

Beneficial Use of Solid Waste Determination Evaluation Form

 State of Oregon Department of Environmental Quality	Applicant:	SureCrop Farm Services		
	BUD#:	20150722		
	Solid Waste:	Wood ash		
	Summary of Proposed Beneficial Use:			
	Liming agent to increase soil pH			
	Reviewer:	Bill Mason, DEQ-Eugene	Date:	8/5/2015
	Tier:	☐ One ☒ Two ☐ Three		

Beneficial Use of Solid Waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

Beneficial Use Determination Evaluation Summary

- ☒ Yes, the Beneficial Use of this solid waste meets all the case-specific performance criteria listed below and is approved.
- ☐ No, the Beneficial Use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

Notes:

Western Oregon has naturally acid soils, and crop production often increases acidity due to repetitive nitrogen-based fertilizer application. Wood ash is a good alternative to calcitic limestone with the added benefits of faster action in soil and the ability to replace macro- and micronutrients removed during plant growth and harvest. Wood ash has also been shown in preliminary research to increase phosphorus availability and improve crop yields when compared to applications of agricultural lime plus phosphate fertilizer.

The applicant's wood ash is generated by Seneca Sustainable Energy, a renewable energy plant adjacent to sawmill operations. The bulk of the feedstock comes from untreated onsite wood by-products such as sawdust, bark and shavings from the mill, with some contribution from offsite slash.

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Case-Specific Beneficial Use Performance Criteria:

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed: 1) Characterization of the Solid Waste; 2) Productive Beneficial Use of the Solid Waste; and, 3) The affect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

1) Characterization of the Solid Waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

☒ Yes ☐ No

Notes:

SureCrop Farm Services characterized the wood ash sufficiently to demonstrate the material has a beneficial use in crop production and that its use will not affect human health or the environment.

Was the following information submitted for DEQ review and how adequate was it?

Tier 1 ☒ Applicable ☐ Not applicable

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year? ☒ Yes ☐ No

Notes:

The wood ash is generated by burning slash, sawdust, bark and mill shaving in Seneca's Biomass Power Facility. They estimate they will generate approximately 5,500 tons per year. SureCrop provided DEQ with the physical and chemical characteristics of the material in their application.

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial? ☒ Yes ☐ No

Notes:

The wood ash will be applied to cropland as a liming agent, which benefits the soil by raising the pH to a more neutral value, which allows higher crop yields.

- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace? ☒ Yes ☐ No

Notes:

Tables 1 through 3 in the application compare the chemical and physical characteristics with the material it will replace.

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- Did the applicant successfully demonstrate compliance of the proposed beneficial use with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing? ☒ Yes ☐ No

Notes:

The use is productive and will not pose a threat to human health or the environment.

- If required, did the applicant provide any other DEQ required information to evaluate the proposal? ☒ Yes ☐ No

Notes:

SureCrop clarified that Seneca does not burn treated wood products in their biomass power facility.

Tier 2 ☒ Applicable ☐ Not applicable

- Did the applicant submit all the information required for a Tier 1 application? ☒ Yes ☐ No
- Did the applicant submit adequate sampling and analysis to make a determination of suitability for beneficial use? (Note: The analysis must provide chemical, physical, and biological characterization of the material proposed for beneficial use and identify potential contaminants in the material or the end product, as applicable.) ☒ Yes ☐ No
- When applicable, did the applicant provide a risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrate compliance with acceptable risk levels? ☒ Yes ☐ No

Notes:

Concentrations of non-nutritive metals does not exceed the Oregon Department of Agriculture's limits for a waste-derived soil amendment.

- When applicable, did the applicant supply the location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk? ☒ Yes ☐ No

Notes:

The material will be applied to agricultural lands to benefit the growth of crops.

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- When applicable, did the applicant supply contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, e-mail, site address and site coordinates (latitude and longitude)? ☐ Yes ☐ No ☒ N/A
- Did the applicant supply an adequate description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment? ☒ Yes ☐ No

Notes:

Storage of the material will contain and wet wood ash appropriately to avoid adverse impacts of dust, and transport will always occur in covered trucks and trailers. Site assessment before application will minimize potential impacts to environmental resources and waterways, and all workers involved in application and transport will operate under company best management practices to minimize health and exposure risks.

Tier 3 ☐ Applicable ☒ Not applicable

- Did the applicant submit all the information required for a Tier 1 & Tier 2 application? ☒ Yes ☐ No

2) Productive Beneficial Use of the Solid Waste

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below? ☒ Yes ☐ No

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative? ☒ Yes ☐ No

This criterion consists of three parts.

1. Identified Use:

Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

☒ Yes ☐ No

2. Reasonably Likely Use:

Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

☒ Yes ☐ No

3. Not Speculative:

For Land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

☒ Yes ☐ No ☐ N/A

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

☐ Yes ☐ No ☒ N/A

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal? ☒ Yes ☐ No

Notes:

Wood ash is an effective substitute for agricultural lime.

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- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices? ☒ Yes ☐ No

Notes:

The material will be applied at agronomic rates based on soil testing.

3) Effect of Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment

Has the applicant demonstrated the proposed beneficial use will **not** create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below?

☒ Yes ☐ No

Notes:

The wood ash does not contain non-nutritive metals that exceed Oregon Department of Agriculture's limits, which were established based on protection of human health and the environment.

- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00? ☒ Yes ☐ No
- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions? ☒ Yes ☐ No

Notes:

Storage of the material will contain and wet wood ash appropriately to avoid adverse impacts of dust, and transport will always occur in covered trucks and trailers. Site assessment before application will minimize potential impacts to environmental resources and waterways, and all workers involved in application and transport will operate under company best management practices to minimize health and exposure risks.

- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below? ☒ Yes ☐ No
 - Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
 - Hazardous substances do not exceed naturally occurring background concentrations; or
 - Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

Notes:

Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product; and hazardous substances do not exceed acceptable risk levels.

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- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?
☒ Yes ☐ No
- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions? ☒ Yes ☐ No
- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations? ☒ Yes ☐ No

Notes:

The material will be applied to agricultural lands at agronomic rates.

4) Public Involvement Evaluation (Note: this is not a Beneficial Use evaluation criterion)

Determine a public involvement recommendation using the current, ***Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice & Participation***.

- Is public notice and participation being recommended for this application? ☐ Yes ☒ No

Notes:

Wood ash is a widely accepted historic practice for crop production in the Willamette Valley; therefore DEQ does not recommend a public comment period for this BUD proposal.