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Hensons'
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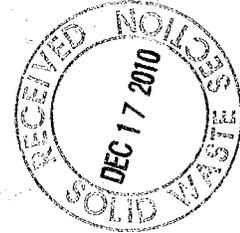
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SOLID WASTE SECTION
ASHEVILLE REGIONAL OFFICE

December 13, 2010

North Carolina Department of Environment and Natural Resources
 Division of Waste Management
 Mr. Larry Frost
 Environmental Engineer
 2090 US Highway 70
 Swannanoa, NC 28778
 828-296-4500
 828-299-7043 FAX

RE: 116 Pond Road
 Asheville, NC 28806
 Permit No. SWC-11-09



CERTIFIED MAIL

Dear Mr. Frost,

Please find attached two copies of our revised operating manual and updated site map (Figure 1) for the above referenced facility. We request that permit number SWC-11-09 be renewed. Please call me at 864-270-8704 should you need any additional information and/or clarification.

Very Truly Yours,
 HENSONS' INC.

E M Fincher, Jr.
 President

cc: Andrea Keller



P.O. Box 1060 105 Ridge Road Tryon, NC 28782 (828) 859-5836 FAX: (828) 859-9091



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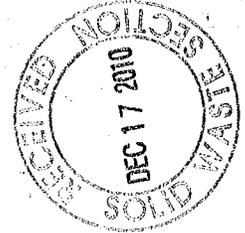
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SOLID WASTE SECTION
ASHEVILLE REGIONAL OFFICE

HENSONS' INC.

ASHEVILLE WOOD YARD

(TYPE II YARD WASTE COMPOST FACILITY)



OPERATIONS AND MAINTENANCE MANUAL

Prepared for:
Hensons' Inc.
105 Ridge Road
PO Box 1060
Tryon, North Carolina 28782
Phone 828-859-5836
Fax 828-859-9091

Prepared by:
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December 2010
(Revised)

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FIGURE

Figure 1 – Site Plan

EXHIBITS

Exhibit A - Sign at entrance

Exhibit B - Windrow Data Sheet

Exhibit C - Monthly Data Sheet



1.0 - INTRODUCTION

This Operations and maintenance (O&M) Manual was prepared for Hensons' Inc., Asheville Wood Yard. The objective of this O&M Manual is to provide guidance for operators and outline required activities so that the facility operates in accordance with State (N.C.) regulations and wood waste processing is undertaken with proper regard for the health and safety of the facility operators and neighbors.

The Wood waste Processing Facility is located in Buncombe County. Operations at the facility will not follow a precise routine. Specific operations will be performed depending on the type and amount of incoming material and the materials being prepared for market. Depending on the specific operations on any given day, several personnel may be on site processing material.

Listed below are some general operations typically performed by personnel at the facility.

- Drivers – Haul feedstocks and finished materials
- Front End Loader Operator – Load trucks, move material, feed screen, and feed grinder
- Grinder Operator – Reduce size of wood material
- Screen Operator – Size the final product

The operating schedule varies depending on the type and quantity of incoming materials and the priorities of the day. The operations may be performed seven days per week depending on the work to be accomplished. Material will not be received nor processed before sunrise or after sunset to minimize noise and other impacts on surrounding neighbors.

2.0 - STANDARD FACILITY OPERATIONS

The following section outlines the standard operating procedures for the facility.

2.1 - EROSION CONTROL

The use of a 25 foot buffer area around the perimeter of the site will be maintained to prevent erosion and to control the movement of soil and contaminants from the site. This buffer area will not be disturbed during facility construction. If erosion becomes a problem, a thin (three to four inches) layer of mulch will be spread over areas prone to erosion and tracked in using an excavator. In addition, hay bales will be utilized to slow the flow of water. The areas to be grassed are shown on the site plan (Figure 1). Seeding rates are as indicated in the following table.

DATE	TYPE	PLANTING RATE
AUGUST 20 - November 1	Tall Fescue	100 lbs / acre
	Sericca Lespedeza	30 lbs / acre
	Kobe Lespedeza	10 lbs / acre
November 2 - February 15	Tall Fescue	120 lbs / acre
	Abruzzi Rye	40 lbs / acre
February 16 - April 15	Tall Fescue	100 lbs / acre
	Sericca Lespedeza	30 lbs / acre
	Kobe Lespedeza	10 lbs / acre
April 16 - August 19	Tall Rescue	60 lbs / acre
	Browntop Millet	35 lbs / acre
	Sorghum - Sudan Hybrids	30 lbs / acre

Lime and fertilizer (or equivalent) will be applied according to soil test or at a rate of 4,000 lbs / acre ground agricultural limestone and 1,000 lbs / acre of 10-10-10 fertilizer. Approximately 4,000 – 5,000 lbs / acre of grain straw or equivalent cover will be applied to seeded areas. Netting or equivalent anchor methods will be placed on erosive soil slopes exceeding 2:1. In addition, a sediment dam and basin will be installed to control storm water runoff. The sediment basin will filter sediment out of any water that flows off of the site.

Erosion and sediment control and run – off control devices will be inspected after each rainfall event to assure adequate reserve sediment storage capacity. Accumulated sediment will be removed from each basin and deposited on-site at the location shown in Figure 1.

2.2 - LEACHATE TREATMENT

The wood waste piles are to be shaped to direct storm water runoff away from the piles rather than through them. This will control the generation of leachate. All runoff from this site is collected in the storm water sediment basins as shown on the site plan prior to discharge to surface waters.

2.3 - SITE ACCESS

Uncontrolled public access is not allowed. An operator is on duty at the site while the facility is open for public use. The entrance gate will be locked when an operator is not on site. The road to the site is properly maintained to allow all – weather access.

2.4 - SIGNS

Signs stating that “no hazardous waste, asbestos containing waste, or medical waste is allowed on site” are posted at the site entrance. Signs providing information on wastes that are acceptable and dumping procedures are also posted at the site entrance. A copy of the signs utilized is included as Exhibit “A.”

2.5 - MATERIALS RECEIVING

The material receiving area has been noted on Figure 1. Incoming waste is inspected and unacceptable materials are loaded back on the truck that brought it in and directed to a permitted solid waste landfill.

Ground and ungrounded materials are acceptable on the site. Acceptable materials include:

- Yard Waste – Tree and brush residue, residential waste such as tree pruning, grass, leaves, etc.

- Land Clearing Debris – Logs, stumps, brush, chip, etc. associated with land clearing operations
- Commercial and Institutional Wood Waste – Untreated and unpainted wooden crates, pallets, etc. that are not contaminated with plastics or food waste.

2.6 - GRINDING

Material received at the facility that requires grinding is stockpiled adjacent to the grinding area. The wood material is loaded into the grinder with an excavator with grapple attachment. Grinding is conducted to produce a marketable product. The anticipated grinding frequency is every 30 – 60 days.

2.7 - COMPOSTING

The turned windrow composting method is utilized at the facility. Windrow composting is accomplished by placing the mix in long piles that are approximately 16 feet wide and eight to ten feet high. The windrows are periodically turned to break up clumps to expose more surface area to active microorganisms and to expose all materials to temperatures to ensure weed seed destruction. The turning process is done by a front end loader which lifts the material high above the ground and lets it cascade down to obtain proper aeration. To ensure weed seed destruction, the pile temperatures are maintained at or above 131 degrees Fahrenheit, for at least three days. During this period, the windrow is turned a minimum of two times to maintain aerobic conditions. Temperatures are taken in each windrow at 50 foot intervals down the length of the windrow data recording sheet shown in Exhibit "B." Temperatures are taken daily until the 131 degrees Fahrenheit for three days have been met and then a minimum of weekly. Windrows being composted are turned periodically based on temperature measurements. The typical windrow composting period is one to three months. If temperatures are measured in excess of 145 degrees Fahrenheit, the windrow requires turning to cool the composting material. If temperatures during the initial month of the composting period are less than 110 degrees Fahrenheit, the windrow requires turning. Low temperatures may indicate a lack of oxygen, and pile turning will provide the needed oxygen to the microorganisms. The exact temperatures used to determine when the compost pile requires turning are guides and may be adjusted based on long term pile temperature and length of time the material is composted.

Pile dryness can be determined by testing the moisture content of a sample with an oven. A quick test is to hold a handful of material and squeeze it. If water drips out, then it is too wet. If the moisture content is less than 40%, the material is too dry for composting, and water must be added to continue the composting process. Pile dryness can also be determined by visibly and physically examining the compost material. If the material is visibly dusty, it is too dry for composting. If the material clumps together, then there is enough moisture available for composting. If material begins to dry significantly, thereby inhibiting microbial activity, and dusty conditions are prevalent, water can be added to the top of the windrows. A VEE shape is cut in the top of the windrow to enhance capture of water. Water is pumped from the adjacent Hominy Creek and sprayed on the top of the pile. A drain pipe can also be placed on the top of the pile. The pile is turned after adding water to thoroughly distribute the moisture.

2.8 - SCREENING

Screening of the mulch and / or compost material if required, is conducted to produce a marketable product. The screen size is $\frac{1}{2}$ " or as required by the market. The unders ($<1/2$ ") are stored on site in static piles and / or composted to produce a marketable product. The overs ($>1/2$ ") are stored in the mulch storage area until marketed. The miscellaneous solid waste (metals, trash, etc.) will be discarded in a designated dumpster for transfer to a permitted solid waste landfill.

2.9 - PRODUCT STORAGE

After Grinding, screening, and / or composting, the material is stored in a static pile prior to marketing. Storage occurs in the areas shown on the site plan.

2.10 - DUST CONTROL

Dust at the facility can be reduced by wetting the wood pile and the adjacent on site roads. A portable centrifugal pump is to be used to extract water from the adjacent Hominy Creek. In addition, the 25 foot buffer area will be maintained with the existing trees, limiting dust traveling off site.

2.11 - FIRES

To prevent fires, dusty dry conditions should be avoided. Operators will routinely spray water on the piles. If a pile of material does catch on fire, a loader or excavator will be used to separate the unburned material from the burning material and prevent the fire from spreading. Water from the adjacent Hominy Creek will be used to wet piles initially and prevent fires as well as extinguishing fires if they occur. In addition, an aisle between windrows will be maintained to allow access and prevent fire from spreading. In the event of a fire, the operator will call 911.

2.12 – PRODUCT DISTRIBUTION

The finished product is marketed in bulk form for landscaping projects. Records are maintained of material purchasers.

2.13 - EQUIPMENT MAINTENANCE AND STORAGE

Regular equipment maintenance is required to ensure a marketable product is produced. Refer to specific equipment O&M Manuals for equipment maintenances schedules. All small equipment such as thermometers and files will be maintained in the office building at the front entrance. This equipment will be brought to the site as needed.

2.14 - OPERATIOI CHECKLIST

The attached chart is a quick reference for the facility operator to ensure proper procedures at the facility are performed.

Hensons' Inc. Wood Waste Processing Facility Operator Checklist

	As Required	Daily	Monthly	Semi - Annually	Annually
Inspect Incoming Waste	X				
Grind Material	X				
Perform Equipment Maintenance	X				
Screen Mulch . Compost	X				
Measure Window Temperature of Composting Material		X			
Prepare / Update Dail Data Sheets		X			
Record Information on Windrow Data Sheet for Composting		X			
Prepare Monthly Information Sheet			X		
Inspect Run-Off Control Devices			X		
Re-Seed Grass Areas				X	
Clean Storm Basin					X
Inspect / Repair Access Road					X
Submit Report to NC DENR					X

3.0 - SAMPLING, TESTING, AND RECORD KEEPING

Sampling, testing, and record keeping at the wood waste processing facility is necessary to:

- Monitor the process efficiently
- Provide data for regulatory agencies
- Provide data for trouble-shooting when problems develop
- Provide data to justify capital and operating expenses
- Provide data to product users

3.1 - SAMPLING AND TESTING SCHEDULE

Compost or mulch produced at the facility must be free from offensive odors and contain no sharp particles that may cause injury to people handling the materials. Testing of the product is not required by the NC Department of Environment and Natural Resources (NC DENR) as long as only those materials listed in Section 2.5 are processed. Testing of the product for nutrients, pH, soluble salts, organic matter, and total solids may be conducted to assist with product marketing, especially for compost products.

Any waste material containing engineered wood products (i.e. plywood, particle board, etc.) must be sampled periodically for pathogens, formaldehyde, metals and other foreign matter. The mulch created by grinding this material must be stored in a windrow separated from the normal yard waste mulch.

3.2 - OPERATIONAL RECORD KEEPING PROCEDURES

Keeping accurate records is an important part of the operation of any materials processing facility. Proper records are necessary to monitor the performance of the facility and to make operational decisions. Daily operational records also provide information useful in process adjustments required due to climatic or seasonal changes or other recurring problems of a specific nature.

The NCDENR Division of Waste Management requires record keeping on continuing basis to determine the facility efficiency and the effectiveness of the treatment in achieving the desired standards. Personnel from the NCDENR Division of Waste Management will make periodic visits to the facility. During the inspections, a review of operational and other records may be requested. Records must be retained for five years and be on site anytime the facility is in operation.

The following sections outline data to be maintained at the facility.

3.2.1 - MONTHLY DATA SHEET

A Monthly Data Sheet will be used to summarize the overall materials processing operation. This data is used to evaluate the overall operation and for ease of tracking materials quantities on site. Data will be recorded on this sheet on a daily basis, as it is available, to maintain current records. A sample Monthly Data Sheet is included in Exhibit "C."

3.2.2 - COMPOST WINDROW DATA SHEET

If material is composted to produce a compost product, a windrow data sheet is utilized. The compost windrow data sheet is maintained by the operator for each windrow built at the facility. Each windrow is defined as the material placed on the pad that is contained in one windrow. This log sheet will contain information as to the day the pile was built, along with monitoring information every day until the pile is torn down. A sample Windrow Data Sheet is attached in Exhibit "B." The P1, P2.... P10 indicates relatively the same location in the windrow. Each point is located approximately 50 feet from the next point. Temperatures are measured daily at each point that has material until the requirements outlined in Section 2 are met. The day a pile is turned is also annotated in the appropriate column. The date construction began and date completed us when material is first placed in the windrow and when the last material is placed in the windrow, respectively. The windrow number starts with 1 and continues to increase throughout the year, followed by the year. For example, the first windrow constructed in 2000 will be Windrow Number 1-00. An additional sheet can be utilized to record performance of a windrow for longer than 30 days, if required.

4.0 - GENERAL

The wood waste processed contains minimal pathogenic organisms. The following general recommendations for the health and safety of workers will be followed at the facility. The operator should always be observant of vector habitats in the material receiving and storage areas. Eradication is expected under permitted methods and the direction of the Buncombe County Health department.

4.1 - PERSONAL HYGIENE

The following personal hygiene recommendations will be stressed as common practices for all operators.

- Wash hands before eating, drinking, or smoking
- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection. Change bandages frequently and wear protective clothing or equipment over the wound.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

Individuals who are highly debilitated or have severe allergies or asthma will not be employed to work around wood processing equipment.

4.2 - PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) will be evaluated to provide the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and / or required when working with wood processing equipment.

- Safety shoes with steel toes
- Noise reduction protection should be used in areas where extended exposure to continuous high decibel levels is expected.
- Dust filter masks

Following use, PPE's should be disposed of or adequately cleaned, dried, and readied for reuse.

4.3 - MECHANICAL EQUIPMENT HAZARD PREVENTION

The loaders, grinders, and screen will be operated with care and caution. All safety equipment such as horns and lights will be functional. Detailed safety procedures are included with the manufacturer's literature on each piece of equipment.

4.4 - EMPLOYEE HEALTH AND SAFETY

General safety rules for each of the operation employees are:

- Make sure that you understand the job that has to be done. Review the equipment O&M Manual prior to attempting repairs / changes.
- Use common sense when attempting a job. Use the safest way to get the work done, including using the proper equipment and tools.
- Use the buddy system in case of repair of mechanical equipment (have a co-worker stand guard).
- Keep the right attitude towards safety. Lack of awareness or a careless attitude can lead to accidents.

- Make sure you know where the first aid kit and fire extinguishers are located. Understand how to use the first aid kit.

4.4.1 - FIRE EXTINGUISHER

Potential fire hazards at the wood waste processing facility are created from the build-up of fine dry dust particles on and around operational motors and control panels. The presence of these build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenances are not practiced. Portable fire extinguishers should be maintained in a state of readiness at the grinder and screen locations and on each piece of moving equipment.

4.4.2 - PHYSICAL EXPOSURE

Facility personnel who may come in contact with physical exposures on the job should be kept aware of the health aspects associated with the fluids, solids, and airborne constituents found at the facility. Training concerning safe work practices around these potential exposures should be conducted.

The major physical exposure at the facility is from dust. Excessive dust can be a health hazard as a result of its irritating effect on eyes and mucous membranes. Proper PPE, such as eye protective goggles and dust filter masks, are to be worn by all personnel in the operational areas. During periods of extremely dry weather, excessive dust can be controlled by spraying wood piles and access roads with water. Goggles and dust masks should be worn regardless in "dusty" conditions.

4.5 - FACILITY EMERGENCY PHONE NUMBERS

FACILITY: Hensons' Inc. Wood waste Processing Facility
105 Ridge Road
Tryon, NC 28782
828-859-5836 PHONE
828-859-9091 FAX

EMERGENCY MEDICAL /
FIRE / POLICE SERVICES 911

5.0 - REPORTING

An annual report for the period of July 1, to June 30, is submitted by August 1, of each year. The attached sheet is a template for the required report. In addition, all monthly data sheets and windrow data sheets are submitted with the report.



HENSON'S WOOD WASTE FACILITY

YARD WASTE MULCH PRODUCTS

The wood waste mulch and compost product that you have purchased is produced from natural wood by-products. The products have unlimited and unrestricted distribution and use as per the North Carolina Department of Environment and Natural Resources regulations and permitting of this facility.

MULCH PRODUCTS – Can be used as an ornamental mulch by applying at a two to four inch layer around plants, trees, and shrubs. Alternatively, the mulch can be used in erosion control applications by placing it on slopes at a rate of two to four inches. Track or water mulch as necessary.

COMPOST PRODUCTS - Can be used to upgrade turf and planting areas by applying a two inch layer then incorporating it to a six inch depth. It may also be used as a growing/planting media amendment at a 20% to 33% inclusion rate (based on plant species and soil conditions).

**NO HAZARDOUS
WASTE, ASBESTOS
CONTAINING
WASTE, OR
MEDICAL WASTE
IS ALLOWED
ON SITE**

MATERIALS ACCEPTABLE:

- **Yard Waste**
- **Land Clearing Debris**
- **Commercial and Institutional Wood Waste**
- **Clean Construction and Demolition Waste Wood**
- **Others - See Operator**

HENSING INC. WOOD WASTE PROCESSING FACILITY MONTHLY DATA SHEET

Date

DATE	WOODWASTE			ENGR. PRODUCTS (TONS)	GROUND (TONS)	SCREENED (TONS)	COMPOST TOTAL	MATERIAL OUT	
	TYPE	# OF LOADS	TOTAL TONS					TYPE	# OF LOADS OUT
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
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29									
30									
31									
TOTAL									