



The primary product of the Grimm's Fuel Company (GFC) recycling center is organic compost. The source of raw materials for this product is predominantly yard debris delivered by refuse haulers, landscapers and the public. The facility also takes in incidental quantities of pre-consumer vegetative food waste, stable manure and land clearing debris as well as inert materials such as clean concrete, rock and dirt for processing and reuse. Our facility uses the aerated static pile (ASP) method of composting.

**Purpose:**

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

**Plan Compliance:**

GFC shall, at all times, operate the facility in accordance within all federal, state, regional or local government law, rule, regulation, ordinance, order or permit and our operating plan. Deviation from the plan shall be reported as soon as reasonably possible.

**Plan Maintenance:**

This operating plan shall be periodically updated to reflect changes in the operations of the facility. Any substantive revisions in the operating procedures shall be submitted to the appropriate parties prior to implementation.

**Access to operating plan:**

A copy of the operating plan shall be maintained at the facility and shall be available for reference upon request.

**Facility Background Information:**

GFC, was founded in 1929. In the 1960s, GFC diversified into the distribution of landscape supplies such as barkdust and rotted sawdust. In 1980, GFC began processing organic wastes such as yard debris, land-clearing debris, manure, and pre-consumer vegetative food waste into high-quality landscape products, such as garden mulch, blended soil and other soil amendments. With the "Opportunity to Recycle Act" of 1983, Oregon confirmed that GFC and others were a vital resource in landfill diversion.

**Site Information:**

The GFC composting facility is located at 18850 SW Cipole Rd. in Tualatin, Oregon. The site lies along the south side of Highway 99W approximately ½ mile south of the Tualatin River within the city limits of Tualatin, Oregon. The facility, covering a total land area of about forty-seven acres, is comprised of six separate parcels, referred to herein as the upper and lower lots. The upper lots (1800,1900) cover approximately twelve acres and are the site of the composting operation. These parcels also contain company offices, parking, mulch, barkdust, rock, soil, firewood storage areas, as well as the facility maintenance shop and underground storage tanks. The lower lots are approximately thirty-five acres (2190, 2100, 2202, 2102) and are mostly unpaved and unimproved. Portions of the lower lots are used for the storage of barkdust and finished compost.

**Product End Use:**

Compost from the GFC facility is sold to commercial and residential consumers. Compost is also blended with other products, such as soil, bark or manure for other applications.

**Adequate vehicle accommodation:**

GFC handles many vehicles each day and care is taken to make sure that traffic does not block ingress and egress driveways. At such times that vehicle traffic flow may block our driveways, office staff will create a queuing lane

in our parking lot with cones. We have a typical capacity of 540' of off-street cueing and can easily expand that to 1,500 ft off-street if it were required, Figure 1, pg 11.

**Procedures for inspecting loads:**

Signs at the entrance to the facility and on drop boxes notify customers, which materials are acceptable and which materials are unacceptable.

No unauthorized wastes are accepted at the facility. Every load is visually inspected as it enters the facility at the scale house. Scalehouse personnel utilize cameras placed above the scale house to assist in their inspection. In the receiving area, the spotters along with the loader operators, further monitor for unauthorized material and direct traffic during the busy times.

Our facility is currently licensed to accept Type 1 and 2 feedstocks. We are currently accepting the following materials:

- Yard Debris
- Land clearing debris
- Inert material, concrete or rock
- Incidental quantities of manure and pre-consumer vegetative waste

**Procedures for managing unauthorized material:**

Any loads with hazardous or unauthorized materials discovered at the scalehouse are refused and directed to the appropriate facility. All loads are subsequently inspected by the spotter, loader and plant operators working in the tipping area for unauthorized material. If unauthorized material is discovered in the receiving area it is reloaded onto the customers vehicle. Customers with incidental quantities of non-compostables, such as plastic bags, are instructed to deposit these materials into one of two garbage dumpsters located adjacent to the receiving area. The area's franchise garbage hauler empties the dumpsters weekly.

**Storing authorized material and solid waste:**

All material is stored in the receiving area prior to processing and material is processed on a regular basis to avoid the accumulation of large amounts of materials or odorous conditions in the receiving area. Shear material, logs and stumps, are stored in the north end of the receiving area and used as a bulking agent to the yard debris when necessary.

**Processing authorized material:**

Once yard debris has been received, it is moved from the tipping area by front-end loaders or track hoes to the processing plant or portable grinders. Malodorous material will be processed or covered immediately. The goal is to have all yard debris on the tipping floor processed within 24 hours. Grass clippings are aerated and mixed with woody debris. The mix is processed as soon as possible. Once aerated and processed, any odor from grass clippings and other malodorous loads quickly dissipates.

Our primary production grinder ("A" hog) consists of a Jeffery Swing Hammer Hog powered by two 600hp electric motors. The hog is efficient, non-polluting and quiet in operation. We have two mobile grinders that we use for backup and additional grinding capacity, a Peterson 4710 and a Smoracy 3680.

Material for the composting process is ground by the "A" hog or by the Peterson 4710 and moved to the ASP zones by wheel loaders. Wheel loaders are the primary equipment for the movement of all composting material onsite.

### **Overview of Aerated Static Pile (ASP) Composting:**

The yard debris is initially ground into a coarse consistency (6" minus) with the Peterson 4710 or Jeffery Hog. Wheel loaders are used to place the prepared material into the ASP composting zones and covered with a bio-cover of finished compost or "overs" from the screens. The bio-cover is applied with blower trucks or track hoes. The material is aerated with either positive or negative pressure and left undisturbed for a minimum of 15 days. It is then turned with wheel loaders and/or track hoes, re-watered and re-covered for an additional 15 days to make sure both the inside and outside of the pile undergoes pathogen reduction.

ASP feedstock will be composted between 30 and 45 days before it is ready for the screening process. The material ready for screening will be moved by wheel loaders and/or track hoes to the trommel screens. Finished material goes to the curing piles, "overs" from the screen will be mixed with the green waste or use as bio-cover for the ASP piles.

### **Performance Requirements – Aerated Static Pile (ASP):**

#### **Aerated Composting System:**

GFC uses the ASP process of composting utilizing either positive or negative aeration methods, adding moisture, mixing feedstocks, manipulating compost piles and performing procedures to achieve pathogen reduction. The initial aerated bins (10-15% of total capacity) will be a positive air process. The two ASP slabs will be a reversing aeration system. A bio-filter is planned and will be constructed to help minimize the processing odors before the zones are allowed to go into negative flow. The aeration systems will rely on the WebMACS automated process controllers from Green Mountain Technology.

#### **ASP composting operations:**

The ground material for the ASP zones will have a maximum height of 14-feet including the bio-covers. Attention will be paid to maintain a proper bulk density of 800-1,000 lbs/yd<sup>3</sup> and moisture content of 40-60% during the construction of a new ASP composting row. Initially, the completed zone will be covered by 12 inches of finished compost or compost overs as required by the Metro license. An application to use the industry standard of 4-6 inches of finished compost will be made after appropriate testing to allow the new system to reach the designed processing capacity.

#### **Temperature and Oxygen regulation:**

WebMACS, the ASP control system, has been designed to provides an ideal minimum aeration of 10% percent oxygen content to all of the active composting zones and to maintain temperatures between 120° F to 150° F. The temperature levels will be continuously monitored and recorded by WebMACS temperature probes and oxygen levels in the active zones will be checked from a randomly selected zone on a daily basis. Pathogen reduction will be performed for each composting zone. Records of the temperature and oxygen levels in the active zones will be kept onsite and available upon request.

#### **Moisture regulation:**

The aerobic active composting piles require a moisture range of 40-65%. Initial ASP piles will be formulated with a target to be at the higher end of the range to allow for the expected 2% weekly moisture loss. Moisture testing will be performed by the "squeeze test" or a hydrometer calibrated by the thermogravimetric method. Moisture content will be recorded for each zone on Day 1 during construction and deconstruction on Day 15. This applies to the initial zone as well as the secondary zone that is taken to the screening process.

**Cover material:**

GFC will primarily use finished compost as a bio-cover that will be applied and maintained by our blower trucks. Alternatives would be to use compost overs collected from the screening process and applied with loaders, track hoes or stacking conveyors.

**Bulk density:**

For best outcomes the aerobic active composting piles will be maintained within the range of 800-1,000 lbs/ft<sup>3</sup>. Fresh ground yard debris will be periodically checked for weight across our scale. If weights exceed the range additional bulking agents (woody shear material will be mixed in to achieve a proper bulk density).

**Pathogen Reduction:** To achieve pathogen reduction, the yard debris must reach a minimum temperature of 131° and must be maintained for a minimum of 3 days. Finished compost is tested for fecal coliform and salmonella monthly in accordance with the US Composting Council's Seal of Testing Assurance Program guidelines.

**Temperature and Oxygen Anomalies:**

If for some reason the active composting zone fails to maintain or achieve optimal temperature or oxygen conditions the zone will be re-checked for proper moisture and density. Remedies include a periodic course of short burst air pressurization (puffing) or unloading and remixing of zone material. If we have to remake a zone, a log will be kept the action including date, time, and the reason for the disturbance.

**Screening Process:**

The composted material goes through the screening process in either the "A" screen or "B" screen where it is screened to a size of 5/8" minus. Material too large to pass through the screen will be conveyed back to the composting pile to inoculate fresh ground material or used as bio-cover. Air over the screens is captured as much as practical and processed through a bio-filter for odor reduction. Compost recovered from the screens is moved to a curing pile for 15 to 30 days and then to the finished goods storage area or sold directly to customers.

**Curing Piles:**

Freshly screened compost is moved to a nearby area and held between 15 and 30 days before moving to one of the finished goods locations. Maturity is periodically measured using the Solvita Respiration Test System. GFC compost is tested monthly to meet the US Composting Council Seal of Testing Assurance Program specifications.

**Finished compost piles:**

Finished goods are stored in various locations on the property as indicated on Figure 2, pg 11. Compost is produced 12 months per year, yet most compost sales occur during the 3 month period between April and June. Seasonal market conditions dictate holding times and product sales, most all compost sold is a minimum of 6 to 9 months old.

**Managing stock piles:**

GFC will follow the Oregon Fire Code requirements of Section 2808 including, but not limited to, site access and pile size requirements. GFC will maintain the Oregon Metro 14' ASP height for ASP composting zones.

**Stormwater and leachate control:**

Care is taken to separate and manage stormwater runoff and leachate from composting material. GFC maintains an adequate network of drains and control structures to accomplish this task. The vast majority of any leachate produced is returned to the compost piles to balance moisture loss. In the unlikely event that leachate must be discharged from the facility it is directed to the sanitary sewer per agreement with Clean Water Services.

Stormwater from the facility is managed in compliance with GFC's National Pollutant Discharge Elimination System ("NPDES") Storm Water Permit, General Permit 1200-Z. Pursuant to the NPDES permit, the facility has generated a Storm Water Pollution Control Plan ("SWPCP"). The SWPCP requires GFC to maintain Best

Management Practices (“BMPs”) to minimize stormwater discharges from the facility. These BMPs are summarized in bullet points below. The facility has implemented an active stormwater recycling program to reduce its stormwater discharges. The facility generally recycles all of its stormwater from March through October. GFC also incorporates an ongoing employee awareness program to assist with the proper operation and monitoring of stormwater pollution control measures.

Stormwater control measures in place at the GFC facility include twenty-one catch basins, sixteen of which are on the upper portion of the property (Figure 3, pg 12: Stormwater Treatment Map). All of the catch basins on the upper lot drain into a baffled settling tank that consists of two halves of a large underground storage tank modified for this purpose. During low flow periods, generally March through October, water is recycled from this tank and applied to the compost pile. This settling tank is equipped with a baffle system that removes oil residue and floating solids from the water before it flows to the bio-filtration area.

After leaving the primary settling tank, all stormwater from the upper lot flows east through a pipe, under two adjacent property lots, and into a secondary stormwater treatment area (Figure 3, pg 14, Item 2). Here, the water enters a concrete-lined settling pond where it meanders through a series of switchbacks and rock-check dams to remove additional sedimentation. The water is then directed into a serpentine vegetated passage designed to slow flow and remove remaining suspended solids. Stormwater exits this area into a tertiary bio-filtration swale (Figure 3, Item 3) consisting of a wide, shallow ditch heavily vegetated with cattails and other hydrophytic vegetation designed to further filter the water leaving the GFC facility. Finally, the water flows through a culvert under the access road on the southern edge of the property. Here, all water exits the GFC property to the south. The point where the surface water leaves the property is where stormwater discharge samples are collected in accordance with the SWPCP (Figure 3, Item 4).

Stormwater from the lower lot is either captured in the network of five basins and enters the treatment system at the head of the concrete-lined settling pond or flows over a grassy field and through a series of compost berms before entering the ditch along the south side of the property where it flows west to the property discharge point described in the previous paragraph.

#### Summary of Existing BMPs for Stormwater

- Hard surfaces are swept regularly with an onsite street sweeper to remove fine particulates.
- Stormwater from the northern part of the upper lot is diverted away from materials that could adversely impact runoff, including the fueling area and material storage area.
- The upper lot has a catch-basin/sediment-trap system. There are sixteen catch basins on the upper lot and five on the lower lot (Figure 3).
- Each catch basin has a mesh screen which acts as a filter. Catch basins and their filters are cleaned regularly to remove sediments and debris.
- All sixteen catch basins on the upper lot drain into two primary settling tanks that have a combined capacity of approximately 40,000 gallons (Figure 3, Item 1). These tanks allow suspended solids to settle, and floating hydrocarbons to rise to the surface. These two tanks are large underground storage tanks that have been cut in half and modified for this purpose. The baffles keep the floating solids and hydrocarbons in the upper section of the tanks and allow the heavier suspended solids to settle at the bottom of the tank. A gooseneck at the discharge pipe prevents any remaining floating materials from exiting the tank. The tanks are checked regularly for sedimentation buildup and cleaned as needed.
- All stormwater from the upper lot is recycled during low flow months, typically March through October. A high-volume pump draws stormwater from the above-referenced settling tank and distributes it onto the active compost pile.
- During the rainy season, stormwater flows from the primary settling tank through a secondary concrete-lined settling pond in a serpentine path (Figure 3, Item 2). Rock-check dams are placed throughout the concrete pond to reduce water flow velocity, allowing additional sediments to settle out. This secondary settling pond is cleaned out annually, or as needed.

- Stormwater flows from the secondary settling pond into a tertiary bio-filtration channel (Figure 3, Item 3) consisting of a wide, shallow ditch thickly planted with cattails, grasses and other wetland vegetation designed to further filter out suspended solids and other possible contaminants. The water then flows from the bio-filtration system through a culvert under the access road on the southern edge of the property to the point where it joins water flowing off the lower lot. Here, all stormwater exits the GFC property to the south.
- All water on the lower lot is either captured in a network of five catch basins and enters the treatment system at the head of the secondary concrete-lined settling pond, or flows over a grassy field and through a series of compost filter berms before entering the ditch along the south side of the property, where it flows west to the property discharge point described above.
- Unpaved portions of the site not in use are vegetated with a mixture of native grasses and vegetation that can absorb contaminants and trap sediments.
- Vegetated swales with compost filters are used at various locations throughout the lower lot to slow the migration of water and to help capture sediments and contamination.
- All fuels, lubricants, chemicals and similar items are stored within secondary containment and under cover when appropriate.
- Spills are absorbed with available materials and swept up, immediately, to prevent contaminants from entering the stormwater conveyance system.
- Trucks, loaders and other equipment are maintained regularly to prevent fluid leaks. Vehicle and equipment repair and maintenance are performed inside or under a covered area, whenever possible.
- Compost piles are managed to minimize tracking by loaders and vehicular traffic.
- Paddlewheel style aerators may be deployed at key locations throughout the treatment train to improve dissolved oxygen and reduce iron and phosphorus.

#### Protection of Groundwater (OAR 340-096-0090(5)(b))

Screening Results: DEQ has screened the GFC facility as a “potential risk to groundwater” due to insufficient stormwater/leachate data available.

#### Summary of Existing BMPs for Groundwater

- Ground green waste is placed in ASP zones for composting. The zones routinely reach temperatures between 120-150° F. Rainfall contacting these piles is absorbed by the pile and dissipated as steam. Any water collected from the ASP zones is directed to our storage tank and recycled onto the composting zones.
- Stormwater from the receiving area is diverted away from the other stormwater and is recycled, whenever possible.
- All parking, loading and drive areas are impervious, thus preventing stormwater in these areas from infiltrating.
- The above BMPs aid in the protection of groundwater.

#### **Spontaneous combustion:**

Spontaneous combustion events are not anticipated when composting with the ASP process. This is due to the low height of the ASP zones and the automated temperature control by the WebMACS system. The ASP zones are equipped with a sprinkler system. We have never had a spontaneous combustion event in any of our finished goods stockpiles and fire prevention measures include fire breaks between finished goods. Spontaneous combustion occurring in the finished goods materials would be easily extinguished by breaking up the heat mass using a bulldozer or track hoe. Hot spots would be dug out using track hoes and water applied using our fire truck. Fire hydrants are located along Cipole Rd. and Hwy 99W. During fire season, the facility is patrolled at night by one of two watchmen who live on the premises.

**Dust Prevention and Control:**

Hard surfacing is the key to dust control. Currently over 4.5 acres of the facility are hard surfaces which includes all of the receiving and processing areas. Other dust control measures include using water trucks for wetting drive areas and sweeping all impervious surfaces on an as need basis. When 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. Any dust complaints are recorded on the complaint documentation form.

**Odor minimization plan:**

Odors are minimized through certain material handling techniques and the ASP process which maximize oxygen in the composting zones. The yard debris is aerated as it is received and is processed daily, thus avoiding malodorous materials at the receiving area. The only weather condition which adversely affects our ability to process inbound material are prolonged cold spells with temperatures below 20° F. Typically, during these cold spells very little yard debris is received.

Operators will promptly investigate the source and cause of the odor and, to the extent feasible, will manage and control the cause of the odor giving rise to the complaint if it is determined the source is from the facility. Operators will also evaluate other actions that may reduce odors from the same or similar causes in the future. Any steps identified to reduce the odor will be noted on the Complaint Documentation Form and registered in the facility complaint log.

Grass clippings are aerated and mixed with woody debris and processed as soon as possible. Manure is processed or covered immediately. Yard debris is watered and initially ground into a very coarse consistency to promote space in the pile (6 inch minus for the ASP piles). Woody debris and land clearing material provides a readily available source of bulking agent for malodorous loads. Sawdust and shavings are also available on site if needed.

During Summer months water is often added as material is processed to control dust and increase moisture to optimize composting conditions. Moisture is added to the ASP zones, as needed using our fire/water truck or leachate return system via large impact sprinklers.

The ASP process, oxygen, moisture, bio-cover and non-disturbance during the active composting cycles are key to minimizing facility odors.

**Noise Disturbances:**

GFC does not have any extraordinary sources of noise and any complaints will be investigated promptly.

**Vector Control:**

Vectors have not been an issue at this facility as there are no major attractants in the accepted waste and the pile temperatures discourage any nesting. Should an unforeseen problem arise we will take corrective action.

**Procedures for nuisance complaints:**

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. Attempts will be made to respond to that complainant within one business day, or sooner. Metro and DEQ will be notified when complaints are received from five different business and/or individuals for the same odor event within one week, or if an odor event lasts longer than 24 hours without resolution or mitigation. Once the cause has been identified, all possible measures are taken to rectify the problem. Completed forms and/or data will be maintained for a period of not less than five years.

**Housekeeping:**

Access roads on to and out of the property are watered and swept on a regular basis. Offsite roads are be checked for yard debris from improperly tarped loads.

**Oil and Hazardous Material:** Any spill of oil or hazardous material will be cleaned up immediately. All drivers and yard employees are trained to follow the Grimm's Hazardous Material Spill Response Directive, attached below. If the spill is of a reportable quantity, DEQ as well as the Oregon Emergency Response System will be notified.

**Procedures for emergencies:**

In case of a fire, employees shall immediately call for help using their radio or Nextel phone. Managers and office staff are always available for guidance. 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 and the manual override should be engaged before 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. GFC will notify the DEQ anytime there is a fire that produces visible flames or anytime the fire department responds to a call and makes an effort with water or foam to extinguish the fire.

**Qualified operators:**

Facility personnel, as relevant to their job duties and responsibilities, must be familiar with the relevant provisions of the license and the relevant procedures contained within the facility's operating plan.

A qualified operator must be an employee of the facility with training and authority to reject prohibited waste that is discovered during load checks and to properly manage prohibited waste that is inadvertently received.

GFC regularly send personnel to US Composting Council training programs and currently has three employees who hold the Certified Compost Operations Manager certificate (CCOM). Training records for all operators are kept on site.

**Procedures for unusual occurrences:**

Unusual events are handled on a case by case basis. All managers and drivers are available to respond to events via the Nextel phones. Plant and equipment operators at our facility are linked via MURS radios. GFC managers are either onsite or nearby 24 hours of each day.

**Recordkeeping:**

All records of incoming material, composting performance data, compost quality testing, complaints, unusual occurrences, etc. will be kept either electronic or printed format for a period of not less than five years.

**Notifications:**

Should GFC receive a notice of violation or non-compliance, citation or other enforcement action from any federal, state, local government or other regulating authority, as related to the composting operation, the notice will be transmitted to Metro or DEQ as soon as practical.



**Yard Debris and Material Recovery Closure protocol:**

In the unlikely event of a short-term cessation of operations, GFC shall give Metro and DEQ written notice prior to discontinuing the acceptance of waste materials. GFC shall notify the public by placing signage at the entrance to the facility and direct customers to the nearest facility along with a target date for the continuation of normal operations. Notification will also be placed on the company website.

In the event of a long-term cessation of operations, GFC shall give no less than 90 days notice written notice to Metro and no less than 1 year written notice to DEQ prior to discontinuing the acceptance of waste materials. Composting activities shall end within 12 months thereafter.

Finished compost inventory shall be sold as the markets allow. If compost cannot be sold due to contaminants it will be removed to an approved disposal site.

An environmental assessment will be conducted to assess the impacts of site operation closure to soil and groundwater. If the assessment indicates impacts, soil and groundwater samples will be collected for analysis.

**Financial assurance:**

Waste materials are processed as received and become saleable products – compost, and soil amendments. The facility would continue to produce revenue for a period of time even if closed. Under no circumstances would it cost more than \$10,000 to close the facility.

## GRIMM'S FUEL COMPANY

### SPILL RESPONSE

Here at GFC, there exists the possibility of spills of hazardous liquids; most notably, diesel fuel and hydraulic fluid. Such spills, if not handled properly, could lead to serious and costly environmental impacts. This outline is intended to be a review of the company's procedures to minimize these impacts and to clean up large spills.

- **STOP THE FLOW:** Shut off your equipment immediately!  
This will stop the flow on most pressurized systems. Locate the source of the spill and take any additional necessary steps to stop the flow. Most spills are the result of a broken line or a ruptured tank. Most tanks have a shut off valve on the tank and throughout the system. Know your equipment and the location of these valves.  
Ask a mechanic if you need assistance in locating these valves.
- **CALL FOR HELP:** Never attempt to contain a large spill by yourself! Use your radio or telephone to call for assistance at the first sign of a release. A fast response is critical and the more people on the job, the better.
- **CONTAIN THE SPILL BEFORE LIQUIDS REACH THE CATCH BASIN SYSTEM:** Create a dam around the spill area using the appropriate absorbent materials such as floor sweep, sawdust, compost, etc. Loader operators need to respond quickly to large spills by hauling a scoop of sawdust or compost to the affected area to create a dam and contain the spill. Plug the nearest catch basin(s) if necessary.
- **CONTAIN THE SPILL BEFORE IT LEAVES THE PROPERTY:** If a spill reaches the catch basin system, there are several places throughout the system to contain the spill before it leaves the property.
- The design of the 15,000 gallon half tanks located at the south corner of the property should be sufficient to contain even a large spill. All catch basin drains lead to this tank before flowing to the bio-swale area at the lower property.
- In the event that a spill reaches the lower property, it should be contained in the concrete basin area prior to flowing in the constructed wetlands. This can be achieved by building a dam at the outfall to the basin using compost.
- If the spill reaches the bio-swale / wetlands area, it can be contained in this area by placing boards or plates into the slots of the outflow control device.
- **SPILL CLEAN-UP:** The extent of the clean-up is largely dependent on the size of the spill. Most small spills can be cleaned up using floor sweep, a broom, and a shovel. Always check with your shift supervisor regarding the appropriate disposal of clean-up materials.
- **CLEAN-UP MATERIALS:** These are located at strategic locations throughout the facility. Floor sweep is located in several locations around the shop, including near the bilk oil tanks and the large door at the southeast corner. Spill containment kits are located in each oil truck, at the oil loading dock, and at the pump shed next to the 15,000 gallon half tanks. Oil absorbent booms are located in the pump shed.

A fast response is essential to minimize the potential environmental impacts!

Time is of the essence!

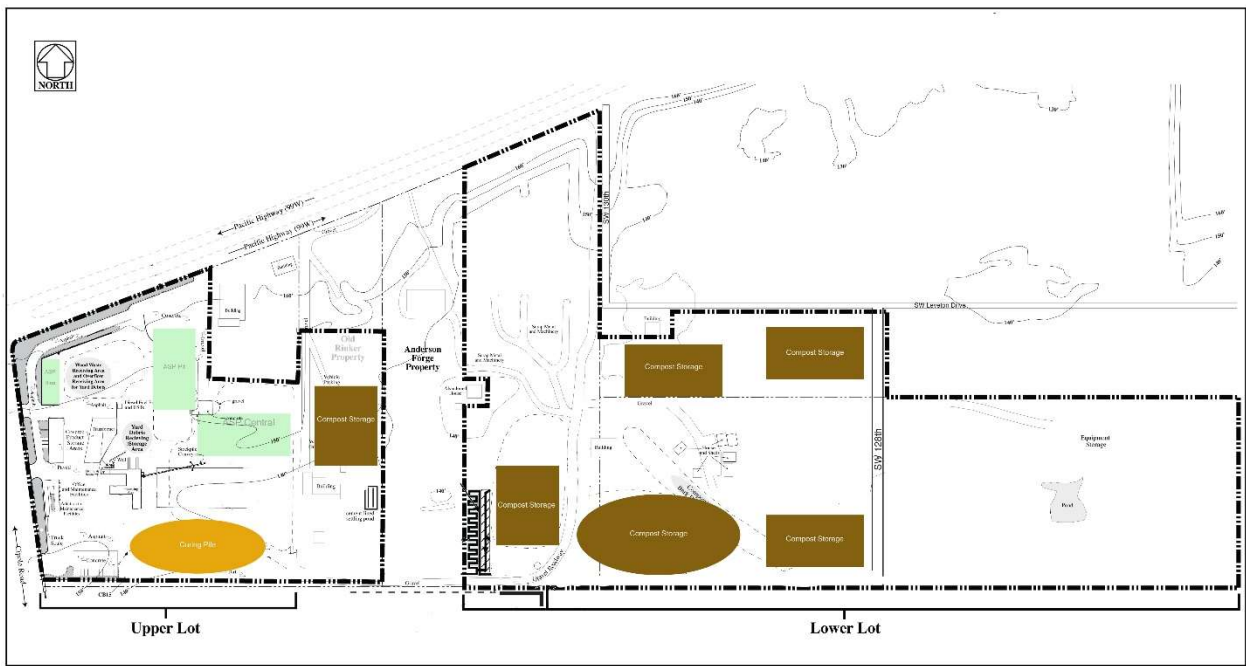
Figure 1 Traffic Flow

Grimm's Fuel Traffic Flow Map

- BLUE LINE: Incoming material haulers follow blue line during normal conditions-To scale house; then to Receiving Area - Trucks / trailers unload and then exit.
- RED LINE: Large municipal trucks travel to the left of the scale, but otherwise follow normal BLUE or ORANGE route.
- GREEN LINE: Customers buying product enter via blue line and then follow the green line to load and then exit.
- ORANGE LINE: During high traffic volumes incoming loads may be directed into holding lines before approaching scale house. Then follow BLUE route as per normal.



Figure 2 Storage Locations



ROGER N. SMITH ASSOCIATES, INC.  
Groundwater and Environmental Consultants

SURFACE COVERAGE		Upper Lot		Lower Lot	
Best Site Area	Acres	898.1	Acres	27.7	Acres
Total Landscaping	Acres	10.0	Acres	13.6	Acres
Office and Maintenance Building Footprints	Acres	0.0	Acres	0.0	Acres
Road Surfaces	Acres	0.0	Acres	2.4	Acres
Materials Storage and Gravel Surfaces	Acres	0.0	Acres	0.2	Acres

LEGEND	
	Property Boundary
	City Street
	Landscaped Area
	Catch Basin
	Sediment Basin
	Areas Important to Streamwater Pollution Control
	Drainage Line With Flow Direction Arrow

Scale: 1 inch = 200'

Site Map of the Grimm's Fuel Co.  
18850 SW Cipole Road, Tualatin  
(Upper and Lower Lots)

Map Adapted from: Aerial Imagery of 2007; See Appendix Part 1; Surveying Co. File 14-004 and Aerial Photos 1994 & 2001

Figure 2	
Project Number:	20-441
Drawn By:	Steven Depp
Date Last Modified:	February 20, 2012

Figure 3 Stormwater Treatment Map

