

OPERATING PLAN YARD DEBRIS COMPOSTING FACILITY

For:

**GRIMM'S FUEL COMPANY
YARD DEBRIS & WOOD WASTE
RECYCLING CENTER**

Located at:

**18850 SW Cipole Rd.
Tualatin, Oregon 97062**

Metro License # L-043-12

Presented to:

**Metro
600 NE Grand Ave.
Portland, Oregon 97232**

Revised: March 1, 2013

6.1 Purpose:

The purpose of this plan is to outline procedures and provide a general framework for the operation of Grimm's Fuel Company's Tualatin composting facility.

6.2 Plan Compliance:

Grimm's Fuel Company (GFC) shall, at all times, operate the facility in accordance with their Metro approved operating plan. Deviation from the plan shall be reported as soon as reasonably possible.

6.3 Plan Maintenance:

This operating plan shall be periodically updated to reflect changes in the operations of the facility. This facility has been in operation since 1982 and the operating procedures have proven to be effective over time. No changes in policy are anticipated at this time except for those associated with Metro's ever changing requirements. Any substantive revisions in the operating procedures shall be submitted to Metro prior to implementation.

6.4 Access to operating plan:

One copy of the plan shall be submitted to Metro for their approval. Another copy shall be maintained at the facility and shall be available to Metro personnel upon giving reasonable notice.

6.5 Procedures for inspecting loads:

- a) Each load is visually inspected as it enters the facility at the scale house. Scale house personnel utilize cameras placed above the facility entrance to assist in their inspection. Any hazardous material or unauthorized waste is refused and directed to the appropriate facility. The tipping area is monitored for contamination by loader and plant operators working in the area. During peak times, a spotter inspects the tipping area for contaminants. The spotter also assists the loader and plant operators in the receiving area and helps direct traffic.
- b) Per section 3.0 of the facility license, no unauthorized wastes are accepted at the facility. Only the following materials are permitted:
 1. Yard Debris
 2. Land clearing debris
 3. Wood waste
 4. Pre-consumer vegetative food waste, as approved by Metro
 5. Inert materials such as dirt, concrete, asphalt and rock
 6. Manure

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6.6 Procedures for processing and storage of loads:

- a) Processing authorized solid waste:
Once yard debris has been placed on the tipping floor, it is processed through our primary production line (A Hog) which consists of a Jeffery Swing Hammer Hog and two 600 hp electric motors. Ground material is placed in the primary composting pile via a 200' conveyor belt where it will remain for 30 to 90 days. During this time period, the pile is turned and mixed two or three times. The material then goes back through the secondary production line (B Hog) and into B trommel screen, where it is screened to a size of 5/8" minus. Material too large to pass through the 5/8" screen will then be reground through the C Hog and conveyed back to the composting pile. Fine compost is hauled to finished goods storage area for final curing. The compost is turned 2 or 3 times prior to sale.
- b) Transfer of authorized solid waste:
Solid waste is moved from the tipping area to the processing plant using front-end loaders. The material is then placed into the grinder using a track hoe. Once ground, the material is transferred to the compost pile via conveyor belt.
- c) Managing stock piles:
Compost piles are turned regularly using two D-9 Caterpillars. If necessary, hot/dry spots are dug out using Hitachi track hoes and water is applied using our fire truck. The semi-static pile is organized into several cells with the oldest cells being turned towards the grinder for final processing.
- d) Storing authorized solid waste:
All waste is stored at the tipping area prior to processing. Waste is processed on a regular basis to avoid the accumulation of large amounts of materials at the tipping area. Ground yard debris is conveyed to the compost pile for curing. Ground wood waste is screened and placed in the finished goods stockpile prior to being transported.

6.7 Procedures for managing prohibited wastes:

- a) Each load is visually inspected as it enters the facility at the scale house. Any hazardous loads are refused and directed to the appropriate facility. Customers with incidental quantities of non-compostables such as plastic bags, are asked to deposit these materials into one of two garbage dumpsters located adjacent to the tipping area. The dumpsters are emptied weekly by the area's franchise garbage hauler. The tipping area is monitored for contaminants by loader and plant operators working in the area.

- b) Signs at the entrance to the facility and on drop boxes notify generators which wastes are acceptable and which wastes are unacceptable.

6.8 Odor minimization plan:

- a) Odors are minimized through certain materials handling techniques which maximize oxygen in the pile:
 1. Yard debris is aerated as it is received and is processed daily, thus avoiding malodorous materials at the receiving area..
 2. Yard debris is initially ground into a very coarse consistency (1 foot minus). This promotes air space in the pile, thus avoiding anaerobic conditions.
 3. Coarse ground yard debris is conveyed directly to the preliminary compost pile where it remains undisturbed for several days. This is the most critical time during the composting process and oxygen in the pile is critical to avoiding odors.
 4. After initial composting the coarse ground material is aerated and moved to the primary composting pile using a D-9 Caterpillar. The D-9 minimizes compacting of the compost pile.
 5. The primary composting pile is regularly aerated using the D-9 to promote aerobic composting.
 6. Grass clippings are aerated and mixed with woody debris. The mix is processed as soon as possible. Once aerated and processed, the odor from grass clippings and other malodorous loads quickly dissipates.
- b) Due to certain operational changes at the facility, there has been only one documented odor complaint since 1993. (Including DEQ files.) The odor from that complaint actually originated from a neighboring landscape contractor who had accumulated a large pile of unprocessed waste. If a complaint is received, we document as much information as possible, including who, what, when and where. Wind speed and direction is noted before thoroughly investigating the cause of the odor. Odors can generally be traced to either an unusual circumstance at the facility (i.e. spontaneous combustion fire, receipt of mushroom mulch compost, etc.) or a neighbor (i.e. dairy farmer spreading manure, rendering plant, abandoned sewage treatment pond on hot days, plastics manufacturer, etc.) Once the cause has been identified, all possible measures are taken to rectify the problem. Action is then noted on the complaint information form and registered in the daily facility logbook. The individual registering the complaint is then notified of

the results of the investigation and any action taken. (See attached Complaint Documentation Form.)

- c) Avoidance of anaerobic conditions, feed stock mixing and pile construction are addressed in the above sections.
- d) Woody debris provides a readily available source of bulking agent for malodorous loads. Sawdust and shavings are also available on site if needed.
- e) Yard debris is generally processed as it is received through our Jeffery hammer hog. The back-up grinder is a portable Smoracy 3680 Beast recycler. In the unlikely event that both the primary and the back-up grinder break down at the same time, we will rent another portable grinder capable of keeping up with incoming materials. The only weather condition which adversely affects our ability to process are prolonged cold spells with temperatures below 20 degrees f. Typically during these cold spells, very little yard debris is received.
- f) Methods for taking into consideration the following factors prior to compost turning:
 - 1. Time of day. Time of day has very little impact on odor potential. For safety reasons, piles are aerated only during daylight hours. Time of day is determined by using a watch or clock.
 - 2. Wind direction. Wind direction is the most important consideration in minimizing odors during aeration. Winds blowing south or east are ideal for aerating compost at our facility and during these conditions we often use two D-9s to move compost. Wind blowing north is the least desirable and aeration is avoided or minimized during these conditions.
 - 3. Percentage of moisture. During Summer months water is often added as material is processed to control dust and increase moisture percentage to optimize composting conditions. Moisture is added to dry sections of the pile as needed using our fire/water truck.
 - 4. Estimated odor potential – see section 6.8.f.2.
 - 5. Degree of maturity. Compost is produced 12 months per year yet most compost sales occur during the 3 month period between April and June. Thus, all compost sold is a minimum of 6 to 9 months old. Maturity is periodically measured using the Solvita Respiration Test System.

6.9 Dust Prevention:

- a) Hard surfacing is the key to dust control. Currently over 4.5 acres of the facility are hard surfaces including all driving, parking, receiving, and processing areas. Other dust control measures include using water trucks for wetting drive areas and a street sweeper. If necessary, water is added at the in-feed conveyor to minimize dust during grinding. We stop processing when it becomes so windy that dust has the potential of blowing off of the premises.
- b) Any dust complaints are recorded on the Complaint Documentation Form (see attached.)

6.10 Procedures for emergencies:

In case of a fire, employees shall immediately call for help using their radio or Nextel phone. Under no circumstances shall an employee attempt to fight a fire without assistance. Every employee who receives the call for assistance shall immediately grab a fire extinguisher and proceed to the scene of the fire. All equipment shall be furnished with an operable fire extinguisher. Some machines are equipped with an automatic on-board fire suppression system. The manual override should be engaged in the fire gets out of control.

The acting supervisor shall dispatch the company fire truck to the scene of the fire and begin fire fighting efforts. Never add water to an electrical fire. The fire truck shall be placed on standby to prevent the spread of the fire. If the fire cannot be contained and extinguished by company personnel then the acting supervisor shall immediately call 911 for assistance. An employee shall meet the fire department at the entrance to the facility and direct them to the scene of the fire.

Spontaneous combustion fires occurring in ground yard debris are easily extinguished by breaking up the heat mass using a D-9 Caterpillar or track hoe and applying water as necessary with the fire truck. During fire season, the facility is patrolled at night by one of three watchmen who live on the premises. The processing area is equipped with a sprinkler system. Fire hydrants are located along Cipole Rd. and Hwy 99W. Other fire prevention measures include fire breaks between piles, pile spacing, and rounding of the compost piles to avoid steep slopes thus minimizing spontaneous combustion fires.

6.11 Procedures for nuisance complaints:

See sections 6.8.b and 6.9.b. All complaints are recorded on the Complaint Documentation Form. This form documents all pertinent information including the nature of the complaint, date, weather conditions and the name, address and

phone number of the complainant. The form also includes findings from the investigation of the complaint and actions taken. Completed forms shall be filed in the "Metro License" file located at the company's office for a period of not less than one year.

6.12 Procedures for managing stock piles:

Compost piles are turned regularly using two D-9 Caterpillars. If necessary, hot/dry spots are dug out using one of two Hitachi track hoes and water is applied using our fire truck. The semi-static pile is organized into several cells with the oldest cells being turned towards the grinder for final processing.

6.13 Closure protocol:

In the event of a long-term cessation of operations, GFC shall give Metro no less than 90 days written notice prior to discontinuing the acceptance of waste materials. Composting activities shall end within 12 months thereafter. Remaining compost inventory shall be sold as the markets allow.

6.14 Financial assurance:

Waste materials are processed as received and become saleable products – hog fuel, compost, etc. Thus, closing the facility would actually produce revenue. Under no circumstances would it cost more than \$10,000 to close the facility.