Oregon
Kate Brown, Governor

Department of Environmental Quality
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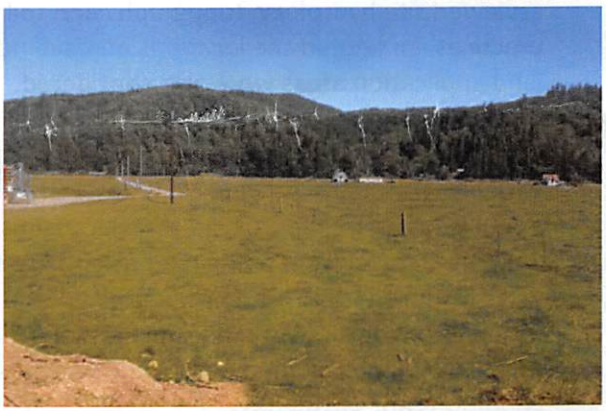
August 18, 2015

IMPORTANT DOCUMENT
LAND APPLICATION AUTHORIZATION
John Waynetska, Project Manager II
City of Coos Bay
500 Central Ave.
Coos Bay OR 97420



Re: City of Coos Bay
NPDES Number: 100699 & 100771
File Number: 19802 WR-2015-04-BS
Proposed Authorization to Land Apply Biosolids,
Fred Messerle Land Application Site 4 and 5,
94881 Stock Slough LN.
Coos Bay OR 97420
Twp. 25S, R. 12W. Sec. 29 tax lot 1900, 1800/Field 5
Twp. 25S, R. 12W. Sec. 28 tax lot 1400/Field 5
Twp. 25S, R. 12W. Sec. 33 tax lot 100/Field 4
Twp. 25S, R. 12W. Sec. 28 tax lot 1400/Field 4
Total approximate acres 23.2 acres
Coos County

Dear Mr. John Waynetska:

The Oregon Department of Environmental Quality (DEQ or "the Department") received a request to review the Mr. Fred Messerle land application site for the City of Coos Bay. DEQ received preliminary request paper work June 11, 2015 to approve about 80 acres (site 4 and 5) for biosolid land application near Coos Bay Oregon.

On June 11, 2015 I met with Coos Bay staff and we talked about this land application site. I received your complete land application packet for this site on July 29, 2015.

The City of Coos Bay has an activated sludge facility and produces an aerobically digested Class B biosolids. The Coos Bay wastewater treatment facility (WWTF) will haul Class B biosolids to the Messerle property located at 7662 Coos Bay River Lane, Coos Bay, Oregon (see Table 1 and attached site map). Included with the request were data characterizing the liquid biosolids from the Coos Bay WWTF.

Site Description. The property owned Messerle is zoned as Exclusive Farm Use (EFU). The site is managed for grass pasture. Adjacent properties are also in agriculture or residential properties.

Table 1. The property reviewed for biosolids land application, located in **Coos Bay** Co., Oregon.

Township, Range, Section	Tax Lot(s)	Total Area (acres)	Spreadable Area† (approx. acres)	Map* and DEQ No.

Field 5 Twp. 25S, R. 12W. Sec. 29, 2	1400, 1800	26.1	17	WR-2015-04-BS-5
Field 4 Twp. 25S, R. 12W. Sec. 28	100, 1400	12.4	7.7	WR-2015-04-BS-4
Total Spreadable Acres about 25 ac				

†Spreadable acres are based upon attached maps and do not reflect site-specific setback requirements. Actual acres spread may also vary slightly based upon site conditions at time of application.
***Site Authorization Map Attachment 1.**

DEQ made an inspection of the property to evaluate the suitability of the site for biosolids land application, I reviewed site hydrology, topography and soil conditions, considered current and proposed land use and agricultural practices, and noted the locations of residences, wells and other sensitive site features. Appropriate setbacks for land application areas were also considered.

The site is located on a river terrace the east of Coos Bay, which is dissected by small drainages. The topography is variable with slopes ranging from 0% to 3%. Soils on the farmed portions of the site are composed primarily Coquille silt loam (approx. 20 acres), Langlois silt loam (approx. 9 acres) and Nestucca silt loam (approx. 4 acres). Soils are derived from marine deposits these soils are generally very poorly drained (*See Attachment 1).

Based upon the site visit and supplemental information provided by the City of Coos Bay, the property is approved for the land application of anaerobically-digested biosolids produced by Coos Bay WWTF provided the following conditions are satisfied:

Regulations, Rules, and Permit Requirements. Biosolids processing and handling will comply with:
Oregon biosolids and septage rules and guidelines (OAR 340-050);
Federal biosolids and septage regulations (40 CFR Part 503);
The DEQ-issued permit to the Coos Bay WWTF (NPDES Permit No. 100699 & 100771; File No. 19802)
The most recent DEQ-approved Biosolids Management Plan, including all subsequent amendments; and
All other applicable federal and state statutes and rules.

Treatment Processes.
Biosolids volatile solids content must be reduced by 38% or more (or equivalent) via microbial digestion prior to land application.

Transportation.
Transportation of the biosolids to the land application site must be done in accordance with Coos Bay's approved Biosolids Management Plan.

Land Application Activities.
The site is approved for the land application of biosolids by spreader trucks or other similar application equipment. Biosolids must be applied evenly and thinly in a manner that will prevent ponding and runoff during and after precipitation events.
When more than one operator conducts biosolids land application or when completion of the biosolids application on a site is interrupted for more than one week, areas where biosolids have been applied must be clearly marked by flag pins or stakes which note the date when biosolids were last applied. This tracking method may be replaced by use of GPS equipment if it provides as accurate tracking. Written and mapped daily land application records must be maintained as described under Condition 9.b.
Immediately following land application, the biosolids equipment operator must clean off (at the application site) any equipment coated with biosolids to prevent biosolids from spilling onto public roadways.

Application Rates and Timing.
Effective Date. Date of this authorization.

Application Period. The site is approved for land application of biosolids from May 1st through October 1st of each year when field conditions allow for uniform application that will not result in ponding or runoff. Land application timing must be appropriate to the site's land management practices and must be managed to provide benefit to crops grown on the site and minimize potential adverse environmental impacts.

Application Rate. Biosolids must be applied at rates up to but not exceeding, an agronomic loading limit appropriate to the crop being grown on the fields (Table 2), after accounting for supplemental sources of nitrogen and losses as described under Conditions 5.e. and 5.g.

Table 2. Crops and Plant Available Nitrogen (PAN) approved for this land application site.

Non Food Crops	Irrigated	PAN (lbs/ac/yr)
Hay mix	no	100
Pasture	no	100
Alfalfa or Clover	no	100

Agronomic Rate Calculations. Biosolids application rates will be calculated using one of the following: (i) the method approved in Coos Bay's approved Biosolids Management Plan; (ii) the method described in *Worksheet for Calculating Biosolids Application Rates in Agriculture*, published by the Oregon State University Extension Service, Publication No. PNW0511e (March 2007); or (iii) a more robust method such as that described in *Managing Nitrogen from Biosolids*, published by Washington State Department of Ecology and the Northwest Biosolids Management Association (April 1999). Any deviations from the methods and/or assumptions described in these publications must be pre-approved in writing by the DEQ Northwest Region. (Updated versions of the aforementioned documents may be used at any time.)

Routine Applications. If biosolid applications occurs 2 out of 3 successive years at agronomic rates, then the site must be evaluated for carry over nitrate-nitrogen (TKN-N, NH4-N, NO_3-N) before the next application. Agronomic application rates are to be adjusted for carry over nitrogen in the soil.

Supplemental N. If other sources of nitrogen are applied to the fields (e.g., commercial, animal manure or green chop), then the biosolids application rate must be reduced so that the supplemental nitrogen plus biosolids nitrogen does not exceed the agronomic application rate approved for this site.

Changes. Changes in biosolids characteristics, cropping practices, or general land management will necessitate appropriate adjustments in the application rate to maintain nitrogen applications consistent with crop demands. Major changes in any of the above must be communicated to the DEQ's Western Region in writing before the changes are implemented.

Site Restrictions.

Wet Soils. Care should be taken to avoid wet soil conditions, particularly in concave areas, at the time of application.

Precipitation. Biosolids land application must cease when precipitation exceeds ¼ inch per hour or when one inch or more of precipitation occurs in a 24-hour period. Land application must be withheld from the site for at least 48 hours following such a precipitation event and for every consecutive day of precipitation where a ¼ inch or one-inch per 24-hour precipitation event occurs.

General Public Access. Access to the site by the general public must be restricted for at least 12 months after biosolids land application has ceased.

Grazing. A 30-day interval must follow the application of biosolids prior to grazing livestock on any field or prior to the harvesting of crops that are to be fed to animals.

Wind. Land application must cease if wind speed is (10 mph or more irrigation cannon) such that biosolids cannot be applied uniformly or would be thrown into buffer strips, waterways, roads, trails, or onto the application vehicle itself. Application may resume after wind speeds have decreased such that no significant blowing or drifting occurs.

Nuisance Conditions. Biosolids land application must cease when the potential exists for nuisance conditions or runoff. In the event an odor problem is reported to Coos Bay, its representative, or the DEQ after biosolids have been land applied at the site, Coos Bay and the DEQ will jointly determine the best method to mitigate the odor concern.

Setbacks and Buffers. Setbacks and buffers on the sites are listed in Table 3 and have also been identified in the attached site map(s).

Table 3. Site-specific setbacks for biosolids land application.

Feature	Setback† (ft.)
Property boundaries & private, unpaved roadways	10
Paved or graveled roadways & wind turbine access roads	25
Residences & occupied buildings	50
Wells	200
Intermittent surface waters & drainage swales	50

†**The setback is determined from the edge of the feature.**

Remedial Procedures.

Coos Bay's biosolids hauler must clean up any spillage of biosolids. Coos Bay must consult with the DEQ for appropriate methods of protecting public health and the environment for spills that cannot be completely cleaned up.

The DEQ must be notified within one hour, through the Oregon Emergency Response System (OERS), of any spills of more than 50 gallons or other threats to the environment that may occur. All spills adjacent to drainage ditches or drainage ways should be reported. Failure to provide prompt notification may be considered cause for taking enforcement action against Coos Bay. The telephone number for OERS is 1.800.452.0311 (24-hr service).

Monitoring and Reporting.

Soil Testing. Soil testing for carry over nitrate-nitrogen (TKN-N, NH4-N, NO_3-N) will occur as described under Condition 5.e. The DEQ recommends routine soil testing for soil nutrients as well as the trace pollutants listed in Table 1 of 40 CFR §503.13 for fields receiving annual biosolids applications. The Department may require soil testing if adverse environmental impacts are suspected at the site.

Site Records. Daily site records of accumulated land applied biosolids will be maintained. Site records must be recorded on field grid map or other readable system. Records must indicate the date, location and quantity of biosolids applied; segments of each field that received biosolids; target plant available nitrogen (PAN) loading rate of the area receiving biosolids; and the type of crop grown. These records must be available to the DEQ for review upon request. Regardless of the format in which written and mapped records are kept, they must be readily available in hardcopy format

Annual Report. By 19 February of each year, Coos Bay must provide the DEQ with an annual report of the previous year's biosolids processing and application activities, as required under the DEQ rules (OAR 340-050-0035(6)). An annual report must also be submitted to the United States Environmental Protection Agency (USEPA) Region 10.

Notification.

Coos Bay or its representatives must promptly notify DEQ of any major changes it intends to make to its biosolids processing activities that could influence biosolids quality or quantity before anticipated modifications are initiated, as described under Condition 11.c.

Additional Conditions.

The DEQ must have the right to: (i) enter (at reasonable times) Coos Bay's (or its representatives') places of biosolids land application and record keeping to review biosolids management operations and records; (ii) obtain copies of any records required under the terms of this authorization and Coos Bay's approved Biosolids Management Plan; (iii) inspect any monitoring equipment required under this authorization; (iv) inspect any collection, transport, or land application vehicle; and (v) obtain any photographic documentation or evidence deemed appropriate.

This authorization is subject to revocation should health hazards, environmental degradation, or nuisance conditions develop as a result of inadequate biosolids treatment or site management.
Any variations from Coos Bay approved Biosolids Management Plan and this authorization letter must receive prior written approval from the DEQ Region Office.
The DEQ may amend this Site Authorization and impose any additional restrictions or conditions deemed necessary to protect environmental and human health.
This authorization is considered to be part of your approved Biosolids Management Plan and is enforceable as part of your NPDES permit. Therefore, if operations are not conducted in accordance with terms specified under this authorization, the Department will initiate an enforcement action, which may lead to the assessment of a civil penalty. Should you have any questions about the content of this letter, please feel free to contact me in writing or by phone at 541.687.7439 or via email at kennedy.paul@deq.state.or.us.

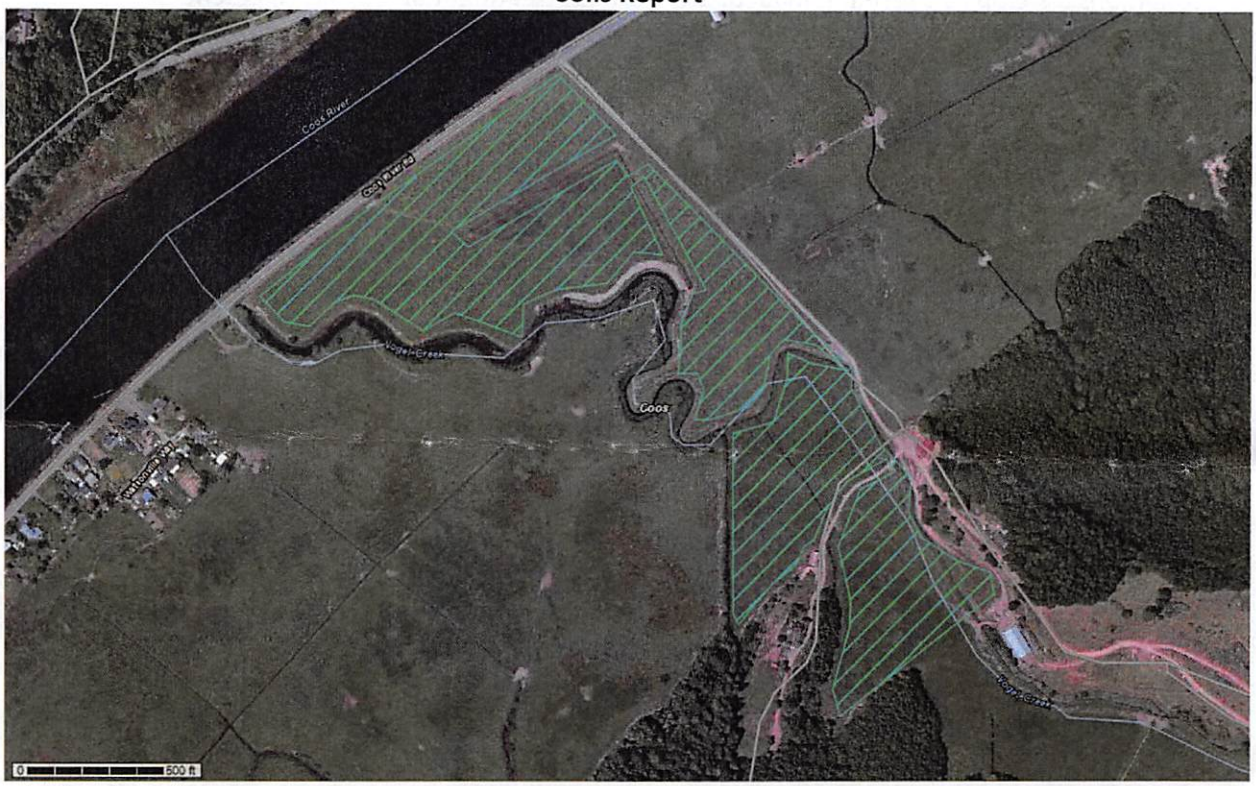
Sincerely,

Paul Kennedy

Paul Kennedy CPSS, EHS
Soils/Land Application Specialist
Western Region-DEQ

Cc: Mr. Fred Messerle 94881 Stock Slough Lane Coos Bay OR 97420 (w/encl.)
Coos County Health Department,
DEQ Biosolids Coordinator, DEQ-HQ (w/encl.)
Steve Nichols, Water Quality File, Coos Bay DEQ (w/encl.)
File copy (w/encl.)

Attachment 1
Soils Report



Messerle Site 4and 5

Messerle Soils map units fields 4 and 5

Coos County, Oregon (OR011)

Map Unit Symbol	Map Unit Name	Acres in	Percent of AC
12	Coquille silt loam	19.6	59.8%
13D	Dement silt loam, 12 to 30 percent slopes	0.1	0.2%
34	Langlois silty clay loam	9.1	27.7%
41	Nestucca silt loam	3.9	11.8%
63B	Wintley silt loam, 0 to 8 percent slopes	0.1	0.4%
Totals for Area of Interest		32.8	100.0%

Coos County, Oregon
12—Coquille silt loam

Map Unit Setting
National map unit symbol: 21m5
Elevation: 0 to 40 feet
Mean annual precipitation: 50 to 80 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance
Map Unit Composition
Coquille and similar soils: 75 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Coquille
Setting
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium
Typical profile
H1 - 0 to 14 inches: **silt loam**
H2 - 14 to 36 inches: **silty clay loam**
H3 - 36 to 60 inches: **silty clay loam**
Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: **More than 80 inches**
Natural drainage class: **Very poorly drained**
Capacity of the most limiting layer to transmit water (Ksat): **Moderately low to moderately high (0.06 to 0.20 in/hr)**
Depth to water table: **About 0 inches**
Frequency of flooding: **Rare**
Frequency of ponding: **Frequent**
Salinity, maximum in profile: **Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)**
Available water storage in profile: **High (about 11.0 inches)**
Interpretive groups
Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D

Other vegetative classification: Very Poorly Drained (G004AY019OR)
Minor Components
Langlois
Percent of map unit: 7 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Chetco
Percent of map unit: 6 percent
Landform: Flood plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Clatsop
Percent of map unit: 6 percent
Landform: Tidal flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

Coos County, Oregon
34—Langlois silty clay loam

Map Unit Setting
National map unit symbol: 21nm
Elevation: 0 to 40 feet
Mean annual precipitation: 50 to 80 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance
Map Unit Composition
Langlois and similar soils: 80 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Langlois
Setting
Landform: **Flood plains**
Landform position (three-dimensional): **Tread**
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium
Typical profile
H1 - 0 to 10 inches: **silty clay loam**
H2 - 10 to 28 inches: **silty clay**
H3 - 28 to 60 inches: **clay**
Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: **More than 80 inches**
Natural drainage class: **Very poorly drained**
Capacity of the most limiting layer to transmit water (Ksat): **Moderately low to moderately high (0.06 to 0.20 in/hr)**
Depth to water table: **About 0 inches**
Frequency of flooding: **Frequent**
Frequency of ponding: **Frequent**
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.1 inches)
Interpretive groups
Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Minor Components
Chetco
Percent of map unit: 7 percent
Landform: Flood plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Coquille
Percent of map unit: 6 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)

Coos County, Oregon
41—Nestucca silt loam

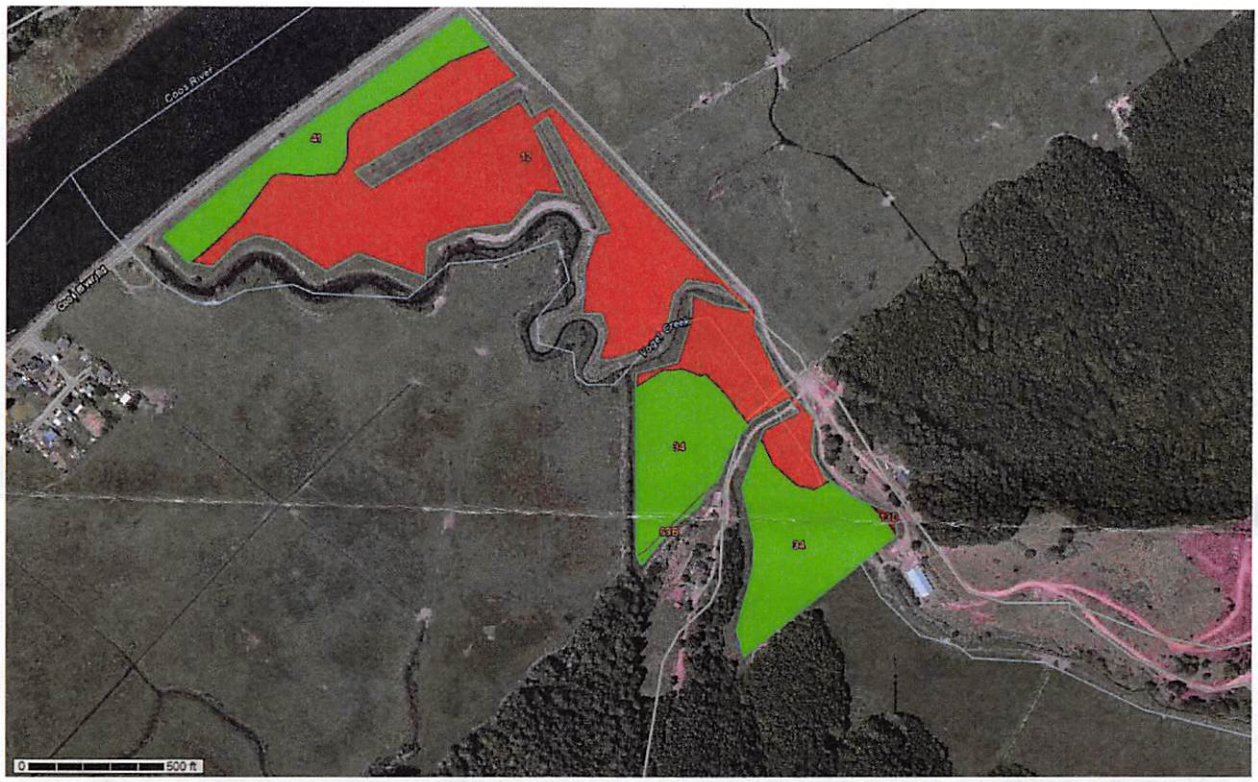
Map Unit Setting
National map unit symbol: 21p1
Elevation: 0 to 40 feet
Mean annual precipitation: 50 to 80 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance
Map Unit Composition
Nestucca and similar soils: 80 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Nestucca
Setting
Landform: **Flood plains**
Landform position (three-dimensional): Tread

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium
Typical profile
H1 - 0 to 14 inches: **silt loam**
H2 - 14 to 40 inches: **silty clay loam**
H3 - 40 to 60 inches: **silty clay**
Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: **More than 80 inches**
Natural drainage class: **Somewhat poorly drained**
Capacity of the most limiting layer to transmit water (Ksat): **Very low to moderately high (0.00 to 0.57 in/hr)**
Depth to water table: **About 12 to 18 inches**
Frequency of flooding: **Frequent**
Frequency of ponding: **None**
Available water storage in profile: **High (about 11.2 inches)**
Interpretive groups
Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Other vegetative classification: Somewhat Poorly Drained (G004AY017OR)
Minor Components
Chetco
Percent of map unit: 4 percent
Landform: Flood plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Coquille
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)
Langlois
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Very Poorly Drained (G004AY019OR)

Coos County, Oregon
63B—Wintley silt loam, 0 to 8 percent slopes

Map Unit Setting
National map unit symbol: 21qh

Elevation: 50 to 420 feet
Mean annual precipitation: 60 to 80 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Farmland of statewide importance
Map Unit Composition
Wintley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Wintley
Setting
Landform: **Terraces**
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium
Typical profile
Oi - 0 to 1 inches: **slightly decomposed plant material**
H1 - 1 to 5 inches: **silt loam**
H2 - 5 to 48 inches: **silty clay loam**
H3 - 48 to 61 inches: **very gravelly loam**
Properties and qualities
Slope: 0 to 8 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 (0.20 to 0.57 in/hr)**
Depth to water table: **More than 80 inches**
Frequency of flooding: **None**
Frequency of ponding: **None**
Available water storage in profile: **High (about 9.2 inches)**
Interpretive groups
Land capability classification (irrigated): 3c
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Other vegetative classification: Well Drained < 15% Slopes (G001XY004OR)



Messerle fields 4 and 5 NRCS Biosolid land application ratings.

Description — Land Application of Municipal Biosolids, summer (OR)
Municipal biosolids are one class of organic byproduct that can successfully be recycled via land application. Biosolids are the nutrient-rich organic byproduct obtained from municipal wastewater treatment. Biosolids can be solid, liquid, or semisolid. Animal manures, food processing byproducts, and other organic materials are not considered biosolids, and are not addressed here.

To be called biosolids, raw solids must be processed to meet U.S Environmental Protection Agency (EPA) standards. Raw solids are processed by digestion, composting, or other technologies at the wastewater treatment facility. Trace element concentrations in biosolids must be lower than EPA standards for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. Biosolids must also meet EPA standards for human pathogen reduction and organic matter stabilization.

This interpretation evaluates each soils limitations as a location for land application of such biosolids. The soil properties used for evaluating the soil in spring months are as follows. The interpretation evaluates flooding, ponding and depth to saturated zone data for the months of June through September.

From map unit data (no seasonal adjustment) the following properties are considered:
- Cobble content
- Salinity
- Depth to bedrock
- Depth to cemented pan
- Shallow to densic materials
- Slope
- Sodium content
- Large stones on surface

- Depth to Permafrost
- Shallow to contrasting materials (discontinuity)
- Poor filtering capacity (coarse materials)
- Slow percolation/permeability

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site

Oregon
John A. Kitzhaber, M.D., Governor

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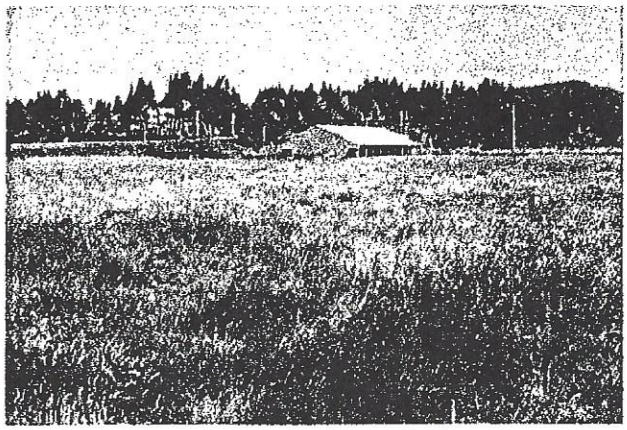
July 14, 2014



Patrick Kavan,
Project Manager II
City of Coos Bay
500 Central Ave.
Coos Bay OR 97420

Re: City of Coos Bay
NPDES Number: 100699 & 100771
File Number: 19802
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Authorization to Land Apply Biosolids, City of Coos Bay Land Application Site,
Fred Messerle
94881 Stock Slough LN.
Coos Bay OR 97420
Twp. 26S, R. 13W. Sec. 10, 15 & 22
Total approximate acres 18.5
Coos County

Dear Mr. Pat Kavan:

The Department has received your July 22, 2013 request to approve about 20 acres for biosolid land application on the Mr. Fred Messerle's property near Coos Bay Oregon.

This authorization is to apply biosolids to the above referenced property is subject to criteria detailed in the Oregon Administrative Rules, Chapter 340, Division 50 and the following conditions:

Responsibility:

It is the City of Coos Bay's responsibility to insure the proper handling and application of all biosolids generated. Transportation of the biosolids to the application site shall be done in such a manner as to prevent leaking or spilling the biosolids onto the highways, streets, roads, waterways or other land surfaces not approved for biosolids application.

Site Descriptions:

There are two sites that were reviewed on Mr. Messerle's property. These sites are listed in Table 1 below along with the usable acreage for land application of biosolid. Biosolids

Red Fescue grass seed	100 lbs. PAN/ac
Chewing Fescue grass seed	100 lbs. PAN/ac

* Note if grass is grown the first year of a tree plantation then the agronomic loading is 35 #PAN-N for the trees and 70 #PAN-N for the grass; assuming the field is covered mostly by grass.

7. If other sources of nitrogen are used, then the biosolids application rate must be reduced so that irrigation of recycled water and/or other sources of nitrogen, such as commercial nitrogen in combination with biosolid's nitrogen do not exceed base agronomic loading rate for this site (N lb. PAN/acre/year), see conditions 5 above.

Site Use Limitations:

1. Controlled access to the biosolids site must be maintained for a period of 12 months following biosolids application.

2. Grazing of domestic animals should not be allowed on this site for 30 days following the last day biosolids were land applied on this site. There is a 90 day grazing restriction for lactating animals (dairy cattle).

3. Under OAR 340-050-0030(3) site authorizations are part of your Biosolid Management Plan (BMP) and enforceable under your NPDES permit; Under OAR 340-050-0031(2) and (3) your BMP is part of your NPDES permit shall remain in effect until your NPDES expires, at which time during your next NPDES permit renewal this DEQ biosolid land application site authorization must be renewed, and updated as needed. Updates to the site authorization should include the current property owner's name be listed on the site authorization in addition to the owner's continued approval for biosolids land application on site. This site authorization is valid until the permit expires unless property ownership changes; the farming management/practices change such that there is significant non-compliance with the biosolid site authorization, the biosolid rules and/or your biosolids management plan; or the current property owner requests the city to discontinue the land application of biosolids on this site. Site authorizations do not convey any property rights or any sort, or any exclusive privileges, or authorized any injury to persons or property or invasion of any other property rights, or any infringement of federal, state or local laws or regulations. Site authorization is subject to criteria detailed in the Oregon Administrative Rules, Chapter 340, Division 50.

Accidental Spillage:

The permittee shall immediately clean up any spillage of biosolids and notify the DEQ Eugene DEQ at (541) 687-7439 of any such occurrences. Spillage which cannot be completely cleaned up shall be covered with hydrated lime (Calcium Hydroxide) or lime (calcium oxide). A 50-lb. bag of liming material shall remain available during transportation of the biosolids.

Monitoring:

1. Written daily land application records shall be kept on a field grid map or other easily readable system. Coos Bay is responsible for tracking the land application of biosolids on daily basis (number of dry pounds nitrogen land applied per acre).

land application is authorized only on those portions of the site marked on the enclosed maps (Attachment #1).

Table 1 McNulty land application sites and DEQ approval site number.

Field Name	Acreage	Location
Field #1 Messerle DEQ #WR2014-09-BS	6.9 acres	T25S, R12W, Sec. 32B
Field #2 Messerle DEQ #WR2014-10-BS	11.6 acres	T25S, R12W, Sec. 32B

These sites are comprised primarily of Coquille silt loam soils with high winter water table, but are farmable. These sites are approved for summer season land application when the table is below 48" from the ground surface at the time of land application of biosolids.

Based upon an evaluation of this property the Department is pleased to authorize the City of Coos Bay to land apply biosolids subject to the conditions under your National Pollutant Discharge Elimination (NPDES) permit, the Oregon Administrative Rule (OAR 340-050), and the following conditions:

1. This site is approved for summer application (June 1 through October 31) of biosolids. During biosolid land application, care should be taken to avoid wet soil conditions, which may have occurred as a result of precipitation, especially in low and concave areas.

2. No liquid biosolids shall be applied on slopes greater than 12 percent, No cake biosolid shall be applied on slopes greater than 30 percent.

3. Biosolids shall be applied evenly at approved agronomic rate and in a manner to prevent ponding or runoff.

4. Biosolids shall not be applied when depth to permanent groundwater is within 48 inches to the ground surface.

5. Biosolids shall not be applied closer than 50' feet to any low access public property or road way, any drainage ditch, channel, pond, or waterway, or within 200 feet of a domestic water source or well.

6. Biosolid application rate shall not exceed the Plant Available Nitrogen (PAN) /acre/year for the crop types listed in the table below. Changes in the biosolids characteristics or crops management may necessitate appropriate adjustments in the biosolid application rate to maintain proper plant available nitrogen for desired crop growth.

Table 2 Crop Types and Agronomic Loadings

Crop Type	PAN-Nitrogen/ac-yr
Fir tree seedlings up to 5 years old*	35
Fir tree 5 years and older	100
Perennial Rye grass seed	100 lbs. PAN/ac

2. A copy of the current year's biosolid analysis should be carried with all biosolids that are to be land applied at this site. The responsible parties who apply biosolids should review these documents prior to land applying biosolids to this site each year.

3. A copy of this site authorization letter and a signed biosolid pathogen and vector attraction reduction certification statement should accompany all biosolids land applied at this site.

4. Coos Bay shall provide the DEQ with monthly summaries of biosolids land application activities along with a current biosolids analysis in Coos Bay annual report.

5. If this site is used 2 out of 3 consecutive years then a soil carry over nitrogen test is required for those fields in question prior to the end of the third year.

6. Any omission of a treatment, land application and or site restriction not listed in this authorization does not imply compliance with the 40 CFR Part 503 or OAR 340-050 regulations.

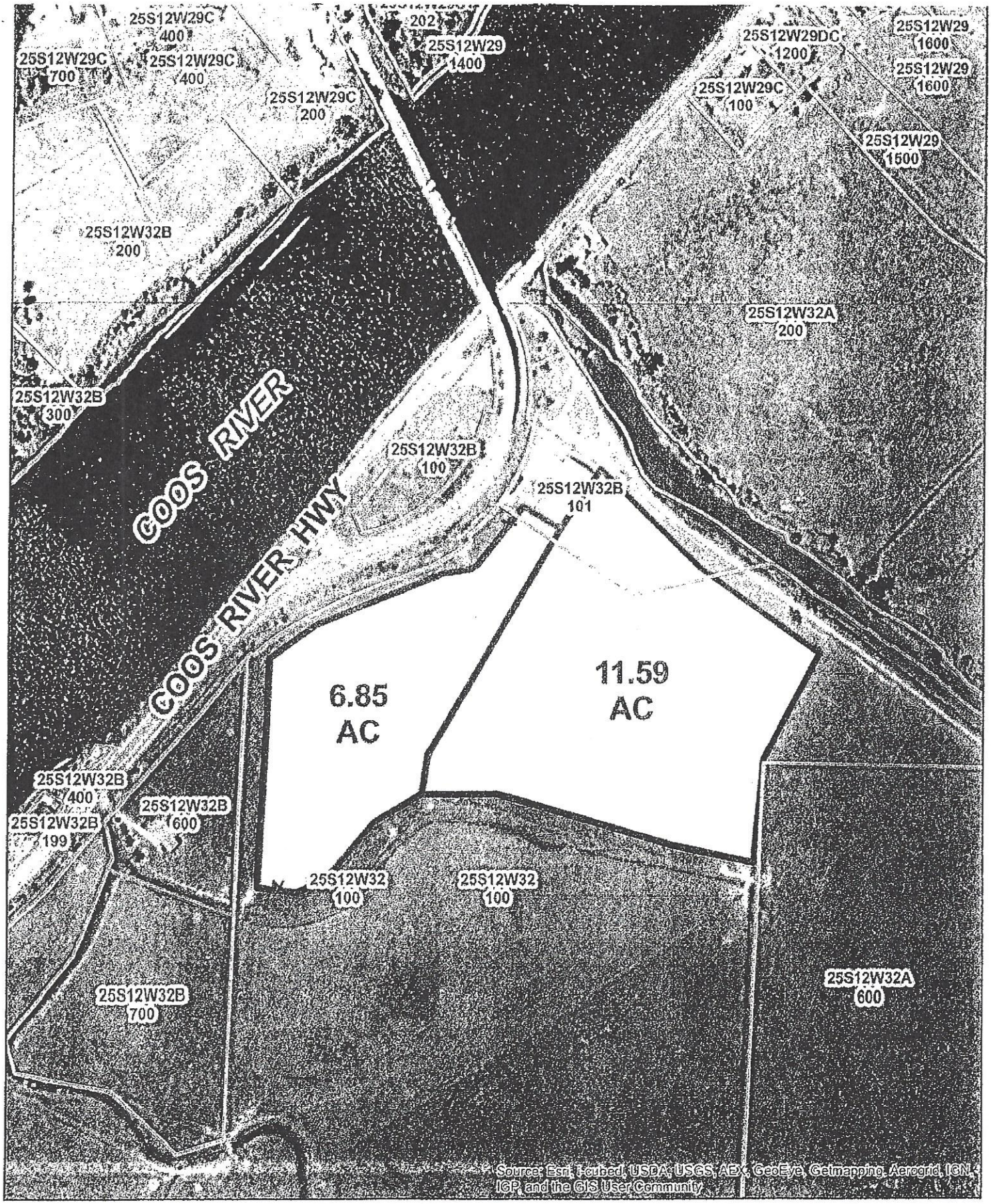
If you have any questions regarding this authorization, please call me at (541) 687-7439.

Sincerely,

Paul Kennedy

Paul Kennedy, EHS
Natural Resource Specialist 3

Cc: Portland-DEQ Biosolid Program
Coos County Health Department
Steve Nichols, Coos Bay DEQ Water Quality Program
File



MESSERLE PROPERTY

Legend

AREA OF BIOSOLIDS APPLICATION

X piezometers

N
W E
S

1 inch = 300 feet

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Western Region Roseburg Office
725 SE Main
Roseburg, OR 97470
(541) 440-3338
FAX (541) 440-3396

June 3, 2003

Rick Green
City of Coos Bend
Wastewater Treatment Plant
680 Ivy Avenue
Coos Bay OR 97420

File Number Coos Bay 1: 19802

Permit Number Coos Bay 1: 3034-J
EPA NPDES #0R-100213
(541) 269-2721

RE: WQ-S-Coos County
Biosolids Land Application
Menasha Property Tree Farm near the Belloni Boys Ranch
Coos Bay, OR 97420
Twp. 26, R. 13, Sec 32 and 33

This letter represents an approval of your request to apply biosolids to the above referenced property during the months of June 1 through October 1. Approval is subject to the criteria detailed in the Oregon Administrative Rules, Chapter 340, Division 50, the EPA 40 CFR part 503s, and the following conditions:

Responsibility:

It is the responsibility of Coos Bay Wastewater Treatment Plant (CBWWTP) to insure the proper handling and application of all biosolids generated. Transportation of the biosolids to the application site shall be done in such a manner as to prevent leaking or spilling the biosolids onto the highways, streets, roads, waterways or other land surfaces not approved for biosolids application.

Site Description:

The approval site is approximately 50 acres of a larger parcel (Menasha map enclosed). The land is used as a tree farm. The site is on an upland marine deposit. The site is located on the south of Coos Bay on the west side of highway 101.

Biosolids Application Criteria:

1. The site is approved for biosolids application. Application of biosolids on this site is approved for June 1 through October 1.

2. Biosolids shall be applied evenly and in a manner to prevent ponding or runoff. No irrigation of biosolids may occur when wind speeds exceed 8 knots (10.4 miles per hour). The set back for irrigation spray to any drainage ditch, pond or waterway is 100 feet, and 200 feet to any domestic water source or well.

3. Truck spread biosolid setbacks are 10 feet to dirt roads, 50 feet from drainage ditches, channel, pond or waterway and 200 feet from domestic water sources or well.

4. On pasture-grass mix, biosolids application rate shall not exceed approximately 22,000 gallons/acre/year **(75 lb. Total N/acre)**. Changes in biosolids characteristics or crops management may necessitate appropriate adjustments in the application rate to maintain proper agronomic nitrogen loading.

5. If other sources of nitrogen are used, the biosolids application rate must be reduced so that supplemental nitrogen in combination with biosolids nitrogen does not exceed agronomic loading rate of this site (75 lb. total N/acre/year on tree). **Note** younger trees (1-5 yrs.) may not need or take up as much nitrogen as older tress therefore 35 lb. N /ac would be the approved loading rate on these trees.

6. Prior to using this new site for biosolids application, all contiguous property owners must be notified (note, water source locations where applicable). An up to date log of contiguous neighbors shall be maintained (address and telephone). Annually the list shall be check for change of ownership. If there is a change in neighbor ownership CBWWTP shall notify new neighbor(s) of the City's intent to land apply biosolids on this property. Copies of all notifications shall be submitted to the Department in the City's Annual Biosolids Report.

Site Use Limitations:

1. Controlled access to the biosolids site must be maintained for a period of 12 months following biosolids application.

2. Grazing animals shall not be allowed on pasture within 30 days following biosolids application. Cross fencing is required if domestic grazing animals are present.

Accidental Spillage:

The permittee shall immediately clean up any spillage of biosolids and notify the DEQ Roseburg office at 440-3338 of any such occurrences. Spillage which cannot be completely cleaned up shall be covered with hydrated lime (calcium Hydroxide) or lime (calcium oxide). A 50-lb. bag of liming material shall remain available during transportation of the biosolids.

Monitoring:

1. CBWWTP shall maintain daily records of land applied biosolids. The daily log shall include gallons of biosolid applied on the site on a field grid map (acres) or other easily readable system.

2. CBWWTP shall provide the DEQ with monthly summaries of biosolids processing application activities in the City's Annual Biosolid Report and upon Department request.

3. A current representative analysis of CBWWTP biosolids being land applied shall be kept in the land application truck at all times along with the daily site log and a copy of this site authorization letter.

4. All biosolids site application records shall be kept at the plant for a minimum of 5 years.

5. Current signed certification statements shall accompany all biosolids that are land applied. Certification statement (Class B bulk biosolids to be land applied part 503.17 4(i)) shall be signed and dated by the plant operations supervisor verifying that the biosolids being land applied have met all the criteria for land application under the EPA 40 CFR part 503s. Plant operations personnel who land apply biosolids shall sign and date certification statement (part 503.17 4 (ii)) that biosolids are land applied as authorized by this approval letter.

If you have any questions regarding this approval, please call me at 440-3338 ex. 228.

Sincerely,

Paul Kennedy, RS
Natural Resource Specialist 3
cc: Water Quality-Coos Bay
Biosolids-Portland

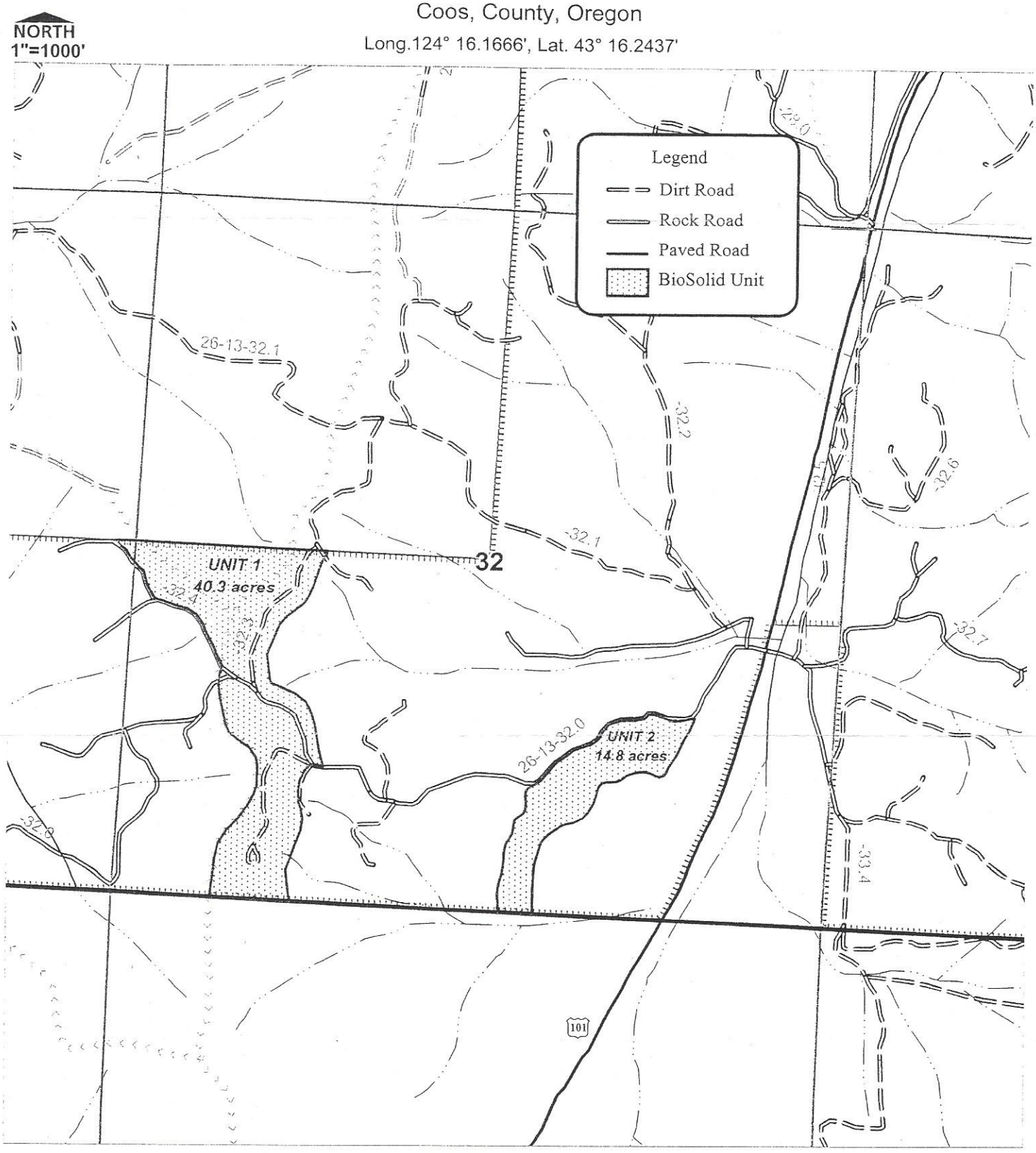
MENASHA FOREST PRODUCTS CORPORATION
P.O. Box 588
North Bend, OR 97459
Ph. 541.756.1193

Exhibit A: BioSolid Application Map

T 26 S, R 13 W, Sec. 32

Coos, County, Oregon

Long.124° 16.1666', Lat. 43° 16.2437'



Ron Durham

NEIL GOLDSCHMIDT
GOVERNOR

Department of Environmental Quality
SOUTHWEST REGION — Coos Bay Branch Office
490 NORTH SECOND STREET, COOS BAY, OREGON 97420 PHONE (503) 269-2721

September 4, 1987

Floyd Tanner
Stan Sharp
City of Coos Bay WWTP
500 Central
Coos Bay, OR 97420

RE: WQ - City of Coos Bay
NPDES OR-100213 & 3034-J
Clark McCarthy Sludge Site
25-12-31
Agricultural Application
Site Approval

We have received your request for approval of the above referenced sludge disposal site along with related signatures and materials. This site is approved for application of digested sewerage sludge.

This approval is subject to the criteria detailed in OAR Chapter 340, Division 50, and the following conditions:

1. Based upon your chemical analyses and proposed crops, the rate of application is limited to 140 pounds of available nitrogen per acre per year, or 29.37 tons per acre per year (260,890 gallons/acre/year). Based upon the limiting factors of zinc, the site life is 6.17 years at this rate.

2. Application of sludge is allowed, only from June 1 to October 1 on the Coquille silt loam due to high water table. If water is present at the surface, application shall not be allowed.

3. If other sources of nitrogen are used, the sludge application rate must be reduced so that commercial nitrogen plus sludge nitrogen does not exceed the Agronomic Leading Rate of this site.
4. A minimum setback of fifty (50) feet shall be maintained from all drainage ways, water ways, and road surfaces.

5. A minimum setback of 200 feet shall be maintained from all wells and other water sources.

6. A 30-day period following the application of sludge is mandatory prior to grazing livestock on this site or feeding harvested crops to animals.

7. Sludge shall be applied evenly and thinly in a manner that will prevent ponding and runoff. A record shall be kept showing location of application.

8. The permittee shall cleanup any spillage of sludge. Spillages which cannot be completely cleaned up will be covered with dry lime and be appropriately posted. Any spillage into or affecting water ways will be immediately reported to the Coos Bay Branch Office.

If you have any questions regarding this approval or should problems arise, please call.

Sincerely,

Ruben Kretzschmar
Branch Manager

RK:fs

cc: WQ Division
SW Region

VICTOR ATIYEH
GOVERNOR

Department of Environmental Quality
SOUTHWEST REGION — Coos Bay Branch Office
490 NORTH SECOND STREET, COOS BAY, OREGON 97420 PHONE (503) 269-2721

October 22, 1985

Williams Site

Floyd Tanner, Wastewater Superintendent
City of Coos Bay
500 Central
Coos Bay, Oregon 97420

RE: Sludge Disposal Authorization

The City of Coos Bay has applied for authorization for land application of digested sewage sludge pursuant to the terms and conditions of National Pollutant Discharge Elimination System (NPDES) Permits Nos. 3034-J (File No. 19821) and 3162-J (File No. 19802) and Oregon Administrative Rules (OARs) 340, Division 50.

The proposed site has been evaluated and approved as a beneficial use site for the purpose of agricultural enhancement. The site is defined as the Frank Williams property in Township 26, Range 13W, Section 10, Lots 900, 1000, 1100, 500, and 600, located at 3500 Pansy Court. Permission has been granted by the landowner for this designated use. The Coos County Planning Department has issued a land use compatibility statement for this site.

Approval of this site is subject to the following conditions:

1. Application of raw sludge is generally prohibited.

2. The method of application of the sludge is limited to spray application or shallow spreading on the surface of the site.

3. Application is limited to dry weather only, normally June 1 to October 1.

4. It is the responsibility of the permittee to insure proper handling, disposal, and application of all sludge generated or pumped. Transportation of the sludge to the application site shall be made in such a manner as to prevent leaking or spilling of sludge onto highways, streets, roads, waterways, or other land surfaces not approved for sludge application.

5. Sludge application shall not exceed the nitrogen loading required for maximum crop yield. Nitrogen requirements for particular crops can be obtained from the Oregon Cooperative Extension Service.

6. No sludge shall be used directly on fruits or vegetables that may be eaten raw.

7. Grazing lactating animals should not be allowed on pasture or forage where digested sludge has been applied until at least 30 days after application.

8. The entry of sewage sludge or contaminated water into waters of the State is strictly prohibited. The minimum separation between ground surface and permanent ground water must be at least four (4) feet and temporary ground water at least one (1) foot.

   No sludge shall be spread at the site closer than 50 feet to any ditch, channel, pond, or waterway, or within 200 feet of a domestic water source or well. When spray application is used, a "wind drift" buffer zone of 300 to 500 feet must be established between the site and the nearest dwelling.

9. Monitoring

   A. The permittee shall provide sludge analysis and maintain a log of sludge applied to this site. The quantity and type of sludge from the municipal sewage treatment plant used for beneficial use purposes shall be reported on the monthly Discharge Monitoring Report to the Department of Environmental Quality.

   B. Sludge Analysis

Parameter	Unit	Monitoring Frequency
Lead (Pb)	MG/KG (dry weight)	Semi-annual
Zinc (Zn)	"	"
Copper (Cu)	"	"
Nickel (Ni)	"	"
Cadmium (Cd)	"	"
Total Nitrogen (N)	% dry weight	"
Nitrate Nitrogen (NO_3)	"	"
Ammonia Nitrogen (NH_3)	"	"
Phosphorus (P)	"	"
Potassium (K)	"	"
pH	Standard Units	"
Total Solids	Percentage	"
Volatile Solids	"	"

   C. Where sludge is applied at or below agronomic rates (based on crop N requirements) no monitoring other than the sludge analysis (above) and cumulative application of sludge to a site will be required. If sludge contains high concentrations of heavy metals

or other toxic elements, or if crop N requirements are exceeded on an annual basis, additional monitoring and special management practices may be required.

10. Access to the site must be controlled at all times.

11. Good housekeeping of application equipment and best management practices will be observed at all times to avoid generation of malodors.

12. All sludge disposal and/or beneficial use activities will be conducted in accordance with this authorization and OAR 340, Division 50, requirements.

Ruben Kretzschmar
Branch Manager

RK:dmr