 96U, ROC 65NB or ROC 35MB) with additional containers depending on option chosen by Council (Rehrig ROC 18 and/or 40LT)

- The program publicity/education and marketing will be as outlined in the Implementation section. WM will develop public education and outreach materials that will be sent to all residents. Materials will include, but may not be limited to, an informational flyer, a FAQ sheet, a “what can and can’t go in the food waste” sheet, information on where materials go, and the benefits of the WM food waste diversion program. WM will create new stickers for both the trash (black) container and the green (green waste and food waste) containers letting residents know what materials go in each container. The blue (recycling) container will not be re-stickered as those materials will not change. WM will hold kick off education events to educate residents and answer questions about the program. WM will update the website with all information regarding the new program. WM will create press releases on the program and send email blasts.

Next Steps

WM appreciates the opportunity to bring a permanent commercial organics recycling program to Manhattan Beach. We look forward to the City’s review and discussion of this and are available to provide any additional information.