Idaho Public Wastewater Treatment Plant Classification Worksheet

OFFICE USE DO NOT WRITE HERE
System Class _____
Upgrade ___ STD 5 Yr ___
Approved by _____
Date_____
EDMS # 2022AFQ3

Name of System:

Legal Owner of Treatment System:

System Address:

Mailing Address:

City: **State:** **Zip Code:**

Contact Person: **Title:**

Business Phone Number: ( ) **Email:**

Treatment System - Design Flow/Actual Flow ____/____
(MGD) (MGD)

Treatment Plant Classification Worksheet is (Check one):

☐ **Initial System Rating** ☐ **System Upgrade** ☐ **Standard 5 Year Rating**

Date of last system classification rating (if applicable)

☐ **Attach a flow schematic or hydraulic flow diagram of the treatment facility to this treatment plant classification worksheet when submitting to DEQ.**

Instructions:

Use this rating form for all types of public wastewater treatment plants, facilities, or systems[D-16] that treat domestic and/or industrial wastewater including, but not limited to traditional biological and mechanical treatment processes, large soil absorption systems, community drainfields, and wastewater lagoon systems. Fill out ONE form for the wastewater treatment facility including all sequential, parallel or multiple treatment processes for both effluent and solids that provide treatment of all wastewater introduced into the system.

How to Assign Points:

Evaluate each item listed in the table below and place the specified point value next to each item selected. *Each unit process should have points assigned only once* .Add the total number of points selected to determine the class of the treatment system. Definitions describing all configurations, names, and/or reasons why rating points are or are not assigned to a particular item are provided for those items with a small D-number behind the item, i.e. D-1. Check the definition if unsure whether a particular treatment plant process qualifies for the point value shown.

Treatment facilities will be classified as VSWW, Class I, Class II, Class III or Class IV with IV being the largest and most complex. *Mail the completed, signed form to the Department of Environmental Quality 1410 N. Hilton, Boise, ID 83706 Attention: Amy Southern. Amy.Southern@deq.idaho.gov. Keep a photocopy of the original form for your files.*

Item	Points	Your System
System Size (2 to 20 points)		
Number of Connections (for information only)	(not scored)	
Maximum population served, peak day (1 point minimum to 10 point maximum)	1 point/10,000 or part	
Design flow (average/day) or peak months (average/day) Whichever is larger (1 point min to 10 point max)	1 point/MGD or part	

Item	Points	Your System
Variation in Raw Wastewater (0 to 6 points) [1]		
Variations do not exceed those normally or typically expected	0 points	
Recurring deviations/excessive variations of 100% to 200% in strength/flow	2 points	
Recurring deviations/excessive variations of more than 200% in strength/flow	4 points	
Raw wastewater subject to toxic waste discharges	6 points	
Impact of septage or truck-hauled wastewater (0 to 4 points)	0-4 points	
Preliminary Treatment Process		
Plant pumping of main flow	3 points	
Screening, comminution	3 points	
Grit removal	3 points	
Equalization	1 point	
Primary Treatment Process		
Primary clarifiers	5 points	
Imhoff tanks, septic tanks, or similar (combined sedimentation/digestion)[D-8]	5 points	
Secondary Treatment Process		
Fixed-film reactor[D-7]	10 points	
Activated sludge[D-1]	15 points	
Stabilization ponds or lagoon without aeration	5 points	
Stabilization ponds or lagoon with aeration	8 points	
Membrane Biological Reactor (MBR) – Basic MBR which combines activated sludge (minus secondary clarification) and membrane filtration.[D-17]	15 points	
Tertiary Treatment Process		
Polishing ponds for advanced wastewater treatment	2 points	
Settling and storage ponds or lagoons not intended for treatment	0 points	
Chemical/physical advanced wastewater treatment w/o secondary[D-5]	15 points	
Chemical/physical advanced wastewater treatment following secondary[D-4]	10 points	
Biological or chemical/biological advanced wastewater treatment[D-2]	12 points	
Nitrification by designed extended aeration only	2 points	
Ion exchange for advanced wastewater treatment	10 points	
Reverse osmosis, electrodialysis and other membrane filtration techniques for advanced wastewater treatment	15 points	
Advanced wastewater treatment chemical recovery, carbon regeneration	4 points	
Media filtration (removal of solids by sand or other media) [D-13]	5 points	
Additional Treatment Processes		
Chemical additions (2 points each for a max of 6 points)[D-3]	0-6 points	
Dissolved air floatation (for other than sludge thickening)	8 points	
Intermittent sand filter	2 points	
Recirculating intermittent sand filter	3 points	
Microscreens	5 points	
Generation of oxygen	5 points	

Solids Handling		
Solids stabilization (used to reduce pathogens, volatile organic chemicals & odors include lime or similar treatment and thermal conditioning)[D-15]	5 points	
Gravity thickening	2 points	
Mechanical dewatering of solids[D-11]	8 points	
Anaerobic digestion of solids	10 points	
Aerobic digestion of solids	6 points	
Evaporative sludge drying	2 points	
Solids reduction (including incineration, wet oxidation)	12 points	
On-site landfill for solids	2 points	
Solids composting[D-14]	10 points	
Land application of biosolids by contractor [D-9]	2 points	
Land application of biosolids by facility operator in responsible charge	10 points	
Disinfection (0 to 10 points maximum)		
No disinfection	0 points	
Chlorination (including chlorine dioxide or chloramines) or ultraviolet irradiation	5 points	
Ozonation	10 points	
Effluent Discharge (0 to 10 points maximum)		
No discharge	0 points	
Discharge to surface water receiving stream[D-6]	0 points	
Mechanical post aeration[D-12]	2 points	
Land treatment with surface disposal or land treatment with subsurface disposal [D-10]	4 points	
Direct recycle and reuse	6 points	
Instrumentation (0 to 6 point maximum)		
SCADA or similar instrumentation systems to provide data with no process operation	0 points	
SCADA or similar instrumentation systems to provide data with limited process operation	2 points	
SCADA or similar instrumentation systems to provide data with moderate process operation	4 points	
SCADA or similar instrumentation systems to provide data with extensive or total process operation	6 points	
Laboratory Control (0 to 15 point maximum) [2]		
Bacteriological/Biological Laboratory Control (0 to 5 point maximum)		
Lab work done outside the treatment plant	0 points	
Membrane filter procedures	3 points	
Use of fermentation tubes or any dilution method; fecal coliform determination	5 points	
Chemical/Physical Laboratory Control (0 to 10 point maximum)		
Lab work done outside the treatment plant	0 points	
Push-button or visual (colorimetric) methods for simple tests such as pH, settleable solids	3 points	
Additional procedures such as DO, COD, BOD, gas analysis, titrations,		

solids, volatile content	5 points	
More advanced determinations such as specific constituents; nutrients, total oils, phenols	7 points	
Highly sophisticated instrumentation such as atomic absorption, gas chromatography	10 points	
	TOTAL POINTS FOR YOUR SYSTEM	0

System Classification Key	**Classification**
A system comprised of only one of the following wastewater treatment processes: aerated lagoon (s), non-aerated lagoons, primary treatment, or LSAS; and associated collection system also meets the definition of a very small wastewater system (VSWWS).	VSWWS
0-30 points	Class I
31-55 points	Class II
56-75 points	Class III
76 or greater	Class IV

Footnote [1] The key concept is frequency and/or intensity of deviation or excessive variation from normal or typical fluctuations; such deviation can be in terms of strength, toxicity, shock loads, I/I, with points from 0-6.

Footnote [2] The key concept is to credit laboratory analyses done on-site by plant personnel under the direction of the operator in direct responsible charge with points from 0-15.

_____ _____

Signature of Legal Owner or Owner's Representative Date

Printed Name

Wastewater Treatment Definitions

D-1. **Activated Sludge** - Wastewater treatment by aeration of suspended organisms followed by secondary clarification, including extended aeration, oxidation ditches, Intermittent Cycle Extended Aeration system (ICEAS), and other similar processes. A sequencing batch reactor with the purpose of providing this form of treatment would be rated under this category.

D-2. **Biological or chemical/biological advanced wastewater treatment** - The advanced treatment of wastewater for nutrient removal including nitrification, denitrification, or phosphorus removal utilizing biological or chemical processes or a combination. If the facility is designed to nitrify based solely on detention time in an extended aeration system, only the points for nitrification by designed extended aeration should be given.

D-3. **Chemical addition** - The addition of a chemical to wastewater at an application point for the purposes of adjusting pH or alkalinity, improving solids removal, dechlorinating, removing odors, providing nutrients, or otherwise enhancing treatment, excluding chlorination for disinfection of effluent and the addition of enzymes or any process included in the Tertiary Chemical/Physical Processes. The capability to add a chemical at different application points for the same purpose should be rated as one application; the capability to add a chemical(s) to dual units should be rated as one application; and the capability to add a chemical at different application points for different purposes should be rated as separate applications.

D-4. **Chemical/physical advanced treatment following secondary** - The use of chemical or physical advanced treatment processes following (or in conjunction with) a secondary treatment process. This would include processes such as carbon adsorption, air stripping, chemical coagulation, and precipitation, etc.

D-5. **Chemical/physical advanced treatment without secondary** - The use of chemical or physical advanced treatment processes without the use of a secondary treatment process. This would include processes such as carbon adsorption, air stripping, chemical coagulation, precipitation, etc.

D-6. **Discharge to Receiving Water** - Treatment processes present at the facility are designed to achieve NPDES permit limitations that have already factored in the sensitivity of the receiving stream. Consequently, no additional points are assigned to rate the receiving stream separately from the facility treatment processes.

D-7. **Fixed-film reactor** - Biofiltration by trickling filters or rotating biological contactors followed by secondary clarification.

D-8. **Imhoff tanks (or similar)** - Imhoff tanks, septic tanks, spirogester, clarigester, or other single unit for combined sedimentation and digestion.

D-9. **Land application of biosolids by contractor** - The land application or beneficial reuse of biosolids by a contractor outside of the control of the operator in direct responsible charge of the wastewater treatment facility.

D-10. **Land treatment and disposal (surface or subsurface)** - The ultimate treatment and disposal of the effluent onto the surface of the ground by rapid infiltration or rotary distributor or by spray irrigation. Subsurface treatment and disposal would be accomplished by infiltration gallery, injection, or gravity or pressurized drainfield.

D-11. **Mechanical dewatering** - The removal of water from sludge by any of the following processes and including the addition of polymers in any of the following: vacuum filtration; frame, belt, or plate filter presses; centrifuge; or dissolved air floatation.

D-12. **Mechanical post-aeration** - The introduction of air into the effluent by mechanical means such as diffused or mechanical aeration. Cascade aeration would not be assigned points.

D-13. **Media Filtration** - The advanced treatment of wastewater for removal of solids by sand or other media or mixed media filtration.

D-14. **Solids composting** - The biological decomposition process producing carbon dioxide, water, and heat. Typical methods are windrow, forced air-static pile, and mechanical.

D--15. **Solids stabilization** - The processes to oxidize or reduce the organic matter in the sludge to a more stable form. These processes reduce pathogens or reduce the volatile organic chemicals and thereby reduce the potential for odor. These processes would include lime (or similar) treatment and thermal conditioning. Other stabilization processes such as aerobic or anaerobic digestion and composting are listed individually.

D-16 **Wastewater Treatment Facility**. Any physical facility or land area for the purpose of collecting, treating, neutralizing or stabilizing pollutants including treatment plants, the necessary intercepting, outfall and outlet sewers, pumping stations integral to such plants or sewers, equipment and furnishing thereof and their appurtenances. A treatment facility may also be known as a treatment system, wastewater treatment system, wastewater treatment facility, or wastewater treatment plant (IDAPA 58.01.16.010).

D-17 **Membrane Biological Reactor (MBR) Point Factoring -** The points assigned to the basic MBR unit does not include points for any additional treatment processes such as phosphorus removal, nitrification, denitrification, land application, rapid infiltration basins, lagoons, etc. Points must be assigned separately to each additional treatment process beyond the basic MBR unit. Additional treatment processes may vary on a case-by-case basis.