John Huntington
H2O & S Inc.
7757 SE 92nd
Portland, OR 97266

Paul Kennedy
DEQ Western Region
165 East 7th Avenue, Suite 100
Eugene, Oregon 97401

RE: 2017 Biosolids Annual Report Form

Dear Mr. Kennedy-

Please find enclosed a completed 2017 Biosolids Annual Report for the H2O & S WWTP, as you requested in our phone conversations and which you sent me a pdf. of on July 16, 2018.

If you have any questions about this matter, please contact me at 503-667-6735 or 503-777-2909.

Sincerely,

John Huntington
Treatment Plant Supervisor
H2O & S Inc.

Biosolids Annual Report Form

Facility Information

DEQ File Number: _____ **Permit Number**:

Name A2 + S Inc. Permit Type: NPDES 101269

Location Address Inn at Otter Rock WPCF _____

Otter Rock Loop, 1 mile West of Highway 101

Mailing Address 7757 SE 92nd Avenue, Portland, Oregon 97266

Contact name John P. Huntington Telephone: 503-777-2909

E-mail haroldeyahoo.com Fax: 503-777-1547

Biosolids Process Descriptions

Generation

Wastewater Sources & Volumes:

	Gallons/yr
Municipal	16,717,000
Industrial	N/A
Septage	not allowed
Total Gallons	16,717,000

Solids Produced:

	Dry Tons (DT)/yr
primary	N/A
secondary	1.48
other	—
Total DT	2.66

Preparation

Mark applicable processes and on separate sheet describe the processes and equipment used for:

screening
grit removal
settling
thickening
digestion
dewatering

Storage

For each container type, list numbers, sizes, materials (i.e. steel, etc.) and volume.

Containers	X number of units	X volumes of each storage container	(material)	= total volume
tanks	1	12,000 gallons		12,000 gallons
clarifiers				
lagoons				
drying beds				
other	1-aerobic digester	41,000 gallons		41,000 gallons
other				
TOTAL CAPACITY:				53,000 gallons

Application

List transport equipment used from facility to sites (e.g. 3,000 gal. tanker truck).

→ 5,500 gallon tanker truck (see attached page)

List application method and equipment used to apply at sites

see attached page

Preparation

Plant consists of one extended aeration channel, one 42,000 gallon mechanically aerated mixed liquor basin, one 41,000 gallon aerobic digester, a 12, 000 gallon aerobic batch tank, a 55,000 gallon clarifier, a chlorine contact chamber and an ocean outfall. The annual influent volume is 11,032,000 gallons.

Influent enters the facility at the bar screen, flow through a primary settling chamber then into an aerated mixed liquor basin (42,000 gallon capacity). The flow then moves from the basin to the clarifier and some is returned to the aeration basin. Solids are target wasted to the sludge digester. The decantated liquid from the clarifier flows to the chlorine contact chamber for disinfection prior to discharge from the outfall to the Pacific Ocean.

Application

The biosolids being applied, gravity flow out of the tanker truck through a splash plate, which evenly applies the biosolids on the field. Tanker speed is adjusted so that the amount of material and applied per acre is at or below the approved agronomic loading given in the DEQ site authorization.

Biosolids Annual Report Form

(e.g. truck splash plate, spray gun, manure spreader, etc.).

→

Biosolids Quality

EQ		Class A		Class B	X

Testing frequency (times/yr)	1	4	6	12
[in Metric Tons]	[<290]	[290>1,500]	[1,500>15,000]	[≥ 15,000]
[in U.S. Tons]	[<319]	[319>1,650]	[1,650>16,500]	[≥ 16,500]

[Choose one, based on dry weight of biosolids produced and land applied annually.]

Test data

Use Tables below to record quarterly or annual testing results; use average column for annual test data. If testing more frequently (monthly), supply data on separate sheet.

Nutrient Monitoring

Item	1st quarter	2nd quarter	3rd quarter	4th quarter	Average
TKN	3.9				3.9
NO^3-N	0.02				0.02
NH^4-N	0.32				0.32
P	1.1				1.1
K	0.34				0.34
pH	12.0				12.0
Total Solids	2.9				2.9
Vol. Solids	62.0				62.0

Test data is expressed in % dry weight (dw), except pH which is standard units.

Pollutant Monitoring

Metals	1st quarter	2nd quarter	3rd quarter	4th quarter	Average
As	2.10				2.10
Cd	0.91				0.91
Cr	9.58				9.58
Cu	110.00				110.00
Pb	31.90				31.90
Hg	0.26				0.26
Mo	3.18				3.18
Ni	11.50				11.50
Se	5.38				5.38
Zn	395.00				395.00

Biosolids Annual Report Form

Test data is expressed in mg/kg (ppm) based on dry weight.

Biosolids Annual Report Form

Pathogen Reduction Monitoring & Records

Circle selected pathogen reduction alternative below and on a separate sheet:

- Describe process used to reduce pathogens
- State operational parameters met (e.g. time & temperature)
- Attach monitoring data and certification statement

Part 503.32 Pathogen Reduction Alternatives

Class A Alternatives

[requires tests for fecal coliform &/or *Salmonella* sp.]

1. time & temperature
2. pH >12, 72 hr;@52°C,12hr, >50%TS
3. pre- & post-testing for enteric virus & helminth ova
4. post-testing for enteric virus & helminth ova
5. PFRP:
   1 composting
   2 heat drying
   3 heat treatment
   4 thermophilic aerobic
   5 beta ray irradiation
   6 gamma ray irradiation
   7 pasteurization
6. PFRP equivalent

Class B Alternatives

1. 7 samples, geometric mean < 2,000,000 MPN or CFU/g TS
2. PSRP:
   1 aerobic digestion
   2 air drying
   3 anaerobic digestion
   4 composting
   5 lime stabilization
3. PSRP equivalent

Vector Attraction Reduction (VAR) Monitoring & Records

Circle selected alternative and on separate sheet:

- Describe VAR process used
- Describe operational parameters met (e.g. pH & time)
- Attach monitoring data and certification statement

Part 503.33 Vector Reduction Alternatives

In-plant alternatives

1. 38% min. reduction of volatile solids
2. anaerobic bench scale digestion
3. aerobic bench scale digestion
4. SOUR aerobic 1.5mg O^2/hr/g TS (dw)
5. aerobic 14 days>45°C average temp.
6. pH ≥ 12 for 2 hr. + 22 hr ≥ 11.5 pH
7. secondary solids ≥ 75% solids
8. primary solids ≥ 90% solids

Site management alternatives

9. subsoil injection within 8 hr
10. soil incorporation within 6-8 hr

Other alternatives

11. (for disposal units only)
12. septage only
    pH ≥ 12 for at least 30 min.

Solids Treatment Processes

The EPA'S 40 CFR parts 503 and DEQ's Oregon Administrative Rules (OR) 340-50 allow permittees to use EPA approved alternatives to satisfy Class B biosolids pathogen or vector attraction reduction criteria. The H2O & S WWTP uses the following approved methods for treatment of its biosolids:

A. **Pathogen Reduction-**
   Use of a process to significantly reduce pathogens (PSRP) 40 CFR 503.32(b)(3) Alt 2 #5. This involves sufficient use of an alkaline stabilization agent added to the sewage biosolids to raise the pH of the biosolids to 12 for ≥ 2 hours of contact (mixed).

B. **Vector Attraction Reduction**
   As above, the plant uses addition of alkali to achieve vector reduction (40 CFR 503.33(b)(6)). This involves the addition of sufficient alkali to raise the pH of the biosolids to at least 12 S.U.s at 25C and maintain a pH of ≥ 12 for 2 hours and a pH of ≥ 11.5for 22 more hours.

# of 50 lbs. bags of Hydrated Lime Added to Batch Tank 18 *(keep air running)*

Initial pH measurements from 5 random samples in batch tank (pH >/= 12)
All pH measured using calibrated automatic temperature compensation probe

Date 7/18 **time** 8:30 **initials** JM

Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
Temp	PH	Temp	PH	Temp	PH	Temp	PH	Temp	pH
21°	12.35	21°	12.4	21°	12.4	21°	12.4	21°	12.4

2 hour pH measurements from 5 random samples in batch tank (pH >/= 12)

Date 7/18 **time** 11:00 **initials** JM

Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
Temp	PH	Temp	PH	Temp	PH	Temp	PH	Temp	pH
21°	12.3	21°	12.2	21°	12.2	21°	12.3	21°	12.3

22 (24 hour total) **hour pH measurements** from 5 random samples in batch tank (pH >/= 11.5)

Date 7/19 **time** 9:30 **initials** JM

Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
Temp	PH	Temp	PH	Temp	PH	Temp	PH	Temp	pH
21°	12.1	21°	12.1	21°	12.0	21°	12.0	21°	12.0

Gallons hauled to field 22,000 on date 7/19 initials JM.

Stabilized biosolids must be hauled in a minimum of 48 hours after last test, if more than 48 Hours must demonstrate (re-test) that a pH of 11.5 or higher has been maintained, if not the stabilization process must be repeated.

Date ***time*** ***initials***

Sample 1		*Sample 2*		*Sample 3*		*Sample 4*		*Sample 5*	
Temp	*PH*	*Temp*	*PH*	*Temp*	*PH*	*Temp*	*PH*	*Temp*	*pH*

Attachment D:

"I certify, under penalty of law, that the pathogen requirements in 503.32(b)(2) alternative 1, the management practices in 503.14 and the vector attraction reduction requirements in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I also certify that all biosolids were land applied at the approved agronomic loading rate noted in the respective Department site authorization letter. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Signature.....**Date**.....7/19/17

Biosolids Annual Report Form

Land Application Site Information

For all sites used during the reporting year period, provide the following information:
(This information can be provided on a separate spreadsheet if available.)

Site Name (resident)	Site ID No.	Location (Sec,Twn,Rge)	Crop(s)	Acres applied	N lb/ac applied	Application rate DT/ac	Total DT/site	Seasonal restrictions
Wyseaver	3	4, 10, S 9W	Pasture					

NOTE: Attach the following items if applicable.

Soil test data if site is proposed for application for third consecutive year.
This will apply to all sites used in 1998 that were applied to in 1996 & 1997.
See **OAR 340-50-080(5)**

Cumulative loadings & site life information for sites receiving biosolids with any trace pollutants exceeding Table 3 values.
See **OAR 340-50-035(6)(b)**