

## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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Outagamie County

James Wittenberger  
Foremost Farms USA  
E10889A Penny Ln  
PO Box 111  
Baraboo WI 53913-0111

Subject: Low Hazard Exemption for the On-Site Beneficial Use of Lead-Bearing Painted Concrete and Brick from Demolition of the Former Foremost Farms USA Facility, 935 East John Street, Appleton, Wisconsin

Dear Mr. Wittenberger:

We have completed our review of the January 29, 2009 request submitted by ARCADIS, on behalf of Foremost Farms USA (FFUSA), for the above referenced project. The information submitted for this low hazard exemption request provided sufficient justification for granting this exemption under s. 289.43 (8), Wis. Stats., and s. NR 500.08(5), Wisconsin Administrative Codes.

According to the proposed plan, FFUSA intends to demolish the existing structures on an approximate 8-acre former industrial property located at 935 John Street, Appleton. Concrete and brick from the demolition activities would be crushed and the resulting aggregate used on-site to abandon building foundations, as base-course for road right-of-ways, and to fill in an on-site water raceway.

Approximately 8,000 cubic yards of processed building aggregate would be generated from demolition of the buildings on this property. Approximately 1,200 cubic yards of this material is coated with lead-bearing paint (LBP). The processed aggregate containing LBP would only be used to fill in the building footprint or as base course under planned asphalt/concrete roadways. Only clean non-LBP aggregate or off-site soils would be used to abandon the race. All of the aggregate coated with LBP used to fill in the building footprint would be capped with clean off-site soil or an asphalt/concrete roadway. A cap maintenance and soil management plan would be adopted for these areas.

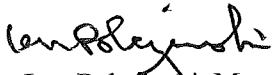
Analyses of paint chip samples and a survey of the building surfaces using a portable X-ray Fluorescence analyzer revealed lead concentrations above the 0.06 percent lead by weight or 0.7 milligram of lead per square centimeter of painted surfaces, which is the identifier for "lead-bearing paint". Unfortunately, there is currently no acceptable method of accurately predicting lead concentrations in crushed recycled concrete/brick aggregate (RCA) based on pre-demolition measurements of LBP concentrations in paint chips and surveys of painted surfaces. Therefore, the Department will require an analysis of the crushed aggregate prior to allowing the beneficial use of this material. Please read the attached exemption before proceeding with the demolition work.

The attached grant of exemption constitutes your Department issued approval to utilize the processed aggregate from the demolition project, subject to testing of the processed material and Department concurrence. It is our opinion that the proposed management activity can be performed in an environmentally acceptable manner if the conditions of this grant of exemption are followed.

This grant of exemption is only applicable to solid waste management requirements under chs. NR 500-538, Wisconsin Administrative Code. This exemption does not relieve you of the obligation to comply with all other Department of Natural Resource requirements and other applicable federal, state, and local regulations.

Please contact Jim Zellmer at by telephone at (920) 662-5431 or email at [james.zellmer@wisconsin.gov](mailto:james.zellmer@wisconsin.gov) if you have any questions regarding this exemption.

Sincerely,



Len Polczynski, Manager  
Waste Management Program  
Northeast Region

cc: Brian Maillet/Ben Verburg – ARCADIS, 126 North Jefferson Street, Suite 400, Milwaukee, WI, 53202

**BEFORE THE  
STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES**

**CONDITIONAL LOW HAZARD GRANT OF EXEMPTION  
FOR THE  
BENEFICIAL USE OF  
RECYCLED AGGREGATE CONTAINING LEAD-BEARING PAINT**

**FINDINGS OF FACT**

The Department finds that:

1. Foremost Farms USA (FFUSA) owns a former dairy whey plant located at 935 East John Street, Appleton, Wisconsin. Based on results of laboratory testing and a lead-bearing paint (LBP) survey, painted concrete, brick and masonry at this location are considered to contain lead above the threshold of 0.06 percent by weight or 0.7 mg/cm<sup>2</sup> of paint surface.
2. FFUSA plans to decommission and demolish the structures located on the property identified above. PHP Project Development LLC (PHP) has a contingent offer to purchase the property from FFUSA following demolition activities. PHP has proposed to redevelop the property into a residential area.
3. On February 2, 2009, the Department received a report from ARCADIS, on behalf of the FFUSA, titled, "Request for Solid Waste Exemptions to allow the Beneficial Reuse of Concrete Coated with Lead-Bearing Paint as a Low-Hazardous Waste Fill Material, Former Foremost Farms Facility, 935 East John Street, Appleton, Wisconsin", and dated January 29, 2009.
4. Foremost Farms proposes to beneficially use approximately 8,000 cubic yards of crushed concrete, brick and masonry from the former whey plant to fill in building foundations and as base-course under a proposed asphalt/concrete roadway to be constructed during redevelopment activities. Of this amount, approximately 1,200 cubic yards of concrete and brick material is coated with LBP.
5. "Lead-bearing paint" is defined in s. 254.11(8), Wis. Stats., as "any paint or other surface coating material containing more than 0.06 percent lead by weight, calculated as lead metal, in the total nonvolatile content of liquid paint or more than 0.7 milligram of lead per square centimeter in the dried film or applied paint".
6. Ten paint chip samples were collected from the FFUSA buildings. The paint samples indicated lead concentrations ranging from 0.00076 to 2.2 percent lead by weight. In addition, the building surfaces were surveyed for LBP using a portable X-ray Fluorescence analyzer. Results of this survey indicated that the interior face of the basement and first floor brick walls are coated with paint that contains lead ranging from 0.8 to 5.0 milligrams per square centimeter.
7. Research has indicated that there is currently no method of accurately predicting lead concentrations in crushed recycled concrete/brick aggregate (RCA) based on pre-demolition measurements of LBP concentrations in paint chips or surveys of painted surfaces.
8. LBP concrete waste having a concentration of 5.0 milligrams per liter or greater using the Toxicity Characteristic Leach Procedure (TCLP) would be classified a hazardous waste. Only non-hazardous LBP aggregate is addressed in this exemption.

9. The Synthetic Precipitation Leaching Procedure (SPLP) as described in USEPA SW-846, Analytical Method 1312, is used to evaluate the potential for leaching metals into ground and surface waters. This method provides a more realistic assessment of metal mobility under actual field conditions.
10. Additional documents considered in review the exemption request include:
  - a. An article published by Recycling Today, titled, "Lead-bearing Paint Picture" by Steven Cosper, Construction Engineering Research Laboratory, U.S. Army Corps of Engineers, Research and Development Center, April 2004, published on the internet at <http://www.recyclingtoday.com/articles/article.asp?Id=5123&SubCatID=19&CatID=7>.
  - b. A study published by the U.S. Army Corps of Engineers Construction Engineering Research Laboratory, titled, "LBP Concerns in Producing Recycled Concrete Aggregate from Former Fort Ord Family Housing" by Steven D. Cosper, Construction Engineering Research Laboratory, U.S. Army Corps of Engineers, Research and Development Center, and dated January 2007.
11. Additional facts relevant to the review of the grant of exemption request includes:
  - a. Concrete coated with LBP may pose a potential risk to human health and the environment.
  - b. LBP is a major contributor to soil lead contamination. The downward movement of lead from contaminated materials by water leaching is very slow under most natural conditions. The conditions that induce leaching are the presence of lead at concentrations that either approach or exceed the sorption capacity of the soil, the presence in the soil of materials that are capable of forming soluble chelates with lead, and a decrease in the pH of the leaching solution.
  - c. Lead from crushed aggregate could leach into groundwater or be carried to the surface water by soil erosion.
  - d. Because lead does not dissipate, biodegrade, or decay, the lead contained in the aggregate, deposited into dust and soil becomes a long-term source of lead exposure to the environment.
  - e. General working conditions at concrete crushing operations normally produce dust, which would lead to a concern for human health and the environment by wind carrying LBP dust to the surrounding area. Dust control water systems are necessary for this type of operation.
  - f. Workers around the concrete crushing operation should use appropriate personal safety equipment and take the proper safety precautions, such as wearing masks and/or respirators, to prevent breathing in fine LBP materials.
12. The Department has determined that, if the conditions of the attached exemption are complied with, the proposed alternative disposal method of RCA containing LBP is protective of public health, safety and welfare, and the environment.
13. Granting the exemptions set forth below will not inhibit compliance with Wisconsin solid waste management standards in chs. NR 500 through 538, Wis. Adm. Code.
14. The conditions set forth below are needed to assure that exempted uses of RCA may be conducted in an expeditious manner while preserving the Department's ability to minimize environmental impacts. If the conditions are complied with, the proposed exemption will not inhibit compliance with the applicable

provisions of ch. 30, 31, 160, and 280 to 299 and ss. 1.11, 23.40, 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234, and 87.30, Stats.

### **CONCLUSIONS OF LAW**

1. Based on the foregoing, the Department has the authority under subs. 289.43 (8), Stats., and sub. NR 500.08(5), and NR 518.04(7) Wis. Adm. code to issue a grant of exemption if the exemption would not inhibit compliance with the applicable provisions of ch. 30, 31, 160, and 280 to 299 and ss. 1.11, 23.40, 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234, and 87.30, Stats.
2. The Department has authority to approve a grant of exemption with conditions if the conditions are needed to ensure compliance with the applicable provisions of ch. 30, 31, 160, and 280 to 299 and ss. 1.11, 23.40, 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234, and 87.30, Stats.
3. The conditions set forth below are needed to ensure compliance with the applicable provisions of ch. 30, 31, 160, and 280 to 299 and ss. 1.11, 23.40, 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234, and 87.30, Stats.
4. In accordance with the foregoing, the Department has the authority under sub. 289.43 (8), Stats. and sub. NR 500.08(5) Wis. Adm. Code to issue the following conditional grant of exemption.

### **CONDITIONAL GRANT OF SOLID WASTE EXEMPTION**

The Department hereby issues a Low Hazard Grant of Exemption for the beneficial use of crushed recycled concrete/brick aggregate coated with lead-bearing paint as fill in building foundations and base-course under proposed asphalt/concrete roadways to be constructed during redevelopment activities at the Former Foremost Farms property in accordance with the proposed aggregate placement process plan, subject to the following conditions:

1. All demolition aggregate containing lead-bearing paint (LBP) shall be segregated and maintained in separate piles from the non-LBP containing aggregate.
2. Only non-LBP containing aggregate from the demolition activities or clean off-site fill material may be used to abandon the on-site water raceway after necessary approvals are issued by the Department and/or United States Army Corps of Engineers.
3. Prior to beneficial use of the crushed recycled concrete/brick aggregate (RCA) containing LBP, representative samples shall be collected and analyzed for lead at a rate of 1 sample per 1,000 cubic yards using both total elemental analysis and analyses of elutriate using USEPA Method 1312, Synthetic Precipitation Leaching Procedure (SPLP). The pH of the leachate from each sample shall also be measured at the conclusion of the SPLP procedure. In addition, at least one sample of the fines accumulated under the crusher shall be collected and analyzed for the same constituents. The results shall be reported to the Department for review and concurrence prior to beneficial use of the RCA containing LBP.
4. The limits of detection used in the characterization shall be at or below the lead concentrations stated in Condition 5 of this exemption. All material sampling, total elemental analyses and analyses of elutriate from leach testing, shall be performed using EPA SW-846 methods. The limit of detection and the limit of quantitation shall be reported with the sample results.

5. RCA containing LBP that is determined from a total elemental analysis to contain less than 50 mg/kg and SPLP concentration below 0.0015 mg/L lead may be mixed with the non-LBP containing aggregate for on-site beneficial use.
6. RCA containing LBP having concentrations above those listed in Condition 5 that is determined from a total elemental analysis to contain less than 400 mg/kg and SPLP concentration below 0.015 mg/L lead may be beneficially used on-site in accordance with the following:
  - a. RCA containing LBP shall not be mixed with crushed non-LBP aggregate.
  - b. RCA containing LBP shall be placed at an elevation above 702 ft msl.
  - c. RCA containing LBP shall not be placed in standing water and placement shall be conducted in accordance with the performance standards found in s. NR 503.04(3), Wisconsin Administrative Code.
  - d. RCA containing LBP shall be placed in a maximum 1-foot lift height and compacted.
  - e. RCA containing LBP shall be covered with one the following and maintained in accordance with an appropriate cap maintenance and soil management plan:
    - i. Soil cover. A minimum 2-foot thickness of fine-grained clean soil and at least 6 inches of topsoil, with appropriate seeding or sod to promote good growth of grass.
    - ii. Concrete or asphalt pavement cover. Pavement material shall have appropriate bottom base soil preparation (e.g. grading, recompaction, etc.) and sufficient thickness of base-course to minimize freeze/thaw problems, settling and shifting that could cause the pavement to crack. General Wisconsin Department of Transportation pavement design procedures and specifications should be followed.
    - iii. Buildings or structures. A new building or structure provided the building slab (bottom of a building without a basement) is monitored for cracking, deterioration, settlement, and shifting.
  - f. Upon completion of the placement of RCA containing LBP, FFUSA shall submit documentation, including the total volume and specific location of this material on a site map in plan and cross-sectional view, recorded using appropriate horizontal and vertical coordinates. The location shall be recorded on the Department's GIS Registry of closed remediation sites for this beneficial use project area.
7. RCA containing LBP that is determined from a total elemental analysis to contain greater than 400 mg/kg and/or SPLP concentration above 0.015 mg/L lead may not be beneficially used on-site and shall be properly disposed of at a licensed solid waste facility.
8. Concrete crushing equipment shall be operated in conformance with applicable Department Air Management Program requirements.
9. Concrete, brick or masonry containing LBP shall be stored before and after crushing in a nuisance-free manner, and in a way that will minimize water transport in accordance with the Department's Site Stormwater Discharge requirements. Aggregate containing LBP shall not be stored within a floodplain or in areas where storage may cause an adverse impact on wetlands, critical habitat areas, or surface waters.
10. Placement of RCA containing LBP shall be performed in a nuisance-free manner that minimizes windblown dust and contact water run-on/run-off.

11. FFUSA shall submit to the Department a cap maintenance and soil management plan for the areas where RCA containing LBP has been used that includes the following:
- a. Soil cover maintenance. Vegetated soil covers should maintain a grass layer, with no bare spots or erosion.
  - b. Pavement maintenance. Maintain pavement to repair cracks and deterioration promptly. Repairs can include an appropriate sealant, and, if necessary replacement of portions of the pavement.
  - c. Utilities and buildings. The plan should outline how any utility work that may affect the area where the RCA containing LBP is used. The utility work must be managed so the cover material integrity is maintained. If a building is to be located over the placement area, then the plan should outline how it will be inspected and maintained and how any building work will be managed so that the building's effectiveness as a cover is maintained.
  - d. Inspections. All cover systems (vegetated soil, pavement or buildings) should be inspected at least annually in the spring. It may be appropriate to have a higher frequency of inspection during the first year or two (e.g. quarterly) to account for the establishment of vegetation and to detect any settlement.

The Department reserves the right to require the submittal of additional information and to modify this grant of exemption at any time, if in the Department's opinion, modifications are necessary. Unless specifically noted, the conditions of this grant of exemption do not supersede or replace any previous conditions of approval for this facility.

#### NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to section 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

Dated: March 4, 09

#### DEPARTMENT OF NATURAL RESOURCES

For the Secretary

  
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Len Polczinski  
Waste Management Program Manager  
Northeast Region

  
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James A. Zellmer, P.E.  
Waste Management Engineer  
Northeast Region