



Oregon

Kate Brown, Governor

Department of Environmental Quality

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November 14, 2017

Matt MacPhail, Senior Operator
City of Toledo WWTP
1105 SE Fir Street
Toledo OR 97391

RE: Biosolids Site Authorization WR2017-21-BS – Kosydar Property
National Pollutant Discharge Elimination System permit #101713 / DEQ file #89103
Site Owner: Jerry Kosydar, 19586 Siletz Hwy
Site Location: Lincoln County, Oregon,
Twp. 9N, R. 10W Sec. 21, WM., tax lot 20 ac. 12.8, tax lot 21 ac. 20

Dear Mr. MacPhail:

This letter is DEQ's approval of your request to land apply anaerobic Class B biosolids on the above referenced site. This Class B biosolids authorization is valid until one of the following occurs:

1. Site ownership changes.
2. The current site owner withdraws permission to apply biosolids.
3. Pursuant to OAR 340-045-0060, DEQ revokes the authorization for non-compliance, submittal of false information, violation of any applicable law, or a serious danger to public health, safety or the environment.

Please be aware that in accordance with OAR 340-050-0030(3), this site authorization letter is part of your biosolids management plan and requirements of this authorization are considered enforceable conditions under your National Pollutant Discharge Elimination System permit #101713.

This authorization to apply anaerobic Class B biosolids on the above referenced site is subject to criteria detailed in the OAR 340-050, NPDES permit, and the following conditions.

Responsibilities

The City of Toledo must ensure the following:

1. All Class B biosolids are analyzed as required by the permit and meet all permit requirements prior to land application.
2. Proper handling and application of all biosolids at this location.
3. Class B biosolids are transported to the application site in such a manner as to prevent leaking or spilling the Class B biosolids onto the highways, streets, roads, waterways or other land surfaces not approved for biosolids application.
4. A copy of this site authorization letter and a signed Class B biosolids pathogen and vector attraction reduction certification statement must be in the possession of the person applying biosolids or in the application truck. Any person who applies biosolids must review this site authorization letter prior to applying biosolids.

Site Description

On August 7, 2017, DEQ reviewed the Kosydar site, which is approximately 33 acres, to analyze soil and topographic conditions to ensure the site could be used for application of Class B biosolids. This site is currently in pasture grass and is comprised of well drained Quillamook silt loam 0% to 3% slope soils.

Approved Fields

DEQ approves Class B biosolids application on the portions of these sites that are outlined in colored hatching on the attached site approval maps and as referenced in the table below.

Table 1. Kosydar site.

Site number	Township Range Section Tax Lot	Piezometer required	Acres	Crop Type
Kosydar	T9N R 10 S21 TL 20 and 21	no	33	pasture grass
Total acreage			33	

Site Use Limitations and Requirements

Toledo must ensure the following conditions are met:

1. DEQ approves these sites for summer Class B biosolids application from May 1 through October 31 during daylight hours. DEQ may approve earlier application upon request if:
 - a. There has been no rain in the 2 days prior to the requested date;
 - b. Soils are not wet (see #3, p. 3); and
 - c. There is 48" of separation from the ground surface to the permanent water table (see #11, p. 4).

2. Toledo must notify DEQ 48 hours prior to the first application of the season to allow DEQ the opportunity to inspect the site. DEQ may inspect the site before, during and/or after the application.
3. Class B biosolids application during wet soil conditions must be avoided, especially in low and concave areas. If rainfall exceeds $\frac{1}{4}$ inch in an hour or $\frac{1}{2}$ inch in a day, Class B biosolids application must stop until there are 24 continuous hours with no rain.
4. Application must not cause soil compaction or compression and/or increase the potential for surface runoff. Application must occur by pressure tank spray with spreader bar or splash plate. Application must be with standard agricultural equipment designed for land application of liquids with low compaction tires.
5. Application of Class B biosolids is not allowed on ground where the slope exceeds 30%. Liquid Class B biosolids application is not allowed on bare soils where the ground slope exceeds 12%.
6. For ground slopes from 12% to 30%, liquid Class B biosolids may be applied only if the following conditions are met:
 - a. Toledo must notify DEQ 48 hours prior to such application to allow DEQ the opportunity to inspect the site before, during and/or after the application.
 - b. Application must only occur when there has been no rainfall for 3 days before application and no forecast for rain for 3 days after application. Use the National Weather Service forecast.
 - c. The daily application rate must not exceed the dry soil infiltration rate. The rate is exceeded if ponding or runoff occurs.
 - d. All land application must be on the contour. No land application is allowed up and down the slope.
 - e. Toledo must visually inspect the application area after every truck load applied to ensure that no ponding and/or runoff occurs. Results of this inspection must be included in the daily log.
 - f. DEQ may require additional land application management practices in writing if ponding and/or runoff occur.
7. Class B biosolids must be applied evenly at approved agronomic rate and in a manner to prevent ponding or runoff.
8. The site setbacks and 12% slope break must be flagged prior to Class B biosolids application. Flags should be spaced every 300 feet if practicable.

9. Class B biosolids applications are not allowed within the following setbacks:

Table 2 Agricultural setbacks for liquid splash plate, cake and irrigated Class B biosolids.

Setback to:	Liquid	Cake	Liquid biosolids irrigated with a canon
Neighboring house*	200 feet	200 feet	300 feet
Neighbor's property line	25 feet or 200 feet if drinking well location is unknown	25 feet or 200 feet if drinking well location is unknown	300 feet
Seasonal drainage ditch, channel, pond, waterway	50 feet	50 feet	300 feet
Water wells, drinking water sources	200 feet	200 feet	400 feet
County road, public access	50 feet	25 feet	300 feet
Farmer's road, no public access	10 feet	10 feet	50 feet

*Setback may increase if DEQ receives odor complaints.

10. Liquid Class B biosolids irrigation is not allowed when there is a constant wind speed greater than 20 miles per hour. Toledo may use a wind chart or website to estimate wind speed if a site measurement is not economically feasible. The following are acceptable examples of the Beaufort wind scale and potential websites:

- a. Beaufort wind scale
http://www.weather.gov/media/iwx/webpages/skywarn/Beaufort_Wind_Chart.pdf or
<http://www.stormfax.com/beaufort.htm>
- b. WindyTV <https://www.windy.com/43.217/-123.342?2017-06-11-09,42.759,-123.344,8,m:eRcacJA> (forecast in knots; 1 knot ~ 1.151 mph)

11. A minimum of 48" vertical separation must be maintained from the ground surface to the permanent water table. For sites requiring piezometer installation and use (see Table 1), the water table depth must be measured daily and written record must be kept. The piezometer must meet the following requirements:

- a. A 2" diameter PVC pipe at least 60" deep from the ground surface.
- b. The pipe must have a cap and a visible flag showing the piezometer location,

- c. The pipe must have 1/4" perforation spaced an inch apart on opposite sides of the pipe at the lower 2 foot section of the piezometer; this section must covered with a fine mesh screen (window screening will do).
 - d. Care must be taken not to smear the soil surface borehole as this can affect water readings. If smearing occurs, you must rough up the smooth borehole surface with a rake or similar tool.
12. The Class B biosolids application rate must not exceed the recommendations in the applicable Oregon State University fertilizer guides and must not exceed the following plant available nitrogen rates:

Crop	Plant Available Nitrogen (PAN) lbs./acre/year
Pasture grass	100 lbs./acre/year (Attachment 1)

13. Changes in the Class B biosolids characteristics or crops management may necessitate appropriate adjustments in the Class B biosolids application rate to maintain proper plant available nitrogen for desired crop growth.
14. If other sources of nitrogen are used, such as recycled water or commercial fertilizer, the Class B biosolids application rate must be reduced so the total nitrogen applied does not exceed the base agronomic loading rate specified in condition 8 above.
15. Public access to land with a high potential for public exposure must be restricted for one year after application of Class B biosolids.
- a. Signs must be posted at the start of the application and throughout the application season as follows: "No Trespassing – Class B Biosolids Land Application". Signs should be at least 8.5" x 11" in size and spaced a minimum of 500 feet apart. Signs may be removed 2 days after the last application of the season.
 - b. Controlled access (site must have a minimum three strand wire fence around perimeter) to the Class B biosolids site must be maintained for a period of 12 months following biosolids application.
16. Grazing of domestic animals is prohibited for 30 days following the last day of Class B biosolids application. Grazing of lactating animals (for example, dairy cattle) is prohibited for 90 days following the last day of Class B biosolids application.
17. Should nuisance issues such as malodors or flies become a problem, Class B biosolids application practices must be reviewed and immediate countermeasures taken, which may include plowing the solids into the soil within 6 hours of land application.

Spill Reporting and Cleanup Requirements

Toledo must comply with the following:

1. Immediately clean up any spillage of Class B biosolids and notify the DEQ Eugene office at 541-6877439 of any such occurrence. Outside of DEQ business hours or when spills reach or have the potential to reach waters of the state, notify the Oregon Emergency Response System (OERS) at 1-800- 452-0311.
2. Spillage that cannot be completely cleaned up must be covered with hydrated lime (calcium hydroxide) or lime (calcium oxide). A 50-lb. bag of Lewis lime must be available during transportation of Class B biosolids.
3. A copy of the current year's Class B biosolids analysis must be carried in the land application truck with all Class B biosolids that are to be land applied.

Monitoring and Reporting Requirements

Toledo must conduct the following monitoring and reporting:

4. Soil nutrients and carry over nitrogen sampling is required on all active Class B biosolids land application sites as specified in Table 3 below. DEQ may require more frequent soil sampling based on land application practices and approved agronomic loading for crops grown on the site.
5. Written daily land application records must be kept on a field grid map or other easily readable system. Toledo is responsible for tracking the land application of Class B biosolids on daily basis (number gallons and the equivalent number of dry pounds nitrogen land applied per acre).
6. The results of the monitoring must be submitted to DEQ with the biosolids annual report by no later than February 19 of each year.

Table 3. Monitoring Requirements

Parameter	Frequency (Unless otherwise required by DEQ in writing)	Sample Type	Reporting Requirement (Unless otherwise required by DEQ in writing)
Distance from ground surface to groundwater (inches)	Before each application	Written record from piezometer	Keep log in application truck Submit copy of log to DEQ in annual report

Parameter	Frequency (Unless otherwise required by DEQ in writing)	Sample Type	Reporting Requirement (Unless otherwise required by DEQ in writing)
1. Application date and time 2. Each application location on the site 3. Name of applicator 4. Quantity applied (gallons and dry lbs. total nitrogen based on most recent Class B biosolids analysis) 5. Visual observation for ponding and/or runoff after application	For each application on a daily basis	Written record and written record of visual observation	Keep log in application truck Submit copy of log to DEQ in annual report
Total gallons applied on site	Monthly summary	Written report	Submit to DEQ in annual report

Parameter	Frequency (Unless otherwise required by DEQ in writing)	Sample Type	Reporting Requirement (Unless otherwise required by DEQ in writing)
Carryover nutrients in the 0" – 12" soil profile: <ol style="list-style-type: none"> 1. Ammonia (NH₃, mg/kg or mg/L) 2. Nitrate + Nitrite (NO₃+NO₂, mg/kg or mg/L) 3. Total Kjeldahl Nitrogen (TKN, mg/kg) 4. Phosphorus (mg/kg) 5. pH (S.U.) 6. Potassium (mg/kg) 	Once every 3 years at the beginning of the 3 rd year prior to application (Unless otherwise requested by DEQ)	Composite soil sample that is representative of the site. At a minimum, the sample must be composite of a minimum of 7 distinct locations for each soil type.	Submit to DEQ in annual report

Parameter	Frequency (Unless otherwise required by DEQ in writing)	Sample Type	Reporting Requirement (Unless otherwise required by DEQ in writing)
Carryover nutrients in the 12" – 24" soil profile: 1. Ammonia (NH ₃ , mg/kg or mg/L) 2. Nitrate + Nitrite (NO ₃ +NO ₂ , mg/kg or mg/L) 3. Total Kjeldahl Nitrogen (TKN, mg/kg) 4. Phosphorus (mg/kg) 5. pH (S.U.) 6. Potassium (mg/kg)	Once every 3 years at the beginning of the 3 rd year prior to application (Unless otherwise requested by DEQ)	Composite soil sample that is representative of the site. At a minimum, the sample must be composite of a minimum of 7 distinct locations for each soil type.	Submit to DEQ in annual report

If you have any questions regarding this authorization, please call me at 541-687-7439.

Sincerely,



Paul Kennedy, CPSS-REHS
 Natural Resource Specialist 4

Attachment: OSU fertilizer guide for pasture grass
 Kosydar site approval maps.

ec: Pat Heins, Biosolids Program Coordinator, DEQ HQ (w/encl)
 cc: Jerry Kosydar, 19586 Siletz Hwy, Siletz OR 97380
 File Copy (w/encl)

Kosydar Site 5



Jerry Kosydar, 19586 Siletz Hwy, Siletz, Lincoln County, Oregon.

Site Name	Site Location	Site No.	Net Acres	lbs. N /acre/ year
Kosydar 19586 Siletz River Hwy	Lincoln Co, Siletz Valley, Sec21-T9N- R10	5	33	100 lbs. PAN- N/ac



Koysdar general map of site 5



Yellow line outlines the general site approval area and soil map unit for Kosydar site 5. *see page 4 Table 2 for setbacks.

Map Unit Legend

Collapse Lincoln County Area, Oregon (OR638)
 Lincoln County Area, Oregon (OR638)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
51A	Quillamook silt loam, 0 to 3 percent slopes	18.7	100.0%
Totals for Area of Interest		18.7	100.0%

Lincoln County Area, Oregon

51A—Quillamook silt loam, 0 to 3 percent slopes

Map Unit Setting

- *National map unit symbol:* 25bq
- *Elevation:* 30 to 300 feet
- *Mean annual precipitation:* 70 to 100 inches
- *Mean annual air temperature:* 48 to 52 degrees F
- *Frost-free period:* 160 to 245 days
- *Farmland classification:* Farmland of statewide importance

Map Unit Composition

- *Quillamook and similar soils*: 85 percent
- *Minor components*: 3 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Quillamook

Setting

- *Landform*: Stream terraces
- *Landform position (three-dimensional)*: Tread
- *Down-slope shape*: Linear
- *Across-slope shape*: Linear
- *Parent material*: Silty alluvium derived from mixed sources

Typical profile

- *H1 - 0 to 34 inches*: silt loam
- *H2 - 34 to 58 inches*: silt loam
- *H3 - 58 to 60 inches*: loamy sand

Properties and qualities

- *Slope*: 0 to 3 percent
- *Depth to restrictive feature*: More than 80 inches
- *Natural drainage class*: Well drained
- *Capacity of the most limiting layer to transmit water (Ksat)*: Moderately high to high (0.57 to 1.98 in/hr)
- *Depth to water table*: More than 80 inches
- *Frequency of flooding*: None
- *Frequency of ponding*: None
- *Available water storage in profile*: Very high (about 22.1 inches)

Interpretive groups

- *Land capability classification (irrigated)*: 2c
- *Land capability classification (nonirrigated)*: 2c
- *Hydrologic Soil Group*: B
- *Other vegetative classification*: Well Drained <15% Slopes (G004AY014OR)
- *Hydric soil rating*: No

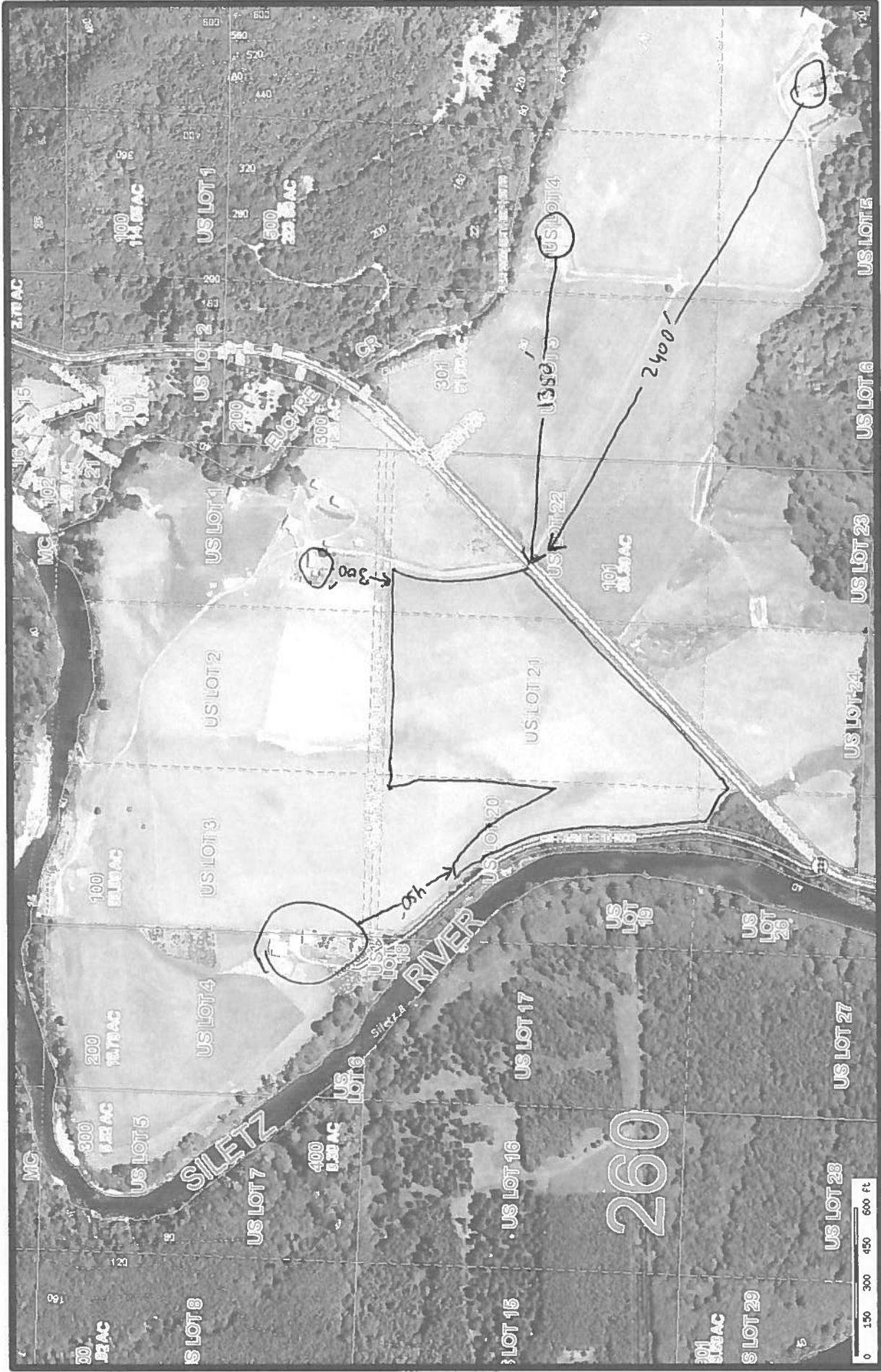
Minor Components

Hebo

- *Percent of map unit*: 3 percent
- *Landform*: Stream terraces

Hydric soil rating: Yes

Map



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