

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 2013-57773

PERMIT NO.: 2013-SC-57773

FINAL PLANS, SPECIFICATIONS, APPLICATION  
AND SUPPORTING DOCUMENTS  
PREPARED BY: Village of Antioch

DATE ISSUED: August 5, 2013

SUBJECT: ANTIOCH-Land Application of Sewage Sludge

PERMITTEE TO OPERATE

Village of Antioch  
874 Main Street  
Antioch, Illinois 60002

Permit is hereby granted to the above designated permittee(s) to operate water pollution control facilities described as follows:

Application of approximately 500 dry tons per year of aerobically digested sewage sludge to agricultural lands at rates not to exceed the agronomic nitrogen demand of the crop grown.

This operating permit expires on July 31, 2018.

This permit renews and replaces Permit Number 2008-SC-1784 which was previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: For the duration of this permit, the permittee shall determine the quantity of sludge produced by the treatment facility in dry tons or gallons with a percent total solids analysis. The permittee shall maintain adequate records of the quantities of sludge produced and have said records available for Agency inspection. The permittee shall submit to the Agency a semi-annual summary report of the quantities of sludge generated and disposed (in units of dry tons) by different disposal methods including but not limited to application on farmland, application on reclamation land, landfilling, public distribution, dedicated land disposal, sod farms, storage lagoons or any other specified disposal method. Said reports shall be submitted to the Agency by January 31 and July 31 of each year reporting the preceding July through December and January through June sludge disposal operations respectively. The permittee shall submit the semi-annual sludge management report to the following address:


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THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

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DIVISION OF WATER POLLUTION CONTROL

cc: EPA-Des Plaines FOS  
Village of Antioch  
Records - Municipal

  
Alan Keller, P.E.  
Manager, Permit Section

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Illinois Environmental Protection Agency  
Bureau of Water  
Compliance Assurance Section  
Mail Code #19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 2: For the duration of this permit, the permittee shall sample all different sludges being applied to land or publicly distributed on a quarterly basis and chemically analyze said samples in accordance with the recommended procedures contained in the latest edition of Standard Methods for the Examination of Water and Wastewater for the following parameters:

Nutrients	Metals	Other
Total Kjeldahl Nitrogen	Cadmium	pH
Ammonia Nitrogen	Copper	% TS
Phosphorus	Lead	% VS
Potassium	Manganese	
	Nickel	
	Zinc	

In addition to the above parameters, anaerobically digested sludge shall also be tested for volatile acids. The results of these analyses shall be submitted to this Agency on a quarterly basis. The permittee shall update the sludge application rate utilizing all sludge analyses obtained after the previous sludge application period.

SPECIAL CONDITION 3:

A. Sludge shall be applied to sites within the following guidelines:

1. Sludge shall not be applied to sites during precipitation.
2. Sludge shall not be applied to sites which are saturated or with ponded water.
3. Sludge shall not be applied to ice or snow covered sites.
4. Frozen land, which is not ice or snow covered and has a slope of 5% or less, may be used for land application of sludge provided a 200 foot grassy area exists between the sludge applied land and any surface water or potable water supply well.

B. It is not recommended that sludge be applied to sites:

1. When precipitation is imminent,
2. Which have received greater than 1/4 inch rainfall within the 24-hour period preceding the intended sludge application time.

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- C. Sludge shall not be applied to land which lies within 200 feet from a community water supply well, potable water supply well, surface waters or intermittent streams or within one-fourth of a mile of any potable water supply wells located in consolidated bedrock such as limestone or sinkhole areas unless a 50 foot depth of non-sandy or non-gravelly unconsolidated material exists. In no case shall sludge be applied within 400 feet of a community water supply well deriving water from an unconfined shallow fractured or highly permeable bedrock formation or from an unconsolidated and unconfined sand and gravel formation.
- D. Sludge shall not be applied within 100 feet of an occupied residence.
- E. Sludge shall not be applied to sites during the periods in which the seasonal high water table rises within 3 feet of the surface at the site.
- F. Sludge shall only be applied to land with a background soil pH of 6.5 or greater unless lime or other suitable materials are applied to the site prior to sludge application to raise the soil pH to a minimum of 6.5.
- G. Sludge shall be applied and incorporated into the site soils within the following guidelines:
1. Sludge may be surface applied without incorporation only if the site slope is less than 8% and the annual soil loss does not exceed 5 tons/acre as determined by the Universal Soil Loss Equation.
  2. Sludge shall be incorporated if:
    - a) Site slope exceeds 8% but the annual soil loss is less than 5 tons/acre, or
    - b) Site slope is less than 8% but the annual soil loss exceeds 5 ton/acre.
  3. Sludge shall not be applied to a site with slope greater than 8% with annual soil loss in excess of 5 ton/acre.
  4. Unless surface application is allowed pursuant to this condition, or otherwise specified in this permit, sludge shall be incorporated within 48 hours of application or prior to any rainfall whichever is more restrictive.
- H. Sludge amended land shall have a crop grown and harvested pursuant to normal agricultural practices.
- I. The delivery and application of sludge, and the choice of an application site, shall be made so as to minimize the emission of odors to nearby residents taking into account the direction of wind, humidity and day of the week.
- J. Sludge application shall not exceed the following maximum metal loading rates over the lifetime of a site (pounds per acre).
1. Soils with 5-15 meq/100 grams Cation Exchange Capacity (CEC):

<u>Metal</u>	<u>Total Loading</u>	<u>Annual Loading</u>
Cadmium	10	2
Nickel	100	--
Copper	250	--
Zinc	500	--
Manganese	900	--
Lead	1000	--

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2. Soils with 0-5 meq/100 grams CEC shall apply only half the metal loading rates set forth in item J(1) above.
  3. Soils with 15 or greater meq/100 grams CEC may apply double the total metal loading rates set forth in item J(1) above, however a supplemental permit shall be required for that specific site.
- K. Sludge stored off the sewage treatment plant site shall be performed within the following guidelines:
1. Off-site interim storage of liquid sludge shall not be allowed.
  2. Off-site interim storage of dried sludge in excess of 30 days shall not be allowed. In addition, measures shall be taken to contain runoff and leachate from any dried sludge that is stored.
  3. Off-site stockpiling of sludge is prohibited from November 15 to March 1, unless such stockpiling occurs on sites specifically identified in an effective State Operating Permit as suitable for application on ice and/or snow covered ground.
  4. Sludge stockpiled on sites not approved for winter application after November 15 shall be returned to the generating facility or moved to a site approved for application on ice and/or snow covered ground.
- L. Users applying sludge to sites greater than 300 acres under common ownership or control or users of more than 1500 dry tons per year shall obtain a sludge user permit from this Agency unless the site is specifically identified in the permittee's application.
- M. User information sheets, in conformance with the Design Criteria for Sludge Application on Land (Title 35, Subtitle C, Chapter II, Part 391), shall be provided by the permittee to all sludge users and shall be signed by sludge users requesting more than 25 cubic yards. Records regarding sludge users shall be retained by the permittee for the duration of this permit and 2 years after the expiration date of this permit.
- N. No sooner than 90 days and no later than 7 days prior to the application of sludge to land written notice shall be provided to the owner(s) of the land receiving the sludge, the owners of land adjacent to the land receiving the sludge and the Township and County officials whose jurisdiction encompasses the sludge application site.
- O. The permittee shall retain agronomic calculations and supporting sludge analyses for a period of not less than 5 years. Said sludge analysis shall be in compliance with 40 CFR 503.8 and 35 Ill. Adm. Code 391.501. Such records shall be available to any person or party upon request.