



## King County Environmental Purchasing Program

# Shredded Wood-Waste and Landscape Mulch

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## Introduction

Wood-waste processors accept untreated, unpainted woody debris from construction and land-clearing operations, remove contaminants such as rocks and nails, and shred it into coarse "chips" that are sold as "Hog Fuel" (presumably named after the grinding machine, known as a "hog"), for use in mud-control and other applications. This material may be sold as "Coarse", "Medium", and "Fine" grades, each appropriate for different applications.

The "Coarse" grade material (particle size less than 5 inches) is used for temporary road surface, mud control in animal pastures, bedding for dairy cows and other animals, and for erosion control.

Horse-arena surface material, horticultural mulch, erosion control, and boiler-fuel applications typically require a "Medium" grade material (particle size less than 3.5 inches).

"Fine" grade material (particle size less than 2 inches) is used for horticultural mulch and soil amendment. Local landscapers report that the large particle size (relative to compost, peat and other relatively fine organic amendment materials) results in a mulch that allows water to percolate to the soil surface while retaining soil moisture. Used as a soil amendment, hog fuel results in a good soil structure when decomposition is complete, but the Nitrogen balance of the soil during decomposition must be carefully managed for optimum plant growth.

Processors are increasing their sources of woody material and are rapidly developing new materials and applications.

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## Usage History and Experience

Shredded Wood Waste from land clearing debris is used by the Solid Waste Division for [temporary road surface](#) at the Cedar Hills Landfill. This material, as well as recycled concrete aggregate, is used to provide stable driving-surfaces, especially during rainy seasons. The landfill purchased over 66,000 yards of this material, at a cost of \$85,000, in 1998, saving an estimated \$65,000 by using wood-mulch instead of virgin aggregate.

Also in 1998, the Department of Construction and Facilities Management and the Airport Division purchased 150 cubic yards of [wood-mulch](#) for landscape application. Its performance is superior to the ground-bark typically used in this application. It decays less rapidly, is more economical, and provides a natural appearance. The Roads Division purchased almost 500 yards of wood-mulch for erosion control. This product was a substitute for a standard wood-chip material and was used at a storm-water detention pond project in the Northeast corner of the County.

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## Bid and Contract Specifications

The sample specifications below provide an indication of the characteristics that a user may wish to specify. Users should modify them to suit their particular needs.

Hog fuel producers or users may develop more sophisticated specifications and these will be included in updates of this document.

### Bark and Wood Chips Specification (WSDOT)

Washington State Department of Transportation (WSDOT) specification 9-14.4(3) for bark or wood chips is reproduced here from the 1994 Standard Specifications for Road, Bridge, and Municipal Construction, for reference. This specification is intended to help engineers to specify horticultural mulch for roadside landscape plantings.

#### 9-14.4(3) - Bark or Wood Chips

Bark or wood chip mulch shall consist of Douglas fir, pine or hemlock bark or wood chips. It shall be ground so that a minimum of 95 percent of the material will pass through a 1.5-inch sieve and no more than 55 percent, by loose volume, will pass through a 0.25-inch sieve. The mulch shall not contain resin, tannin, or other compounds in quantities that would be detrimental to plant life.

### Sample Specification: Animal Bedding/Temporary Road Surface/Mud Control

The sample specification below is offered only as a starting point for the development of a project specification (See discussion of "Medium" grade above)

#### *Animal Bedding / Temporary Road Surface / Mud Control*

Material shall be shredded bark or wood and shall be ground so that a minimum of 95 percent of the material will pass through a 5-inch sieve and no more than 45 percent will pass through a 3/4-inch sieve. The material shall contain a minimum of extraneous material. It shall contain no material that would be deleterious to equipment and shall not contain resin, tannin, or other compounds in quantities that would be detrimental to animals, plant-life or water quality.

### Landscape Mulch at the West Point Treatment Plant

A demonstration of shredded wood-waste at the King County Jail in 1995, led to a collaboration between the vendor and the West-Point wastewater treatment facility of the Department of Natural Resources. They developed a specification for a **horticultural mulch** and used 4,000 yards of this material for that project, and saved over \$6,000. The producer has opened a new market based on the product developed through that collaboration and is optimistic about future growth of this product. This year, the King County Airport is planning to use this material in major landscape projects.

### Landscape Mulch at the King County Airport

Similar to the West Point project described above, the King County Department of Construction and Facilities Management used 600 cubic yards of this material, at a cost of nearly \$5,000, for a holding area for nursery-stock at the King County Airport, **mulch** around the Administration Building, and other applications. The material is less expensive than bark and other mulches.

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## For More Information

King County Solid Waste Division  
Cedar Hills Landfill Operations  
400 Yesler Way, Rm 600  
Seattle, WA 98104  
(206)296-0463  
King County  
Dept of Construction & Facilities Management  
Capital Planning  
(206)296-0626

West Point Treatment Plant  
(206) 263-3322

Further information may be available through the following main menu selections:

[King County Recycled Content Supply Contracts](#)

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[Standard Paragraphs for Contracts](#)

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### Vendor Information

Rainier Wood Recyclers, (253)630-3565 Kent, WA

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