

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.16 – WASTEWATER RULES

DOCKET NO. 58-0116-2501 (ZBR CHAPTER REWRITE)

NOTICE OF RULEMAKING – ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Idaho Board of Environmental Quality (Board) and is now pending review by the 2026 Idaho State Legislature for final approval. Pursuant to [Section 67-5224](#), Idaho Code, this pending rule must be approved by concurrent resolution of the Legislature. Pursuant to [Section 67-5291\(2\)](#), Idaho Code, all temporary, pending, and final rules of any nature may be approved or rejected by a concurrent resolution of the Legislature. The concurrent resolution shall state the effective date of the approval or rejection. If approved by concurrent resolution, the rules will become effective on July 1, 2026, unless otherwise specified in the concurrent resolution.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. This action is authorized by Chapters 1 and 36, Title 39, Idaho Code.

DESCRIPTIVE SUMMARY: DEQ initiated this rulemaking in compliance with [Executive Order No. 2020-01, Zero-Based Regulation \(EO 2020-01\)](#), issued by Governor Little on January 16, 2020. A detailed summary of the reason for adopting the rule is set forth in the proposed rule published in the Idaho Administrative Bulletin, September 3, 2025, [Vol. 25-9, pages 303–371](#).

After consideration of public comments, the proposed rule has been revised at Sections 008, 010, 401, 409, and 450. The remainder of the rule has been adopted as initially proposed. The board meeting documents are available at [Wastewater Rules: Docket No. 58-0116-2501 | Idaho Department of Environmental Quality](#).

FEE SUMMARY: Pursuant to Section 67-5224(2)(d), Idaho Code, a pending fee rule shall not become final and effective unless affirmatively approved by concurrent resolution of the Legislature. The following is a description of the fee or charge imposed or increased in this rulemaking:

Not applicable.

FISCAL IMPACT STATEMENT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year:

Not applicable.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning the rulemaking, contact the undersigned.

Dated this 3rd day of December, 2025.

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DOCKET NO. 58-0116-2501 - ADOPTION OF PENDING RULE

Substantive changes have been made in the pending rule.
Italicized red text that is *double underscored* indicates
amendments to the proposed text as adopted in the pending rule.

The text of the proposed rule was published in the Idaho Administrative Bulletin,
Volume 25-9, September 3, 2025, pages 303 through 371.

This rule has been adopted as a pending rule by the Agency and is now awaiting
review and final approval by the 2026 Idaho State Legislature.

THE FOLLOWING IS THE TEXT OF THE PENDING RULE FOR ZBR DOCKET NO. 58-0116-2501

(Only those sections or subsections that have changed from the original proposed
text are printed in this Bulletin following this notice.)

58.01.16 – WASTEWATER RULES

008. REFERENCED MATERIAL.

01. *“Recommended Standards for Wastewater Facilities.”* A Report of the Wastewater Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. ~~This document is available through Health Education Services at <http://www.healthresearch.org/store> <https://www.health.state.mn.us/communities/environment/water/docs/tenstates/tenstatestan2014.pdf>. (3-31-22)()~~

02. ~~*Memorandum of Understanding.* The Memorandum of Understanding between the Idaho Department of Environmental Quality and the Idaho Division of Building Safety Plumbing Bureau provides assistance in determining jurisdiction over water and sewer service lines. Copies of the document are available at the Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, on the DEQ website at <http://www.deq.idaho.gov>. (3-31-22)~~

03. *“Idaho Standards for Public Works Construction.”* This document is available for review at the Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho, (208)373-0502, or can be purchased for a fee through the Local Highway Technical Assistance Council (LHTAC) at LHTAC, 3330 Grace Street, Boise, ID, 83703, (208) 344-0565. (3-31-22)()

04. *Water Environment Federation (WEF) Manuals of Practice.* Water Environment Federation, 601 Wythe Street, Alexandria, VA, 22314-1994, 1-800-666-0206, <http://www.wef.org>. (3-31-22)

05. *American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practices.* American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191, 800-548-2723, <http://www.asce.org>. (3-31-22)

06. *“Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability.”* U.S. EPA (EPA-430-99-74-001), <http://www.epa.gov>. (3-31-22)

07. *American National Standard Institute/Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design.* 1819 L Street NW Suite 600, Washington, DC 20036,

- (202) 293-8020, www.ansi.org. (3-31-22)
- ~~087.~~ The Compressed Gas Association Publication CGA G-3-1995, “Sulfur Dioxide.” (3-31-22)
- ~~098.~~ “Wastewater Engineering, Treatment and Reuse,” Metcalf and Eddy. (3-31-22)
- ~~109.~~ “Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse,” National Water Research Institute/American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235, (800)926-7337, <http://www.awwa.org>. (3-31-22)
- ~~140.~~ Pumping Station Design - Third Edition 2006. Garr M. Jones. Elsevier Publications. (3-31-22)
- ~~12.~~ ~~Plan and Specification Dispute Resolution Policy.~~ PM05 2: Plan and Specification Review Dispute Resolution Advisory Panel for Engineering Disputes can be found on the DEQ website at <http://www.deq.idaho.gov>. (3-31-22)
- ~~13.~~ ~~Nutrient Pathogen Evaluation Program for On Site Wastewater Treatment Systems.~~ Nutrient Pathogen Evaluation Program for On-Site Wastewater Treatment Systems can be found on the DEQ website at <http://www.deq.idaho.gov>. (3-31-22)
- ~~14.~~ ~~Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater.~~ The Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater can be found on the DEQ website at <http://www.deq.idaho.gov>. (3-31-22)
11. Idaho Waste Management Guidelines for Aquaculture Operations 1997. Aquaculture Waste Guidelines Advisory Committee. <https://freshwater-aquaculture.extension.org/wp-content/uploads/2019/08/Idaho-Waste-Management-Guidelines-for-Aquaculture-Operations.pdf> ()

(BREAK IN CONTINUITY OF SECTIONS)

010. DEFINITIONS.

For the purpose of the rules contained in IDAPA 58.01.16, “Wastewater Rules,” the following definitions apply: The terms “Board,” “Department,” “Director,” “Person,” and “Waters” are defined in Section 39-103, Idaho Code. The term “Ground water” (Groundwater) is defined in Section 39-121, Idaho Code. The terms “Beneficial Use” and “Watershed” are defined in IDAPA 58.01.02, “Water Quality Standards.” The term “Like-Kind Replacement” is defined in IDAPA 58.01.08, “Idaho Rules for Public Drinking Water Systems.” The terms “Recycled Water” and “Reuse” are defined in IDAPA 58.01.17, “Recycled Water Rules.” The terms “Point Source” and “Water Pollution” are defined in IDAPA 58.01.25, “Idaho Pollutant Discharge Elimination System Rules.” (3-31-22)()

~~01.~~ ~~Available.~~ Based on public wastewater system size, complexity, and variation in raw waste, a licensed wastewater operator must be on site, on call, or able to be contacted as needed to initiate the appropriate action for normal or emergency conditions in a timely manner. (3-31-22)

~~021.~~ ~~Adequate Emergency Storage Capacity.~~ The emergency storage capacity of a Lift station wet well emergency storage capacity is the volume of the wet well measured between the high water alarm and the gravity sewer invert into the wet well. The collection system ~~shall will~~ not be used in the calculation for emergency storage. For the purpose of this definition, “A Adequate” storage is defined as twice the estimated emergency response time multiplied by the peak hour flow to the wet well where the minimum emergency response time is 30 minutes, unless otherwise approved by the Department. The high water alarm ~~shall must~~ be placed at an elevation below the wet well invert sufficient to achieve the defined volumetric emergency storage capacity. (3-31-22)()

~~03.~~ ~~Average Day Flow.~~ The average day flow is the average of daily volumes to be received for a continuous twelve (12) month period expressed as a volume per unit time. However, the average day flow for design purposes for facilities having critical seasonal high hydraulic loading periods, such as recreational areas or industrial facilities, ~~shall be based on the average day flow during the seasonal period. See also the definition of Wastewater~~

Flows. (3-31-22)

~~04. Beneficial Use. Any of the various uses which may be made of the water of Idaho, including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics. The beneficial use is dependent upon actual use, the ability of the water to support a non-existing use either now or in the future, and its likelihood of being used in a given manner. The use of water for the purpose of wastewater dilution or as a receiving water for a waste treatment facility effluent is not a beneficial use.~~ (3-31-22)

~~052. Biochemical Oxygen Demand (BOD). The measure of the amount of oxygen necessary to satisfy the biochemical oxidation requirements of organic materials at the time the sample is collected; unless otherwise specified, this term will mean the five (5) day BOD incubated at twenty (20) degrees C.~~ (3-31-22)

~~063. Blackwaste. Human body waste, such as excreta or urine. This includes toilet paper and other products used in the practice of personal hygiene.~~ (3-31-22)

~~074. Blackwater. A wastewater whose principal pollutant is blackwaste; a combination of blackwaste and water.~~ (3-31-22)

~~08. Board. The Idaho Board of Environmental Quality.~~ (3-31-22)

~~05. Buildout. The estimated future wastewater capacity needs at full development, based on land use plans, zoning, or facility planning. Design capacities must account for these conditions unless expansion is readily achievable.~~ ()

~~096. Capacity. The capabilities required of a wastewater system in order to achieve and maintain compliance with these rules. It is divided into three (3) main elements:~~ (3-31-22)()

~~a. Technical capacity means the system has:~~ ()

~~i. the physical infrastructure to safely collect wastewater and consistently meet discharge disposal standards and treatment requirements, and;~~ ()

~~ii. is able to meet the requirements of routine and emergency operations; and~~ ()

~~ii. It further means the ability of system personnel to adequately operate and maintain the system and to otherwise implement technical knowledge. Training of operator(s) is required, as appropriate, for the system size and complexity.~~ (3-31-22)()

~~b. Financial capacity means the financial resources of the wastewater system, including an appropriate budget; rate structure; cash reserves sufficient for current operation and maintenance, future needs and emergency situations; and adequate fiscal controls.~~ (3-31-22)

~~c. Managerial capacity means that the management structure of the wastewater system embodies the aspects of wastewater system operations, including, but not limited to;~~ (3-31-22)()

~~i. Short and long range planning;~~ (3-31-22)

~~ii. Personnel management;~~ (3-31-22)

~~iii. Fiduciary responsibility;~~ (3-31-22)

~~iv. Emergency response;~~ (3-31-22)

~~v. Customer responsiveness; and~~ (3-31-22)

~~vi. Administrative functions such as billing and consumer awareness.~~ (3-31-22)

~~107.~~ **Class A Effluent Recycled Water.** Class A effluent is treated municipal reclaimed wastewater that must be oxidized, coagulated, clarified, and filtered, or treated by an equivalent process and adequately disinfected. For a comprehensive description of Class A Effluent criteria and permitting requirements recycled water, refer to IDAPA 58.01.17, “Recycled Water Rules.” (3-31-22)()

~~108.~~ **Class A Effluent Recycled Water Distribution System.** The delivery system for Class A ~~effluent recycled water~~. The distribution system does not include any of the collection or treatment portions of the wastewater facility and is not subject to operator licensing requirements in Section 203 of these rules. (3-31-22)()

~~129.~~ **Collection System.** That portion of the wastewater system or treatment facility in which wastewater is received from the premises of the discharger user and conveyed to the point of treatment through a series of lines, pipes, manholes, pumps/lift stations and other appurtenances. For the purposes of municipal wastewater, a wastewater system must serve two or more wastewater service connections. (3-31-22)()

~~130.~~ **Compliance Schedule or Compliance Agreement Schedule.** A schedule of remedial and preventative measures and sequence of actions leading to compliance with a regulation, statute or rule, enforceable as set forth in Sections 39-116 and 39-116A, Idaho Code, respectively. (3-31-22)

~~14.~~ **Department.** The Idaho Department of Environmental Quality. (3-31-22)

~~15.~~ **Design Flow.** The critical flow used for steady-state wasteload allocation modeling. (3-31-22)

~~16.~~ **Designated Beneficial Use or Designated Use.** Those beneficial uses assigned to identify waters in Idaho Department of Environmental Quality Rules, IDAPA 58.01.02, “Water Quality Standards,” Sections 110 through 160, whether or not the uses are being attained. (3-31-22)

~~17.~~ **Director.** The Director of the Idaho Department of Environmental Quality or his authorized agent. (3-31-22)

~~181.~~ **Discharge.** When used without qualification, any spilling, leaking, emitting, escaping, leaching, or disposing of a pollutant into ~~the waters of the state~~. (3-31-22)()

~~192.~~ **Disinfection.** A method of reducing the pathogenic or objectionable organisms by means of chemicals or other acceptable means. (3-31-22)

~~13.~~ **Disposal.** Removal of wastewater derived from municipal and nonmunicipal sources utilizing discharge, reuse, total containment, or other allowable methods. ()

~~2014.~~ **Disposal Facility.** Any facility used for disposal of any wastewater. Facilities for the disposal of sludge are regulated under Section 650 of these rules. (3-31-22)

~~215.~~ **Effluent.** Any treated wastewater ~~discharged~~ disposed from a treatment facility. (3-31-22)()

~~22.~~ **Environmental Review.** An environmental review document for a specific project includes a description of purpose and need for the project; a description of the affected environment and environmental impacts including, but not limited to, endangered species, historical and archaeological impacts, air impacts, surface and ground water impacts, and noise and visual impacts; a description of the planned mitigation for these impacts; and descriptions of the public process, agencies consulted, referenced documents, and a mailing list of interested parties. A checklist, which can be used as guidance, can be found on the DEQ website at <http://www.deq.idaho.gov>. This checklist is for Department grant and loan projects, but can be used in part or in whole as a guide. (3-31-22)

~~23.~~ **EPA.** The United States Environmental Protection Agency. (3-31-22)

~~2416.~~ **Equivalent Dwelling Unit (EDU).** A measure where one (1) unit is equivalent to wastewater generated from one (1) single-family detached housing unit. For example, a business generating three (3) times as much wastewater as an average single-family detached housing unit would be considered three (3) equivalent

dwelling units.

(3-31-22)

~~2517.~~ **Facility Plan.** ~~The facility plan~~ Comprehensive planning document for a municipal wastewater treatment and disposal facility describes system describing the overall existing system, including the collection system, the treatment systems, and the disposal systems. ~~It is a comprehensive planning document for the existing infrastructure and includes the plan for the future of the systems, including upgrades and additions. It is usually updated on a regular basis due to anticipated or unanticipated growth patterns, regulatory requirements, or other infrastructure needs.~~ A Facility Plan is sometimes may be referred to as a master plan or facilities planning study. In general, a Facility Plan is an overall system-wide plan as opposed to a project specific plan and is updated on a regular basis to account for growth patterns, regulatory requirement, or other needs. ~~(3-31-22)()~~

~~2618.~~ **Facility and Design Standards.** Facility and design standards are described in Sections 400 through 599 ~~of these rules. Facility and design standards found in Sections 400 through 599 of these rules and~~ must be followed in the planning, design, construction, and review of municipal wastewater facilities. ~~(3-31-22)()~~

~~27.~~ **Geometric Mean.** ~~The geometric mean of “n” quantities is the “nth” root of the product of the quantities.~~ ~~(3-31-22)~~

~~19.~~ **Force Main.** Pressurized pipeline for the purpose of conveying wastewater within a collection system or treatment facility. ~~()~~

~~280.~~ **Gray Water.** Domestic wastewater that does not contain ~~wastewater from toilets, kitchen sinks, dishwashers, cloth washing machines, and water softeners~~ blackwaste. ~~(3-31-22)()~~

~~29.~~ **Ground Water.** ~~Any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil.~~ ~~(3-31-22)~~

~~3021.~~ **Industrial Wastewater.** Any waste, together with such water as is present, that is the by-product of industrial processes including, but not limited to, food processing or food washing wastewater. ~~(3-31-22)~~

~~3422.~~ **Land Application.** A process or activity involving application of wastewater, surface water, or semi-liquid material to the land surface for the purpose of disposal, pollutant removal, or ~~ground water~~ groundwater recharge. ~~(3-31-22)()~~

~~3223.~~ **License.** A ~~physical~~ document issued by the Idaho ~~Bureau of Occupational Licenses~~ Division of Occupational and Professional Licenses certifying that an individual has met the appropriate qualifications and has ~~been granted the~~ authority to practice in Idaho under the provisions of Chapter 24, Title 54, Idaho Code. ~~(3-31-22)()~~

~~33.~~ **Major Wastewater Collection System Project.** ~~A wastewater collection system project that is not a simple wastewater main extension.~~ ~~(3-31-22)~~

~~3424.~~ **Material Deviation.** A change from the design plans that significantly alters the type or location of facilities, requires engineering judgment to design, or impacts ~~the~~ public safety or welfare. ~~(3-31-22)()~~

~~3525.~~ **Material Modification.** ~~Material modifications are t~~ Those modifications of an existing wastewater system that ~~are intended to~~ increase system capacity or ~~to~~ alter the methods or processes employed. ~~Any project that increases the~~ Increasing system capacity occurs by increasing pumping capacity of a system, ~~increases the potential population served by the system~~ or the number of service connections within the system, ~~adds.~~ Altering methods or processes employed occurs by adding new or ~~alters~~ altering existing wastewater system components, ~~or affects the~~ to satisfy an increase in wastewater flow of the system or changing engineering design intent of the wastewater collection or treatment system ~~is considered to be increasing system capacity or altering the methods or processes employed.~~ Maintenance and repair performed on the system and the replacement of valves, pumps, or other similar items with new items of the same size and type are not considered a material modification Maintenance as outlined in the approved operation and maintenance manual, or maintenance that does not meet the criteria of a material modification described in this definition, is not a material modification. Like-kind replacement is not considered a material modification. ~~(3-31-22)()~~

- ~~36. **Maximum Day Flow.** The design maximum day flow is the largest volume of flow to be received during a continuous twenty four (24) hour period expressed as a volume per unit time. See also Wastewater Flows. (3-31-22)~~
- ~~37. **Maximum Month Flow.** The maximum month flow is the largest volume of flow to be received during any calendar month expressed as a volume per unit time. See also the definition of Wastewater Flows. (3-31-22)~~
- ~~38. **Mixing Zone.** A defined area or volume of the receiving water surrounding or adjacent to a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria or standards. It is considered a place where wastewater mixes with receiving water and not as a place where effluents are treated. (3-31-22)~~
- ~~3926. **Municipal Wastewater.** Unless otherwise specified, s Sewage and associated solids, whether treated or untreated, together with such water that is present. Also called domestic wastewater. When incidental to flow and strength, i industrial wastewater or other non-domestic sources may also be present, but is not considered part of the definition. (3-31-22)(____)~~
- ~~40. **National Pollutant Discharge Elimination System (NPDES).** Point source permitting program established pursuant to Section 402 of the federal Clean Water Act. (3-31-22)~~
- ~~41. **Natural Background Conditions.** No measurable change in the physical, chemical, biological, or radiological conditions existing in a water body without human sources of pollution within the watershed. (3-31-22)~~
- ~~42. **Non-Contact Cooling Water.** Water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat) or finished product. Non-contact cooling water is not considered wastewater. Non-contact cooling water can be land applied as recharge water as discussed in Section 600 based on a Department approval as described in Subsections 600.04 and 600.05. (3-31-22)~~
- ~~43. **Nuisance.** Anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the state. (3-31-22)~~
- ~~44. **Nutrients.** The major substances necessary for the growth and reproduction of aquatic plant life, consisting of nitrogen, phosphorus, and carbon compounds. (3-31-22)~~
- ~~4527. **Non-Potable Mains.** The p Pipelines that collect and, deliver, or otherwise convey non-potable discharges fluids from or to multiple service connections. Examples would include sewage collection and interceptor mains, storm sewers, non-potable irrigation mains, and reclaimed wastewater mains. (3-31-22)(____)~~
- ~~4628. **Non-Potable Services.** The p Pipelines that collect, deliver, or otherwise convey non-potable discharges from individual facilities to a connection with the fluids from or to a non-potable main. This term also refers to pipelines that convey non-potable water from a pressurized irrigation system, reclaimed wastewater system, and other non-potable systems to individual consumers. These pipelines connect individual facilities to the non-potable main. This term also refers to pipelines that convey non-potable fluids from a pressurized irrigation system, recycled water system, and other non-potable systems to individual consumers. (3-31-22)(____)~~
- ~~29. **Nuisance.** Anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters. (____)~~
- ~~30. **Nutrients.** The major substances necessary for the growth and reproduction of plant life consisting of nitrogen, phosphorus, and carbon compounds. (____)~~
- ~~4731. **Operating Personnel.** Any person who is employed, retained, or appointed to conduct the tasks associated with the day-to-day operation and maintenance of a public community wastewater system. Operating personnel shall include every including persons making system control or system integrity decisions about water quantity or water quality that may affect public health. (3-31-22)(____)~~

~~4832.~~ **Owner.** The person, company, corporation, district, association, or other organizational entity that owns the ~~public~~ wastewater system, and who provides, or intends to provide, wastewater service to system users and is ultimately responsible for the ~~public~~ wastewater system operation. (3-31-22)()

~~49.~~ **Peak Instantaneous Flow.** The design peak instantaneous flow is the instantaneous maximum flow rate to be received. See also the definition of Wastewater Flows. (3-31-22)

~~50.~~ **Peak Hour Flow.** The design peak hour flow is the largest volume of flow to be received during a one (1) hour period expressed as a volume per unit time. See also the definition of Wastewater Flows. (3-31-22)

~~51.~~ **Person.** An individual, public or private corporation, partnership, association, firm, joint stock company, joint venture, trust, estate, state, municipality, commission, political subdivision of the state, state or federal agency, department or instrumentality, special district, interstate body or any legal entity, which is recognized by law as the subject of rights and duties. (3-31-22)

~~52.~~ **Point Source.** Any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged to surface waters of the state. This term does not include return flows from irrigated agriculture, discharges from dams and hydroelectric generating facilities or any source or activity considered a nonpoint source by definition. (3-31-22)

~~5333.~~ **Pollutant.** Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, silt, cellar dirt; and industrial, municipal and agricultural waste, gases entrained in water; or other materials which, when discharged to water in excessive quantities, cause or contribute to water pollution. Provided however, biological materials shall not include live or occasional dead fish that may accidentally escape into the waters of the state from aquaculture facilities. (3-31-22)

~~5434.~~ **Potable Water.** ~~A water which is free from impurities in such amounts that it is safe for human consumption without treatment~~ Water for human consumption. Also referred to as Water for Human Consumption or Drinking Water. (3-31-22)()

~~5535.~~ **Potable Mains.** Pipelines that deliver potable water to multiple service connections. (3-31-22)

~~5636.~~ **Potable Service.** Pipelines that convey potable water from a connection to the potable water main ~~across private property~~ to individual consumers. (3-31-22)()

~~5737.~~ **Preliminary Engineering Report (PER).** ~~The preliminary engineering report for the municipal wastewater treatment or disposal facility is the~~ Project specific design report that addresses specific portions of the systems as they are being contemplated for design for a new wastewater system or existing wastewater system undergoing material modifications. These reports address specific purpose and scope, design requirements, alternative solutions, costs, operation and maintenance requirements, and other requirements as described in Section 411. ~~Preliminary engineering reports are generally project specific as opposed to an overall system wide plan, such as a facility plan.~~ (3-31-22)()

~~5838.~~ **Primary Treatment.** Processes or methods that serve as the first stage treatment of wastewater, intended for removal of suspended and settleable solids by gravity sedimentation; provides no changes in dissolved and colloidal matter in the sewage or wastes flow. (3-31-22)()

~~5939.~~ **Private ~~Municipal~~ Wastewater Treatment Plant.** A wastewater ~~facility~~ system that treats municipal wastewater and is under private ownership. These systems are typically initially owned, operated, and maintained by a developer with the ownership, operation and maintenance transferring to a homeowner's association, or similar entity as lots are sold within the development. (3-31-22)()

~~6040.~~ **Public ~~Community~~ Wastewater System or Wastewater System.** A public wastewater system or wastewater system ~~is any~~ publicly or privately owned ~~collection system or treatment~~ wastewater system that

generates, collects, treats, stores, or disposes of two thousand five hundred (2,500) or more gallons of wastewater per day based on Average Day Flow measured in the system. For new wastewater systems not constructed, Average Day Flow may be estimated as documented in an approved PER. This does not include: (3-31-22)(____)

a. Any animal waste system used for agricultural purposes that have been constructed in part or whole by public funds; or (3-31-22)

b. Any industrial or other nonmunicipal wastewater system which is covered under Section 401 ~~of these rules.~~ (3-31-22)(____)

~~6141.~~ **Qualified Licensed Professional Engineer (QLPE).** A professional engineer licensed by the state of Idaho; qualified by education or experience in the specific technical fields involved in these rules; and retained or employed by a city, county, quasi-municipal corporation, or regulated public utility for the purposes of plan and specification review. (3-31-22)

~~6242.~~ **Quasi-Municipal Corporation.** A public entity, other than community government, created or authorized by the legislature to aid the state in, or to take charge of, some public or state work for the general welfare. For the purpose of these rules, this term refers to wastewater or sewer districts. (3-31-22)

~~6343.~~ **Receiving Waters.** Those waters which receive pollutants from point or nonpoint sources. (3-31-22)

~~64.~~ **Recharge.** ~~The process of adding water to the zone of saturation.~~ (3-31-22)

~~6544.~~ **Recharge Water.** Water ~~that is~~ specifically utilized for the purpose of adding water to the zone of saturation. (3-31-22)(____)

~~6645.~~ **Redundancy.** ~~Redundancy for wastewater treatment and disposal facilities is generally focused on supplying or installing b Backup equipment and facilities to make the operation of the systems more reliable. These redundant systems are sometimes required to provide backup for emergencies, in emergency situations such as~~ taking certain processes off-line; or for treating spikes in wastewater flow or strength. (3-31-22)(____)

~~6746.~~ **Reliability.** ~~Reliability for wastewater collection and treatment and disposal facilities is usually b Based on its the wastewater system's ability to consistently handle the wastewater flows in the community and to meet the requirements of its permit. This reliability is in part based on thes and includes~~ redundancy built into the wastewater infrastructure and proper maintenance of the system. (3-31-22)(____)

~~6847.~~ **Reasonably Accessible.** The following criteria ~~shall must~~ be used to determine whether a project proposing a new private ~~municipal~~ wastewater treatment plant, or a material modification ~~or expansion~~ of an existing private ~~municipal~~ wastewater treatment plant, is reasonably accessible to a ~~public~~ municipal wastewater collection system. (3-31-22)(____)

a. For an existing private ~~municipal~~ wastewater treatment plant, reasonably accessible means the ~~public~~ municipal wastewater collection system becomes located within a minimum of one thousand (1,000) feet of any portion of the ~~discharge disposal~~ piping of a private ~~municipal~~ wastewater treatment plant, and the owner of the ~~public~~ municipal wastewater collection system will provide a "will serve" letter. (3-31-22)(____)

b. For a proposed project which includes a new private ~~municipal~~ wastewater treatment plant, reasonably accessible means the ~~public~~ municipal wastewater collection system is located within a minimum of one thousand (1,000) feet of any portion of the proposed development or existing development property boundary, and the owner of the ~~public~~ municipal wastewater collection system will provide a "will serve" letter. (3-31-22)(____)

c. The Department may determine that a private ~~municipal~~ wastewater treatment plant may be reasonably accessible to the ~~public~~ municipal wastewater collection system at distances greater than those distances specified in ~~Paragraphs~~ a. or b. ~~of this Subsection above~~ based on site-specific factors. (3-31-22)(____)

~~6948.~~ **Responsible Charge (RC).** ~~For purposes of Sections 202 through 204, responsible charge means, a~~

Active, daily on-site or on-call responsibility for the performance of operations or active, on-going, on-site or on-call direction of employees and assistants. (3-31-22)()

~~7049.~~ **Responsible Charge Operator.** ~~For purposes of Sections 202 through 204, a responsible charge o~~
Operator is an operator licensed at a class equal to or greater than the classification of the system ~~and~~ who has been designated by the system owner to have direct supervision of and responsibility for the performance of operations of a specified wastewater treatment system(s) or wastewater collection system(s) and the direction of personnel employed or retained at the same system. The responsible charge operator has an active daily on-site or on-call presence at the specified facility. (3-31-22)()

~~71.~~ **Reuse.** ~~The use of reclaimed wastewater for beneficial uses including, but not limited to, land treatment, irrigation, ground water recharge using surface spreading, seepage ponds, or other unlined surface water features.~~ (3-31-22)

~~7250.~~ **Reviewing Authority.** For those projects requiring preconstruction approval by the Department, the Department is the reviewing authority. For those projects allowing for preconstruction approval by others, pursuant to Subsection 400.03.b. ~~of these rules~~, the Qualified Licensed Professional Engineer (QLPE) is also the reviewing authority. (3-31-22)()

~~73.~~ **Sanitary Sewer Extension.** ~~As used in Section 400, an extension of an existing wastewater collection system that does not require a lift station or force main and is intended to increase the service area of the wastewater collection system.~~ (3-31-22)

~~7451.~~ **Secondary Treatment.** Processes or methods ~~for the supplemental treatment of wastewater, usually following primary treatment, to affect additional improvement in the quality of the treated wastes by biological means of various types which are designed to remove or modify organic matter for the removal of biodegradable organic matter (in solution or suspension) and suspended solids. May include the removal of biodegradable organics and nutrients (nitrogen, phosphorus, or both nitrogen and phosphorus). Disinfection may also be included in secondary treatment.~~ (3-31-22)()

~~7552.~~ **Septage.** ~~Septage is a general term for the e~~ Contents removed from septic tanks, portable vault toilets, privy vaults, wastewater holding tanks, very small wastewater treatment ~~plants~~ systems, or semi-public facilities (i.e., schools, motels, mobile home parks, campgrounds, small commercial endeavors) receiving wastewater from domestic sources. Non-domestic (industrial) wastes are not included in this definition. This does not include drinking water treatment residuals that may be held in a holding tank. (3-31-22)()

~~7653.~~ **Septage Transfer Station.** A place where septage ~~from more than one (1) hauler~~ is accumulated for collection and subsequent removal without ~~processing to a treatment facility.~~ (3-31-22)()

~~54.~~ **Service Connection.** Point of connection between the utility's system and the customer's piping or premises, typically including the pipe, meter, valves, and appurtenances leading from the main to the customer's property line. ()

~~7755.~~ **Sewage.** ~~The w~~ Water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ~~ground water~~ groundwater infiltration and surface water as may be present. (3-31-22)()

~~7856.~~ **Simple Wastewater Main Extension.** New or replacement wastewater main(s) ~~that require~~ requiring plan and specification review per these rules and that will be connected by gravity, without the use of pumps or lift stations, to existing wastewater collection facilities that have the capacity to carry the additional wastewater flow and capacity at downstream treatment facilities to meet disposal requirements. (3-31-22)()

~~7957.~~ **Sludge.** The semi-liquid mass produced and removed by ~~the municipal or nonmunicipal~~ municipal or nonmunicipal wastewater treatment processes. (3-31-22)()

~~80.~~ **Special Resource Water.** ~~Those specific segments or bodies of water which are recognized as needing intensive protection:~~ (3-31-22)

- ~~a.~~ To preserve outstanding or unique characteristics; or (3-31-22)
- ~~b.~~ To maintain current beneficial use. (3-31-22)
- ~~81.~~ **State.** The state of Idaho. (3-31-22)

~~8258.~~ **Substitute Responsible Charge Operator.** A public community wastewater operator holding a valid license at a class equal to or greater than the public community wastewater system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible. (3-31-22)()

~~8359.~~ **Surface Water Body.** All surface accumulations of water, natural or artificial, public or private, or parts thereof which are wholly or partially within, which flow through or border upon the state. This includes, but is not limited to, rivers, streams, canals, ditches, lakes, and ponds. It does not include private waters as defined in Section 42-212, Idaho Code. (3-31-22)

~~84.~~ **Total Maximum Daily Load (TMDL).** The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. (3-31-22)

~~60.~~ **Total Containment Lagoon.** A wastewater lagoon that relies on evaporation for effluent disposal with no other permit to dispose. ()

~~8561.~~ **Treatment.** A process or activity conducted for the purpose of removing pollutants from wastewater. (3-31-22)

~~8662.~~ **Treatment Facility.** Any physical facility or land area for the purpose of ~~collecting~~, treating, neutralizing or stabilizing pollutants including treatment plants; the necessary ~~collecting conveyance~~, intercepting, outfall and outlet sewers; pumping stations integral to such plants or sewers; disposal or reuse facilities; equipment and furnishing thereof; and their appurtenances. ~~For the purpose of these rules, a treatment facility may~~ also be known as a treatment system, ~~a wastewater system~~, wastewater treatment system, wastewater treatment facility, or wastewater treatment plant. (3-31-22)()

~~8763.~~ **User.** Any person served by a public wastewater system. Also known as a service connection. (3-31-22)()

~~8864.~~ **Very Small Wastewater System.** A public community wastewater system that serves five hundred (500) service connections or less and includes a collection system with a system size of six (6) points or less on the system classification rating form ~~(Section 202)~~ and is limited to only one (1) or more of the following wastewater treatment processes: (3-31-22)()

- a. Aerated lagoons; (3-31-22)
- b. Non-aerated lagoon(s); (3-31-22)()
- c. Primary treatment; or (3-31-22)
- d. Primary treatment discharging to a large soil absorption system (LSAS). (3-31-22)

~~8965.~~ **Wastewater.** Any combination of liquid or water and pollutants from activities and processes occurring in dwellings, commercial buildings, industrial plants, institutions and other establishments, together with any ~~ground water groundwater~~, surface water, and storm water that may be present; liquid or water that is chemically, biologically, physically or rationally identifiable as containing blackwater, gray water or commercial or industrial pollutants; and sewage. (3-31-22)()

~~9066.~~ **Wastewater Flows.** The following flows for the design year ~~shall~~ must be identified ~~as required~~ and used as a basis for design of ~~sewer wastewater~~ systems including sewer mains, ~~lift stations~~ pumping stations, wastewater treatment plants, treatment units, and other wastewater handling facilities. ~~The definition contained in this Subsection applies where any of the terms defined in Paragraphs a. through e. are used in these rules.~~ (3-31-22)()

a. Average Day Flow. The average day flow is the average of daily volumes to be received for a continuous twelve (12) month period expressed as a volume per unit time. However, the average day flow for design purposes for facilities having critical seasonal high hydraulic loading periods, such as recreational areas or industrial facilities, ~~shall~~ will be based on the average day flow during the seasonal period. (3-31-22)()

b. Maximum Day Flow. The design maximum day flow is the largest volume of flow to be received during a continuous twenty-four (24) hour period expressed as a volume per unit time. (3-31-22)

c. Maximum Month Flow. The maximum month flow is the largest volume of flow to be received during any calendar month expressed as a volume per unit time. (3-31-22)

d. Peak Instantaneous Flow. The design peak instantaneous flow is the instantaneous maximum flow rate to be received. (3-31-22)

e. Peak Hour Flow. The design peak hour flow is the largest volume of flow to be received during a one (1) hour period expressed as a volume per unit time. (3-31-22)

~~9167.~~ **Wastewater Lagoon.** Manmade impoundments constructed with earthen or semi-permeable embankments with an impervious liner for the purpose of storing ~~or, treating, or disposing of~~ wastewater or effluent. (3-31-22)()

~~92.~~ **Wastewater Pipelines.** ~~The pipelines that collect and convey non-potable discharges from or to multiple service connections.~~ (3-31-22)

~~9368.~~ **Wastewater Pumping Station.** A wastewater facility that collects wastewater from the collection system or the treatment system and pumps it to a higher elevation. Also called lift station or wastewater lift station. (3-31-22)

~~69.~~ **Wastewater System.** A collection system or treatment facility, or a combination of collection system and treatment facility. This includes all structures, equipment, or processes required to collect, convey, treat, store, and dispose of wastewater. ()

~~9470.~~ **Wastewater System Operator.** The person ~~who is~~ employed, retained, or appointed to conduct the tasks associated with routine ~~day to day operation and emergency operation~~ and maintenance of a ~~public community wastewater treatment or collection system in order~~ to safeguard the public health and environment. (3-31-22)()

~~95.~~ **Water Main Extension.** ~~An extension of the distribution system of an existing public water system that does not require a booster pumping station and is intended to increase the service area of the water system.~~ (3-31-22)

~~96.~~ **Water Pollution.** ~~Any alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the state, or the discharge of any pollutant into the waters of the state, which will or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to fish and wildlife, or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses.~~ (3-31-22)

~~97.~~ **Waters and Waters of the State.** ~~All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state.~~ (3-31-22)

~~98.~~ **Watershed.** ~~The land area from which water flows into a stream or other body of water which~~

~~drains the area.~~

~~(3-31-22)~~

(BREAK IN CONTINUITY OF SECTIONS)

401. REVIEW OF PLANS FOR NONMUNICIPAL WASTEWATER ~~TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS.

01. Plan and Specification Approval~~Required.~~ The Department reviews nonmunicipal wastewater system plans and specifications external to in-plant processes to ensure compliance with this chapter. The construction, ~~alteration or expansion~~ of any new, or material modification of an existing, nonmunicipal wastewater ~~treatment or disposal facility~~ system must not begin before plans and specifications for the proposed facility have been submitted to and approved by the Department. ~~Deviations may be allowed as provided in Subsection 401.02. The Department does not require review of industrial in-plant processes.~~ Aquaculture facilities must submit plans and specifications for construction, modification, or expansion of waste treatment or disposal facilities for review and approval consistent with Section 39-118(5), Idaho Code. Infrastructure for water conveyance or aquatic organism husbandry within an aquaculture facility, prior to its discharge or diversion to waste treatment or disposal facility, does not require engineering design submittal under these rules. ~~(3-31-22)()~~

02. Deviations from Approved Plans. No material deviations ~~are to~~ may be made from the approved plans and specifications without prior approval ~~of~~ from the Department. ~~(3-31-22)()~~

03. Professional Engineer's Seal. Plans and specifications ~~for construction, alteration or expansion of any nonmunicipal wastewater treatment or disposal facility shall~~ submitted to the Department must be prepared by or under the supervision of an Idaho licensed professional engineer and ~~shall bear the imprint of the engineer's seal be sealed, signed, and dated by the professional engineer in responsible charge of their preparation.~~ Construction ~~shall~~ must be observed by an Idaho licensed professional engineer or a person under the supervision of an Idaho licensed professional engineer. ~~(3-31-22)()~~

04. Record Plans and Specifications. (3-31-22)

a. ~~If actual construction deviates from the approved plans and specifications, complete and accurate plans and specifications depicting the actual construction, alteration, or modification performed, shall be submitted to the Department for review and approval within thirty (30) days of completion of construction. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that effect prepared by an Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings.~~ Must be submitted to the Department as specified in Section 39-118(3), Idaho Code. ~~(3-31-22)()~~

b. Record plans and specifications, or a statement submitted in lieu of record plans and specifications, must be sealed, signed, and dated by the professional engineer in responsible charge of their preparation. (3-31-22)

05. Waiver of Approval RequirementException. The Department can waive the plan and specification approval ~~required~~ described in Subsection 401.01 for any ~~particular~~ facility or category of facilities which will have no significant impact on the environment or on ~~the~~ public health. ~~(3-31-22)()~~

06. Department Approval On-site During Construction. The owner must maintain a copy of the approved plans and specifications and the approval letter from the Department on-site during construction at all times. ~~()~~

067. Applicability of Standards. The facility and design standards for municipal wastewater ~~treatment or disposal facilities~~ systems set out in these rules do not apply to nonmunicipal wastewater ~~treatment or disposal facilities~~ systems covered under Section 401. All plans and specifications submitted pursuant to Section 401.01 must conform in style and quality to regularly accepted engineering standards and applicable guidance and include the basis of design information and applicable design criteria. ~~(3-31-22)()~~

(BREAK IN CONTINUITY OF SECTIONS)

409. ~~FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES; DEMONSTRATION OF TECHNICAL, FINANCIAL, AND MANAGERIAL CAPACITY.~~

No person ~~shall~~ may proceed, or cause to proceed, with construction of a new ~~public~~ community wastewater system, a new private ~~municipal~~ treatment plant, a new municipal wastewater treatment facility, or a new privately owned municipal wastewater pumping station until it has been demonstrated to the Department that the wastewater system will have adequate technical, financial, and managerial capacity, ~~as defined in Section 010 of these rules.~~ Demonstration of capacity ~~shall~~ must be submitted to the Department prior to, or concurrent with, the submittal of plans and specifications, as ~~required~~ described in Section 39-118, Idaho Code, and Subsection 400.03 ~~of these rules.~~ The Department ~~shall~~ will issue in writing its approval of the new system capacity demonstration. Existing wastewater systems incapable of demonstrating technical, financial, or managerial capacity as identified through operational problems, may be required to submit additional technical, financial, or managerial documentation to the Department for review and approval. (3-31-22)()

01. Technical Capacity. ~~In order to~~ To meet this ~~requirement~~ provision, the ~~public wastewater system~~ system owner ~~shall~~ must submit documentation ~~to demonstrate the following~~ demonstrating: (3-31-22)()

- a. The system meets the relevant design, construction, and operating requirements of these rules; (3-31-22)
- b. A plan is in place to deal with emergencies; (3-31-22)
- c. A plan exists for replacement or improvement of infrastructure as necessary; and (3-31-22)
- d. The system has trained personnel with an understanding of the technical and operational characteristics of the system. (3-31-22)

02. Financial Capacity. ()

a. ~~A demonstration~~ Documentation of financial capacity must include, but is not limited to, ~~the following information:~~ (3-31-22)()

ai. ~~Documentation that~~ Organizational and financial arrangements ~~are~~ are adequate to construct and operate the wastewater system in accordance with these rules. This information can be provided by submitting estimated construction, operation, and maintenance costs, letters of credit, or other access to financial capital through public or private sources and, if available, a certified financial statement; (3-31-22)()

bii. ~~Demonstration of~~ Revenue sufficiency, that includes, but is not limited to, billing and collection procedures; a proposed rate structure ~~which~~ demonstrates ing the availability of operating funds; revenues for depreciation and reserves; and the ability to accrue a capital replacement fund. A preliminary operating budget ~~shall~~ must be provided; and (3-31-22)()

ciii. Adequate fiscal controls ~~must be demonstrated.~~ (3-31-22)()

db. For private ~~municipal~~ wastewater treatment plants, a performance bond, maintenance bond, or cash reserve of one (1) year of operation and maintenance costs is required to ensure continuous and adequate operation and maintenance. (3-31-22)()

03. Managerial Capacity. ~~In order to~~ To demonstrate adequate managerial capacity, the system owner ~~or operator of a new wastewater system shall~~ must submit at least the following information to the Department: (3-31-22)()

- a. Clear documentation of legal ownership and any plans that may exist for transfer of that ownership upon completion of construction or after a period of operation; (3-31-22)
- b. The name, address, and telephone number of the person who will be accountable ~~for ensuring to ensure~~ that the wastewater system ~~is in compliance with~~ follows these rules; (3-31-22)()
- c. The name, address, and telephone number of the responsible charge operator ~~and the substitute responsible charge operator~~; (3-31-22)()
- d. A description of ~~the manner in which~~ how the wastewater system will be managed. Information such as by-laws, restrictive covenants, articles of incorporation, or procedures and policy manuals which describe the management organizational structure ~~shall~~ must be provided; (3-31-22)()
- e. A ~~recommendation~~ description of staff qualifications, including training, experience, certification or licensing, and continuing education; (3-31-22)()
- f. An explanation of how the wastewater system will establish and maintain effective communications and relationships between the wastewater system management, its customers, professional service providers, and any applicable regulatory agencies; and (3-31-22)
- g. Evidence of planning for future growth, equipment repair and maintenance, and long-term replacement of system components. (3-31-22)()

04. Consolidation. In demonstrating new system capacity, the owner of the proposed new system must investigate the feasibility of obtaining wastewater service from an established ~~public~~ wastewater system. If such service is available, but the owner elects to proceed with an independent system, the owner must explain why this choice is in the public interest in terms of environmental protection, affordability to wastewater users, and protection of public health. (3-31-22)()

410. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER ~~TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS: FACILITY PLANS.

01. Facility Plans ~~Required.~~ ~~All Unless otherwise noted in this subsection, all~~ new municipal wastewater ~~treatment or disposal facilities, systems~~ and all existing municipal wastewater ~~treatment or disposal facilities systems~~ undergoing material modification ~~or expansion~~, are required to have a current facility plan that ~~shall~~ address ~~es~~ all applicable issues specifically required in Sections 410 and 420 through 599 ~~of these rules including, but not limited to, hydraulic capacity, treatment capacity, project financing, and operation and maintenance considerations.~~ The facility plan ~~shall~~ must address these issues sufficiently to determine the effects of the project on the overall wastewater infrastructure. ~~Material modification or expansion that requires a facility plan includes upgraded, or rehabilitated municipal wastewater treatment or disposal facilities and major collection, intercepter sewer, pump station projects, and septage transfer station projects.~~ Facility plans must address the entire potential service area of the ~~project~~ wastewater system. A facility plan may be completed for collection systems only, ~~for treatment facilities only, or for both the collection system and the treatment facility.~~ If such a collection system facility plan is prepared, and flows increase ~~in excess of~~ more than the design capacity of downstream collection and treatment facilities, the impact of the flow ~~shall~~ must be addressed in the facility plan. (3-31-22)()

- a. ~~Department reviewed simple wastewater main extension projects.~~ A facility plan is not required if the Department is provided documentation supporting the ability of the wastewater system to provide service for the simple wastewater main extension without adding wastewater pumping stations or treatment capacity to the ~~system treatment facility~~ and without overloading the existing collection system. Documentation may be in the form of: (3-31-22)()
- i. Hydraulic modeling; (3-31-22)
- ii. Usage data and flow calculations; (3-31-22)

iii. Declining balance reports that demonstrate the wastewater system has the capacity to supply the service area of the system served by the extension; or (3-31-22)()

iv. Other documentation acceptable to the Department. (3-31-22)

~~b. QLPE Reviewed Simple Wastewater Main Extension Projects.~~ A Department-approved facility plan is not required to be in place prior to the QLPE approving simple wastewater main extensions pursuant to Subsection 400.03.b., provided that the system is in compliance with the facility and design standards in the area served by the extension. If the Department has not approved a facility plan which covers the proposed simple wastewater main extension, then the system owner or the QLPE must include with the transmittal letter documentation supporting the ability of the system owner to provide service for the simple wastewater main extension without adding wastewater pumping stations or treatment capacity to the system and without overloading the existing collection system. The system owner ~~shall~~ must provide this documentation to the QLPE as necessary. Documentation may be in the form of: (3-31-22)()

i. Hydraulic modeling; (3-31-22)

ii. Usage data and flow calculations; (3-31-22)

iii. Declining balance reports that demonstrate the system has the capacity to supply the service area of the system served by the extension; or (3-31-22)

iv. Other documentation acceptable to the Department. (3-31-22)

02. Submittal to Department. Facility plans ~~shall~~ must be submitted to the Department for review and approval prior to the submission of plans and specifications for a project related to the facility plan. (3-31-22)()

03. Engineer's Seal ~~Required.~~ Facility plans submitted to the Department ~~shall bear the imprint of an Idaho licensed professional engineer's seal that is both signed and dated by the engineer~~ must be sealed, signed, and dated by the professional engineer in responsible charge of their preparation. (3-31-22)()

04. Facility Plan Contents. The facility plan ~~shall~~ must assemble basic information, present criteria and assumptions, address hydraulic capacity, treatment capacity, and operation and maintenance considerations, and examine alternative solutions with preliminary layouts ~~and~~ cost estimates, and project financing. The facility plan is intended to address system wide growth, to identify system deficiencies, and to lay out a plan for system upgrades and expansion. The minimum requirements for a facility plan are ~~located~~ in Subsections 410.04.a. through 410.04.c. If specific items are not applicable to a particular facility plan, then the engineer ~~shall~~ must state this in the facility plan and state the reason why it is not applicable. (3-31-22)()

~~a. New Wastewater System Facility Plan.~~ The facility plan for a new wastewater system must include sufficient detail to support the requirements, provisions of Sections 410 through 520 and address these items listed in Subsections 410.04.a.i. through 410.04.a.vii. of this rule. (3-31-22)()

i. ~~Location.~~ Provide a general description and location of the system including service boundaries. (3-31-22)()

ii. ~~Population.~~ Provide the estimated design population and service connections expressed as EDUs of the system. (3-31-22)()

iii. ~~Wastewater flows.~~ Provide design data for domestic, commercial, and industrial wastewater generation, including average day, maximum day, maximum month, or peak hour flows. (3-31-22)()

iv. ~~Collection.~~ Identify and describe any anticipated or proposed wastewater collection systems. Include specific details on any anticipated or proposed wastewater pumping stations and on any anticipated or proposed wastewater interceptor or trunk lines. (3-31-22)()

v. ~~Treatment.~~ Identify and describe any anticipated or proposed treatment ~~works~~ facilities. Provide

specific detail on the type and level of treatment and the required capacity of the treatment ~~system~~ facility: (3-31-22)()

vi. ~~Disposal~~ Identify and describe any anticipated or proposed wastewater disposal system(s). Include specific information on the location and method of disposal and information on any existing disposal permits or estimated timelines to obtain anticipated required permits: and (3-31-22)()

vii. ~~Drinking water~~ Describe the drinking water distribution system with reference to the relationship to existing or proposed wastewater structures which may affect the operation and location of the wastewater system. (3-31-22)()

b. ~~Existing Wastewater System Facility Plan~~ The facility plan for an existing wastewater system must include sufficient detail to support the ~~requirements~~ provisions of Sections 410 through 520, address all items in Subsections 410.04.a.i. through 410.04.a.viii., and ~~address all items in Subsections 410.04.b.i. through 410.04.b.viii.~~ the following: (3-31-22)()

i. Provide a system-wide hydraulic analysis of the collection system ~~if requested~~ unless otherwise approved by the Department. Any hydraulic analysis of an existing collection system ~~shall~~ must be properly calibrated. The type and sophistication of the hydraulic analysis ~~shall~~ will be dependent on the type of the wastewater system: (3-31-22)()

ii. Identify and evaluate problems or deficiencies related to the wastewater system: (3-31-22)()

iii. Identify the design capacity of existing facilities and the current operating flows: (3-31-22)()

iv. Identify if two or more wastewater systems will become one operating under the same governance, management, and financial functions including the physical interconnection of two or more wastewater systems: ()

iv. Describe financing options for projects identified in the facility plan: (3-31-22)()

v. Set forth anticipated charges for users: (3-31-22)()

vi. Review organizational and staffing requirements: (3-31-22)()

viii. Offer ~~a~~ project(s) recommendations for client consideration: and (3-31-22)()

~~viii~~ix. Outline official actions and procedures to implement the project. (3-31-22)

c. ~~Wastewater System Facility Plan Funded by the State Revolving Fund~~ If the project is funded by the state revolving fund or a state grant, the facility plan must meet the ~~requirements~~ provisions of Subsections 410.04.a. and 410.04.b., and other requirements that may also apply. See ~~IDAPA 58.01.12 "Rules for Administration of Water Pollution Control Loans," and IDAPA 58.01.04, "Rules for Administration of Wastewater Treatment Facility Grants," IDAPA 58.01.12, "Rules for Administration of Wastewater and Drinking Water Loan Funds," and IDAPA 58.01.22, "Rules for Administration of Planning Grants for Drinking Water and Wastewater Facilities."~~ (3-31-22)()

d. ~~Facility Plan Guidance~~ A checklist which can be used for guidance can be found on the DEQ website at <http://www.deq.idaho.gov>. This checklist is for Department grant and loan projects, but may be used in part or in whole as a guide to assist in the development of any facility plan. (3-31-22)()

(BREAK IN CONTINUITY OF SECTIONS)

425. ~~FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS: OPERATION AND MAINTENANCE MANUALS.

01. **Manual Contents.** An operation and maintenance manual or manuals ~~shall must~~ be ~~provided~~ developed for all wastewater systems. ~~The manual shall and~~ include, but ~~is~~ not limited to, the following contents: daily operating instructions, operator safety and emergency response procedures, location of valves and other key system features, a parts list and parts order form(s), maintenance schedule, and information for contacting the responsible charge operators. An operational trouble-shooting section ~~shall must~~ be supplied to the wastewater ~~works~~ system as part of any proprietary unit installed in system's facilities. (3-31-22)()

02. **Approval ~~Required~~.** Final operation and maintenance manuals for new construction or material modification of wastewater systems that include lift stations pumping stations or treatment ~~works~~ facilities must be submitted to the Department for review and approval prior to start-up of the proposed system unless the system components are already covered in an existing manual. (3-31-22)()

(BREAK IN CONTINUITY OF SECTIONS)

440. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER ~~TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS: WASTEWATER PUMPING STATIONS.

01. **General.** Section 440 regulates ~~both public and private~~ municipal wastewater collection pump stations and ~~does not regulate~~ individual residence pump stations, individual residence grinder pump stations, or individual residence septic tank effluent pump stations. See Section 441 for regulation of those types of pump stations. (3-31-22)()

a. **Flooding.** Wastewater pumping station structures and electrical and mechanical equipment ~~shall~~ must be protected from physical damage by the one hundred (100) year flood. Wastewater pumping stations ~~shall~~ must remain fully operational and accessible during the twenty-five (25) year flood. Regulations of state and federal agencies regarding flood plain obstructions shall be considered. (3-31-22)()

b. **Accessibility and Security.** The pumping station ~~shall~~ must be accessible by maintenance vehicles during all weather conditions. (3-31-22)()

c. **Grit.** The wet well and pump station piping ~~shall~~ must be designed to avoid operational problems from the accumulation of grit. (3-31-22)()

d. **Safety.** Provisions ~~shall~~ must be made to consider the protection of maintenance personnel and visitors from typical and foreseeable hazards in accordance with the engineering standards of care. See also Subsection 450.07. (3-31-22)()

02. **Design.** Design of wastewater pumping stations ~~shall~~ must meet the applicable ~~requirements~~ provisions of Subsections 440.02.a. through 440.02.i. (3-31-22)()

~~a. Type. Wastewater pumping stations in general use fall into four types: wet well/dry well, submersible, suction lift, and screw pump. (3-31-22)~~

ba. Structures Construction materials used for pumping station structures must be appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. (3-31-22)()

i. **Separation.** Dry wells ~~shall~~ must be completely separated from the wet well. Common walls must be gas tight. (3-31-22)()

ii. **Equipment Removal.** Provisions ~~shall~~ must be made to facilitate removing pumps, motors, and other mechanical and electrical equipment. Individual pump and motor removal must not interfere with the continued operation of remaining pumps. (3-31-22)

- ~~iii. Access and Safety Landings. (3-31-22)~~
- ~~(1) Access. Suitable means of access for maintenance personnel wearing self-contained breathing apparatus shall must be provided to dry wells and to wet wells. See also Subsection 450.07. (3-31-22)()~~
- ~~(2) Safety Landings. Section 009 provides a reference to requirements of the Occupational Safety and Health Administration (OSHA), compliance with which may be required by other law. (3-31-22)~~
- ~~iv.i. Buoyancy. Where high groundwater conditions are anticipated, buoyancy of the wastewater pumping station structures shall must be considered and, if necessary, adequate provisions shall be made for protection. (3-31-22)()~~
- ~~v. Construction Materials. Materials shall be selected that are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. This is particularly important in the selection of metals and paints. (3-31-22)~~
- ~~iv. Dry wells must be equipped with a positive means for dewatering. ()~~
- ~~e. Pumps. (3-31-22)~~
- ~~ib. Multiple Units. Multiple pumps shall must be provided. Units shall Pumps must have capacity such that, with any unit pump out of service, the remaining units pumps will have capacity to handle the design peak hourly flow. (3-31-22)()~~
- ~~ii. Protection Against Clogging. Pumps (except screw pumps) handling separate sanitary wastewater from thirty (30) inch or larger diameter sewers shall must be protected by bar racks. Appropriate protection from clogging shall must also be considered for small pumping stations. (3-31-22)()~~
- ~~iii. Pump Openings. Pumps handling unscreened raw wastewater shall must be capable of passing spheres of at least three (3) inches in diameter or be a grinder pump. Pump suction and discharge openings must be at least four (4) inches in diameter. An exception to the requirement for passing solid spheres of at least three (3) inches in diameter may be made on a case-by-case basis when approved by the Department based on equivalent protection from clogging or damage, such as grinder pumps. (3-31-22)()~~
- ~~iv.i. Priming. The pump shall must be placed so that, under normal operating conditions, it will operate under a positive suction head, except as specified in Subsection 440.03. (3-31-22)()~~
- ~~iv. Electrical Equipment. Section 009 provides a reference to the requirements of the National Electrical Code, compliance with which may be required by other law Electrical equipment must comply with local and state codes. (3-31-22)()~~
- ~~vi. Intake. Section 008 provides a reference to the Design of intakes may use American National Standard Institute/Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design. (3-31-22)()~~
- ~~vii. Dry Well Dewatering. Dry wells shall be equipped with a positive means for dewatering. (3-31-22)~~
- ~~viii. Pumping Rates. The pumps and controls of main pumping stations shall must be selected designed to operate with varying rates wastewater flows into the wet well. The pump control system design shall take into must account for, and minimize as needed, downstream impact of pump discharge hydraulic surges. The station design capacity shall must be based on peak hourly flow as determined in accordance with Section 411 and shall must be adequate to maintain a velocity in the force main sufficient to avoid solids deposition. See Subsection 440.09. (3-31-22)()~~
- ~~dc. Controls. Water level control sensing devices shall must be designed to allow for automatic control of pumps. (3-31-22)()~~

~~ed.~~ ~~Valves~~ Suitable shutoff and check valves must be placed on the discharge line of each pump (except on screw pumps). The check valve must be located between the shutoff valve and the pump. Check valves must be suitable for the material being handled and placed on the horizontal portion of the discharge piping except for ball checks, which may be placed in the vertical run. Valves must be capable of withstanding normal pressure and water hammer. All shutoff and check valves must be operable from the floor level and accessible for maintenance. Outside levers are recommended on swing check valves. (3-31-22)(____)

~~ie.~~ ~~Suction Line.~~ Suitable shutoff valves ~~shall~~ must be placed on the suction lines of dry pit pumps. (3-31-22)(____)

~~ii.~~ ~~Discharge Line.~~ Suitable shutoff and check valves shall be placed on the discharge line of each pump (except on screw pumps). The check valve shall be located between the shutoff valve and the pump. Check valves shall be suitable for the material being handled and shall be placed on the horizontal portion of the discharge piping except for ball checks, which may be placed in the vertical run. Valves shall be capable of withstanding normal pressure and water hammer. All shutoff and check valves shall be operable from the floor level and accessible for maintenance. Outside levers are recommended on swing check valves. (3-31-22)

f. Wet Wells. (3-31-22)

i. ~~Section 008 provides a reference to t~~The American National Standard Institute/Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design may be used as a guidance ~~document for design of wet wells.~~ (3-31-22)(____)

ii. ~~Air Displacement.~~ Covered wet wells ~~shall~~ must have provisions for air displacement to the atmosphere, such as an inverted “j” tube or other means. (3-31-22)(____)

~~g.~~ ~~Safety Ventilation.~~ Adequate ventilation ~~shall~~ must be provided for all pump stations unless access is provided using confined space entry procedures. Where the dry well is below the ground surface, mechanical ventilation ~~is required~~ must be provided. If screens or mechanical equipment requiring maintenance or inspection are ~~located~~ in the wet well, permanently installed ventilation ~~is required~~ must be provided. There ~~shall~~ may be no interconnection between the wet well and dry well ventilation systems. ~~Section 008 provides a reference to guidance documents; see Subsection 008.11.~~ (3-31-22)(____)

~~h.~~ ~~Flow Measurement.~~ Suitable methods for measuring wastewater flow ~~shall~~ must be ~~addressed~~ provided at all pumping stations. (3-31-22)(____)

i. ~~Water Supply.~~ There ~~shall~~ may be no physical connection between any potable water supply and a wastewater pumping station which, under any conditions, might cause contamination of the potable water supply. If a potable water supply connection is made to the station, the connection ~~shall~~ must comply with IDAPA 58.01.08, “Idaho Rules for Public Drinking Water Systems.” (3-31-22)(____)

03. Suction Lift Pump Stations - Special Considerations. Suction lift pumps ~~shall~~ must meet the applicable ~~requirements~~ provisions of Subsection 440.02. (3-31-22)(____)

a. ~~Pump Priming and Lift Requirements.~~ Suction lift pumps ~~shall~~ must be of the self-priming or vacuum-priming type. Suction lift pump stations using dynamic suction lifts exceeding the limits outlined in Subsections 440.03.b. through 440.03.d. may be approved by the Department upon submission of factory certification of pump performance and detailed calculations indicating satisfactory performance under the proposed operating conditions. (3-31-22)(____)

b. ~~Self-Priming Pumps.~~ Self-priming pumps ~~shall~~ must be capable of rapid priming and re-priming at the “lead pump on” elevation. ~~Such s~~ Self-priming and re-priming ~~shall~~ must be accomplished automatically under design operating conditions. (3-31-22)(____)

c. ~~Vacuum-Priming Pumps.~~ Vacuum-priming pump stations ~~shall~~ must be equipped with dual vacuum pumps capable of automatically and completely removing air from the suction lift pump. The vacuum pumps ~~shall~~ must be adequately protected from damage due to wastewater. The combined total of dynamic suction lift at the

“pump off” elevation and required net positive suction head at design operating conditions ~~shall~~ must not exceed twenty-two (22) feet. (3-31-22)()

d. ~~Equipment, Wet Well Access, and Valving Location.~~ The pump equipment compartment ~~shall~~ must be above grade or offset and ~~shall~~ be effectively isolated from the wet well to prevent a hazardous and corrosive sewer atmosphere from entering the equipment compartment. Wet well access ~~shall~~ may not be through the equipment compartment and ~~shall~~ must be at least twenty-four (24) inches in diameter. Gasketed replacement plates ~~shall~~ must be provided to cover the opening to the wet well for pump units removed for servicing. Valving ~~shall~~ may not be ~~located~~ in the wet well. (3-31-22)()

04. Submersible Pump Stations - Special Considerations. Submersible pump stations ~~shall~~ must meet the applicable ~~requirements~~ provisions of Subsection 440.02, except as modified in Subsection 440.04. (3-31-22)()

a. ~~Construction.~~ Submersible pumps and motors ~~shall~~ must be designed specifically for raw wastewater use, including totally submerged operation during a portion of each pumping cycle. An effective method to detect shaft seal failure or potential seal failure ~~shall~~ must be provided. (3-31-22)()

b. ~~Pump Removal.~~ Submersible pumps ~~shall~~ must be readily removable and replaceable without personnel entering or dewatering the wet well, or disconnecting any piping in the wet well. (3-31-22)()

c. ~~Electrical Equipment. Section 009 provides a reference to the requirements of the National Electrical Code, compliance with which may be required by other law.~~ Electrical equipment must comply with local and state codes. (3-31-22)()

i. ~~Power Supply and Control Circuitry.~~ Electrical supply, control, and alarm circuits ~~shall~~ must be designed to provide strain relief and to allow disconnection from outside the wet well. Terminals and connectors ~~shall~~ must be protected from corrosion by location outside the wet well or through use of watertight seals. (3-31-22)()

ii. ~~Controls.~~ The motor control center ~~shall~~ must be located outside the wet well, ~~be~~ readily accessible, and be protected by a conduit seal or other appropriate measures to prevent the atmosphere of the wet well from gaining access to the control center. The seal ~~shall~~ must be located so that the motor may be removed and electrically disconnected without disturbing the seal. ~~When such equipment is exposed to weather, it is recommended that it meet the requirements of weatherproof equipment NEMA 3R or 4.~~ (3-31-22)()

iii. ~~Power Cord.~~ Pump motor power cords ~~shall~~ must be designed for flexibility and serviceability under conditions of extra hard usage. Ground fault interruption protection ~~shall~~ must be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable. Power cord terminal fittings ~~shall~~ must be corrosion-resistant and constructed ~~in a manner~~ to prevent the entry of moisture into the cable, ~~shall be~~ provided with strain relief appurtenances, and ~~shall be~~ designed to facilitate field connecting. (3-31-22)()

d. ~~Valves.~~ Valves required under Subsection 440.02 ~~shall~~ must be ~~located~~ in a separate valve chamber. Provisions ~~shall~~ must be made to remove or drain accumulated water from the valve chamber. The valve chamber may be dewatered to the wet well through a drain line with a gas and water tight valve. Check valves that are integral to the pump need not be ~~located~~ in a separate valve chamber provided that the valve can be removed from the wet well in accordance with Subsection 440.04. Access ~~shall~~ must be provided in accordance with Subsection 440.02. (3-31-22)()

05. Screw Pump Stations - Special Considerations. Screw pump stations ~~shall~~ must meet the applicable ~~requirements~~ provisions of Subsection 440.02. (3-31-22)()

a. ~~Covers.~~ Covers or other means of excluding direct sunlight ~~shall~~ must be provided as necessary to eliminate adverse effects from temperature changes. (3-31-22)()

b. ~~Pump Wells.~~ A positive means of isolating individual screw pump wells ~~shall~~ must be provided. (3-31-22)()

c. ~~Bearings~~ Submerged bearings ~~shall~~ must be lubricated by an automated system without pump well dewatering. (3-31-22)()

06. **Alarm Systems.** Alarm systems with a backup power source ~~shall~~ must be provided for pumping stations. The alarm ~~shall~~ must be activated in cases of power failure, dry well sump and wet well high water levels, pump failure, pump clogging, unauthorized entry, or other cause of pump station malfunction. Pumping station alarms, including identification of the alarm condition, ~~shall~~ must be transmitted to a twenty-four (24) hour response center. Audio-visual alarm systems may be ~~acceptable in some cases in lieu of a transmitting system depending approved by the Department based~~ upon location, station holding capacity, and inspection frequency. (3-31-22)()

07. **Emergency Operation.** (3-31-22)

a. ~~Objective. The objective of e~~Emergency operation for pump stations is required to prevent the unintended discharge of raw or partially treated wastewater to any waters or land surface and to protect public health by preventing back up of wastewater and subsequent discharge to basements, streets, and other public and private property. (3-31-22)()

b. ~~Emergency Pumping Capability.~~ Emergency pumping capability is required for all new ~~lift~~ pumping stations constructed after April 15, 2007. Emergency pumping capability is required for all existing ~~lift~~ pumping stations that undergo a material modification ~~or expansion~~ unless overall system reliability can be proven adequate to the Department as shown in Subsections 440.07.b.i. and 440.07.b.ii. ~~or overflow prevention is provided by adequate emergency storage capacity as defined in these rules. If required, emergency pumping capability shall be accomplished by connection of the station to at least two (2) independent utility substations as determined by and stated in a letter from the appropriate power provider, by provision of portable or in-place internal combustion engine equipment which will generate electrical or mechanical energy, or by the provision of portable pumping equipment. Such emergency standby systems shall have sufficient capacity to start up and maintain the total rated running capacity of the station. Regardless of the type of emergency standby system provided, a portable pump connection to the force main with rapid connection capabilities and appropriate valving shall be provided outside the dry well and wet well.~~ (3-31-22)()

i. System reliability is ~~considered~~ adequate for an existing pumping station undergoing material modification if power grid outages average three (3) or less per year based on data for the three (3) previous years with no more than six (6) outages in a single year. (3-31-22)()

ii. Outage duration averages less than four (4) hours based on data for the three (3) previous years, with ~~not~~ more than one (1) outage during the three (3) previous year period exceeding eight (8) hours. Power loss for at least thirty (30) minutes qualifies as an outage. (3-31-22)()

c. ~~Equipment Requirements~~ Emergency pumping capability must be accomplished by either connection of the station to at least two (2) independent utility substations as determined by and stated in a letter from the appropriate power provider, by provision of portable or in-place internal combustion engine equipment which will generate electrical or mechanical energy, or by the provision of portable pumping equipment. Such emergency standby systems must have sufficient capacity to start up and maintain the total rated running capacity of the station. Regardless of the type of emergency standby system provided, a portable pump connection to the force main with rapid connection capabilities and appropriate valving must be provided outside the dry well and wet well. (3-31-22)()

i. ~~General.~~ The following general requirements ~~shall~~ apply to all internal combustion engines used to drive auxiliary pumps, service pumps through special drives, or electrical power generating equipment. (3-31-22)()

(1) ~~Engine Protection.~~ The engine must be protected from operating conditions that would result in damage to equipment. Unless continuous manual supervision is planned, protective equipment ~~shall~~ must be capable of shutting down the engine and activating an alarm on site and as provided in Subsection 440.06. Protective equipment ~~shall~~ must monitor for conditions of low oil pressure and overheating, except that oil pressure monitoring ~~will~~ is not ~~be~~ required for engines with splash lubrication. (3-31-22)()

- (2) ~~Size.~~ The engine ~~shall~~ must have adequate rated power to start and continuously operate under all connected loads. (3-31-22)()
- (3) ~~Fuel Type.~~ Reliability and ease of starting, especially during cold weather conditions, ~~shall~~ must be addressed in the selection of the type of fuel. (3-31-22)()
- (4) ~~Fuel Storage.~~ Fuel storage and piping facilities if provided ~~shall~~ must be constructed in accordance with applicable state and federal regulations. (3-31-22)()
- (5) ~~Engine Ventilation.~~ The engine ~~shall~~ must have adequate ventilation of fuel vapors and exhaust gases. (3-31-22)()
- (6) ~~Routine Start-up.~~ All emergency equipment ~~shall~~ must be provided with instructions indicating the need for regular starting and running of such units at full loads. (3-31-22)()
- (7) ~~Protection of Equipment.~~ Emergency equipment ~~shall~~ must be protected from damage at the restoration of regular electrical power. (3-31-22)()
- ii. ~~Engine Driven Pumping Equipment.~~ Where permanently-installed or portable engine-driven pumps are used, the following requirements in addition to ~~general requirements shall~~ the provisions of Subsection 440.07.c.i. apply. (3-31-22)()
- (1) ~~Pumping Capacity.~~ Engine-driven pumps ~~shall~~ must meet the design pumping requirements unless storage capacity is available for flows in excess of pump capacity. Pumps ~~shall~~ must be designed for anticipated operating conditions, including suction lift if applicable. (3-31-22)()
- (2) ~~Operation.~~ The engine and pump ~~shall~~ must be equipped to provide automatic start-up and operation of pumping equipment unless manual start-up and operation is justified. Provisions ~~shall~~ must also be made for manual start-up. Where manual start-up and operation is justified, storage capacity and alarm system must meet the ~~requirements~~ provisions of Subsection 440.07.c.ii(3). (3-31-22)()
- (3) ~~Portable Pumping Equipment.~~ Where part or all ~~of the~~ engine-driven pumping equipment is portable, adequate emergency storage capacity as defined in Section 010 with alarm system ~~shall~~ must be provided to allow time for detection of pump station failure and transportation and hookup of the portable equipment. (3-31-22)()
- iii. ~~Engine Driven Generating Equipment.~~ Where permanently-installed or portable engine-driven power generating equipment is used, the following requirements ~~shall~~ apply in addition to the ~~general requirements provisions~~ of Subsection 440.07.c.i. (3-31-22)()
- (1) ~~Generating Capacity.~~ (3-31-22)()
- (a1) ~~Power~~ Generating unit size ~~shall~~ must be adequate to provide power for pump motor starting current and for lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation of the ~~lift~~ pumping station. (3-31-22)()
- (b2) The operation of only one pump during periods of auxiliary power supply must be justified. ~~Such justification may be made on the basis of~~ based on the design peak hourly flows relative to single-pump capacity, anticipated length of power outage, and storage capacity. (3-31-22)()
- (e3) Manual or special sequencing controls ~~shall~~ must be provided to start pump motors unless the power generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating. (3-31-22)()
- (24) ~~Operation.~~ Provisions ~~shall~~ must be made for automatic and manual startup and load transfer unless only manual start-up and operation is justified. Automatic transfer switches ~~shall~~ must be UL listed and meet NEC requirements. The generator must be protected from operating conditions that would result in damage to equipment.

Provisions ~~shall~~ must be made to allow the engine to start and stabilize at operating speed before assuming the load. Where manual start-up and transfer is justified, the storage capacity and alarm system must meet the ~~requirements~~ provisions of Subsection 440.07.c.iii. ~~(35)~~. ~~(3-31-22)~~ ()

~~(35)~~ Portable Generating Equipment. Where portable power generating equipment and manual transfer is provided, adequate emergency storage capacity as defined in Section 010 with alarm system ~~shall~~ must be provided to allow time for detection of pump station failure and transportation and connection of power generating equipment. Special electrical connections and double throw switches ~~shall~~ must be provided for connecting portable power generating equipment. Manual transfer switches ~~shall~~ must be UL listed and meet NEC requirements. ~~(3-31-22)~~ ()

iv. Independent Utility Substations. Where independent power substations are used for emergency power, each separate substation and its associated transmission lines ~~shall~~ must be capable of starting and operating the pump station at its rated capacity. ~~(3-31-22)~~ ()

~~08.~~ Instructions and Equipment. Wastewater pumping stations and portable equipment shall be supplied with a complete set of operational instructions, including emergency procedures, maintenance schedules, tools, and such spare parts as may be necessary. ~~(3-31-22)~~ ()

~~098.~~ **Operation and Maintenance.** (3-31-22)

a. An operation and maintenance manual ~~shall~~ must be submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual ~~shall be~~ is required. The owner ~~shall be~~ is responsible for maintaining the ~~wastewater facility pump station~~ in a manner that ~~assures~~ ensures its designed operation. ~~(3-31-22)~~ ()

b. For new privately owned municipal wastewater collection pump stations, documents that detail the technical, managerial, and financial capabilities of the private entity to properly operate and maintain said pump station for the long term ~~shall~~ must be submitted to the Department ~~for approval prior to operation in accordance with Section 409.~~ ~~(3-31-22)~~ ()

~~409.~~ **Force Mains.** (3-31-22)

a. Velocity and Diameter. ~~At design pumping rates, a~~ A cleansing velocity of at least two (2) feet per second ~~shall~~ must be maintained within force mains at the design pumping rates. ~~(3-31-22)~~ ()

b. Air and Vacuum Relief Valve. An air relief valve ~~shall~~ must be placed at high points in the force main to prevent air locking unless otherwise approved by the Department. The force main configuration and head conditions ~~shall~~ must be evaluated ~~as~~ to determine the need for and placement of vacuum relief valves. ~~(3-31-22)~~ ()

c. Termination. The force mains from other than individual grinder pump stations ~~shall~~ must enter a receiving manhole. Corrosion protection for the receiving manhole ~~shall~~ must be provided. Control of odors at such discharge points ~~shall~~ must be evaluated. ~~(3-31-22)~~ ()

d. Pipe and Design Pressure. Pipe and joints ~~shall~~ must be equal to water main strength materials suitable for design conditions. The force main, reaction blocking, thrust restraint, and station piping ~~shall~~ must be designed to withstand water hammer pressures and associated cyclic reversal of stresses that are expected with the cycling of wastewater lift pumping stations. If necessary, ~~the~~ use of surge valves, surge tanks, or other suitable means to protect the force main against severe pressure changes ~~shall~~ must be evaluated. ~~(3-31-22)~~ ()

e. Special Construction. Force main construction near streams or water works structures and at water main crossings ~~shall~~ must meet applicable provisions of Section 430. ~~(3-31-22)~~ ()

f. Design Ffriction Losses must be in accordance with an approved PER pursuant to Section 411.03.c. ~~(3-31-22)~~ ()

- ~~i. Friction Coefficient. Friction losses through force mains shall be based on the Hazen and Williams formula or other acceptable methods. When the Hazen and Williams formula is used, the friction losses for varying values of “C” shall be evaluated for different types and ages of pipe.~~ (3-31-22)
- ~~ii. Maximum Power Requirements. When initially installed, force mains will have a significantly higher “C” factor. The effect of the higher “C” factor shall be considered in calculating maximum power requirements and duty cycle time to prevent damage to the motor. The effects of higher discharge rates on selected pumps and downstream facilities shall also be considered.~~ (3-31-22)
- ~~g. Identification. Where force mains are constructed of material which might cause the force main to be confused with potable water mains, the force main shall must be appropriately identified using trench tape saying, “raw sewage,” “biohazard,” or other appropriate wording.~~ (3-31-22)()
- ~~h. Leakage Testing. Leakage tests shall must be specified including testing methods and leakage limits. Testing shall must conform with Sections 401.3.6 and 505.3.3 of the “Idaho Standards for Public Works Construction,” incorporated by reference ~~into these rules at in~~ Section 004.~~ (3-31-22)()
- ~~i. Thrust Blocking or Restraint. Thrust blocking or restraint shall must conform with Sections 401.3.4 of the “Idaho Standards for Public Works Construction,” incorporated by reference ~~into these rules at in~~ Section 004, or specific calculations reviewed and approved by the Department.~~ (3-31-22)()
- ~~j. Maintenance Considerations. Isolation valves shall must be used if force mains connect into a common force main.~~ (3-31-22)()
- ~~k. Cover. Force mains shall must be covered with sufficient earth or other insulation to prevent freezing or other physical damage.~~ (3-31-22)()

(BREAK IN CONTINUITY OF SECTIONS)

450. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER ~~TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS: WASTEWATER TREATMENT FACILITIES: GENERAL.

01. Plant Location. (3-31-22)

- ~~a. General. The preliminary engineering report or PER and facility plan shall must include a detailed discussion for new facilities regarding site selection criteria and alternatives considered. See Sections 410 and 411.~~ (3-31-22)()
- ~~b. Flood protection. The treatment plant structures, electrical, and mechanical equipment shall must be protected from physical damage by the one hundred (100) year flood. Treatment plants shall must be designed to remain fully operational and accessible during the one hundred (100) year flood. This requirement applies to new construction and to existing facilities undergoing major material modification. Local, state, and federal flood plain regulations shall must be considered.~~ (3-31-22)()
- ~~c. Setback distances. Facilities open to the atmosphere such as wastewater lagoons, open clarifiers, open aeration basins, and other such facilities shall must be placed a minimum of two hundred (200) feet from residential property lines. If such open facilities are adjacent to property zoned as commercial or industrial, a lesser setback will be considered by the Department on a case by case basis. For totally enclosed facilities with noise and odor controls, the minimum setback shall must be fifty (50) feet if approved by the Department. A lesser setback may be considered by the Department on a case by case basis when considering factors including, but not limited to, anticipated land use, property zoning, quality of wastewater, or anticipated odors. Neighboring property owners may grant long term easements or other types of legal documents tied to the land to allow for similar setbacks from future development or public use.~~ (3-31-22)()

02. Quality of Effluent. The ~~required~~ degree of wastewater treatment shall must be based on the

effluent requirements ~~and water quality standards~~ established by the responsible state ~~agency and appropriate~~ or federal ~~regulations including discharge permit requirements~~ agency. Combined sewer overflows are not allowed. (3-31-22)()

03. Design. (3-31-22)

a. ~~Type of Treatment.~~ The ~~preliminary engineering report PER~~ or facility plan ~~shall~~ must include a detailed discussion regarding criteria and alternatives considered in ~~selection of~~ selecting the appropriate treatment type of treatment. See Sections 410 and 411. The plant design ~~shall~~ must provide the necessary flexibility to perform satisfactorily within the expected range of waste characteristics and volumes. (3-31-22)()

b. ~~Required Engineering Data for New Process and Application Evaluation.~~ The Department policy ~~of the Department~~ is to encourage ~~rather than obstruct~~ the development of any valid methods or equipment for treatment of wastewater. The lack of inclusion in these standards of some types of wastewater treatment processes or equipment should not be construed as precluding their use. The Department may approve other types of wastewater treatment processes and equipment that meet the performance standards set forth in these rules under the condition that the operational reliability and effectiveness of the process or device ~~shall~~ must have been demonstrated under similar conditions with a suitably-sized unit operating at its design load conditions, to the extent required. To determine that such new processes and equipment or applications have a reasonable and substantial chance of success, the Department may require the following: (3-31-22)()

i. Monitoring observations, including test results and engineering evaluations, demonstrating the efficiency of such processes. (3-31-22)

ii. Detailed description of the test methods. (3-31-22)

iii. Testing, including ~~appropriately composited~~ appropriately composited samples, under various ranges of strength and flow rates (including diurnal variations) and waste temperatures over a sufficient length of time to demonstrate performance under climatic and other conditions which may be encountered in the area of the proposed installations. (3-31-22)()

iv. ~~Other appropriate information.~~ The Department may require that a Appropriate testing be conducted and evaluations be made under the supervision of a competent process engineer other than those employed by the manufacturer or developer. (3-31-22)()

c. ~~Design period.~~ The design period ~~shall~~ must be clearly identified in the ~~preliminary engineering report PER~~ or facility plan ~~as required~~ described in Sections 410 and 411. (3-31-22)()

~~d.~~ Design Loads. (3-31-22)

~~i.d.~~ Hydraulic D design flow conditions critical to the design of the treatment plant must be as described in the PER required by Section 411. (3-31-22)()

~~(1)i.~~ Critical Flow Conditions. Flow conditions critical to the design of the treatment plant shall be as described in the preliminary engineering report required by Section 411. Initial low flow conditions must be evaluated in the design to minimize operational problems with freezing, septicity, flow measurements and solids dropout. The appropriate design flows must be considered in evaluating unit processes, pumping, piping, etc. (3-31-22)()

~~(2)ii.~~ Treatment Plant Design Capacity. The treatment plant design capacity ~~shall~~ must be as described in the PER as required by Section 411. The plant design flow selected ~~shall~~ must meet the appropriate effluent and water quality standards that are set forth in the discharge or other appropriate permit. For plants subject to high wet weather flows or overflow detention pump-back flows, the design maximum flows that the plant is to treat on a sustained basis ~~shall~~ must be specified. (3-31-22)()

~~(3)iii.~~ Flow Equalization. Facilities for the equalization of flows and organic shock load ~~shall~~ must be considered at all plants which are critically affected by surge loadings. (3-31-22)()

~~ii.e. Organic Design.~~ Organic loadings for wastewater treatment plant design ~~shall~~ **must** be based on the information provided in the ~~preliminary engineering report required by PER described in~~ Section 411. The effects of septage flow which may be accepted at the ~~plant shall~~ **treatment facility must** be given consideration and appropriate facilities ~~shall~~ **must** be included in the design. See Section 520. (3-31-22)()

~~iii.f. Shock Effects.~~ The shock effects of high concentrations and diurnal peaks for short periods of time on the treatment process, particularly for small treatment plants, ~~shall~~ **must** be considered. (3-31-22)()

~~eg. Conduits.~~ All piping and channels ~~shall~~ **must** be designed to carry the maximum expected flows. Conduits ~~shall~~ **must** be designed to avoid creation of pockets and corners where solids can accumulate. (3-31-22)()

~~fi. Gates or Valves.~~ Suitable gates or valves ~~shall~~ **must** be placed in channels to seal off unused sections which might accumulate solids. The use of shear gates, stop plates or stop planks is permitted where they can be used in place of gate valves or sluice gates. Non-corrodible materials ~~shall~~ **must** be used for control gates and conduits. (3-31-22)()

~~gi. Arrangement of Units.~~ Component parts of the plant ~~shall~~ **must** be arranged for appropriate operating and maintenance convenience, flexibility, economy, continuity of maximum effluent quality, and ease of installation of future units. (3-31-22)()

~~hj. Flow Division Control.~~ Flow division control facilities ~~shall~~ **must** be provided as necessary to ensure organic and hydraulic loading control to plant process units and ~~shall~~ **must** be designed for easy operator access, change, observation, and maintenance. Appropriate flow measurement facilities ~~shall~~ **must** be incorporated ~~into~~ the flow division control design. (3-31-22)()

~~ik. Odor Management.~~ An odor management plan ~~shall~~ **must** be submitted to and approved by the Department as a part of the ~~preliminary engineering report PER~~ described in Section 411. The Water Environment Federation Guidance referenced in Section 008 ~~of these rules~~ provides guidance for use in developing an odor management plan that is inclusive of the facilities being designed. (3-31-22)()

~~jl. Cold Weather.~~ Facilities ~~shall~~ **must** be designed with regard for proper operation and maintenance and protection during cold weather temperatures expected at the specific location. The Water Environment Federation Guidance referenced in Section 008 ~~of these rules~~ provides guidance for use in designing, operating and maintaining facilities in cold weather. (3-31-22)()

04. Plant Details. (3-31-22)

a. Unit Bypasses. (3-31-22)

i. ~~Removal from Service.~~ Properly located and arranged bypass structures and piping ~~shall~~ **must** be provided so that each unit of the plant can be removed from service independently. The bypass design ~~shall~~ **must** facilitate plant operation during unit maintenance and emergency repair ~~so as~~ to minimize deterioration of effluent quality and ensure rapid process recovery upon return to normal operational mode. The actuation of all bypasses ~~shall~~ **must** require ~~s~~ manual action by operating personnel. All power-actuated bypasses ~~shall~~ **must** be designed to permit manual operation in the event of power failure. (3-31-22)()

ii. ~~Unit Bypass During Construction.~~ Unit bypassing during construction ~~shall~~ **must** be in accordance with the ~~preliminary engineering report required by PER described in~~ Section 411. (3-31-22)()

b. ~~Unit dewatering, flotation protection, and plugging.~~ Drains or sumps ~~shall~~ **must** be provided to completely dewater each unit to an appropriate point in the process. Due consideration ~~shall~~ **must** be given to the possible need for hydrostatic pressure relief devices to prevent flotation of structures. Pipes subject to plugging ~~shall~~ **must** be provided with means for mechanical cleaning or flushing. (3-31-22)()

c. Construction materials. Materials ~~shall~~ **must** be selected that are appropriate under conditions of

exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. This is particularly important in the selection of metals and paints. (3-31-22)(____)

d. ~~Painting.~~The contents and direction of flow ~~shall~~ must be identified on the piping in a contrasting color. (3-31-22)(____)

e. ~~Operating equipment.~~Tools, accessories, and spare parts necessary for the plant operator's use ~~shall~~ must be provided. (3-31-22)(____)

f. ~~Storage and work space facilities.~~Readily accessible storage and ~~work space~~ workspace facilities ~~shall~~ must be provided, and consideration ~~shall~~ must be given to provision of a garage for large equipment storage, maintenance, and repair. (3-31-22)(____)

g. ~~Erosion control during construction.~~Effective site erosion control ~~shall~~ must be provided during construction. (3-31-22)(____)

h. ~~Grading and landscaping.~~Upon completion of the plant, the ground ~~shall~~ must be graded and landscaped in accordance with the ~~preliminary engineering report developed in the preliminary engineering report required by PER described in~~ Section 411. (3-31-22)(____)

05. Plant Outfalls. (3-31-22)

a. ~~Discharge impact control.~~The outfall ~~shall~~ must be designed to discharge to the receiving ~~stream~~ water in a manner acceptable to various reviewing authorities including, but not limited to, EPA, the ~~Idaho Department of Environmental Quality~~, U.S. Army Corp of Engineers, Idaho Department of Water Resources, and local jurisdictions. (3-31-22)(____)

b. ~~Protection and Maintenance.~~The outfall ~~shall~~ must be so constructed and protected against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. Hazards to navigation ~~shall~~ must be considered in designing outfalls. (3-31-22)(____)

c. ~~Sampling Provisions.~~All outfalls ~~shall~~ must be designed so that a sample of the effluent can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. (3-31-22)(____)

06. Essential Facilities. (3-31-22)

~~a.~~ Emergency Power Facilities. (3-31-22)

~~ia.~~ General.All wastewater treatment plants ~~shall~~ must be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. Refer to Subsection 440.07.c. for design requirements. Methods of providing alternate sources include: (3-31-22)(____)

~~(1)~~i. The connection of at least two (2) independent power sources such as substations. A power line from each substation is required if this method is used. The determination of the independent power sources ~~shall~~ must be done by the appropriate power provider and stated in a letter from that provider. (3-31-22)(____)

~~(2)~~ii. In-place internal combustion engine equipment which will generate electrical or mechanical energy. (3-31-22)

~~(3)~~iii. Portable pumping equipment when only emergency pumping is required. Where part or all of the engine-driven pumping equipment is portable, adequate emergency storage capacity with alarm system ~~shall~~ must be provided to allow time for detection of pump station failure and transportation and hookup of the portable equipment. (3-31-22)(____)

~~iv.~~ Power for Aeration.Standby power-generating capacity normally is not required for aeration equipment used in the activated sludge process. In cases where a history of chronic, long-term (four (4) hours or

more) power outages have occurred, auxiliary power for minimum aeration of the activated sludge ~~will be~~ **is** required as provided in Subsections 450.06.a.i.(1) ~~or~~ **and** 450.06.a.ii.(2). (3-31-22)()

~~iii.v.~~ **Power for Disinfection.** Standby ~~power-~~generating capacity, as provided in Subsections 450.06.a.i.(1) ~~or~~ **and** 450.06.a.ii.(2), is required for disinfection facilities and dechlorination facilities. (3-31-22)()

~~b.~~ **Water Supply.** Section 009 provides a reference to the Uniform Plumbing Code, compliance with which may be required by other law. (3-31-22)

~~e.~~ **Sanitary Facilities.** Section 009 provides a reference to the Uniform Plumbing Code, compliance with which may be required by other law. (3-31-22)

~~db.~~ **Stairways.** Stairways ~~shall~~ **must** be installed in lieu of ladders for top access to units requiring routine inspection and maintenance (such as digesters, trickling filters, aeration tanks, clarifiers, tertiary filters, etc.). (3-31-22)()

~~ec.~~ **Flow Measurement.** (3-31-22)

~~i.~~ **Location.** Flow measurement devices ~~shall~~ **must** be provided to measure the following flows: (3-31-22)

(1) **P**lant influent or effluent flow. (3-31-22)

(2) **I**f influent flow is significantly different from effluent flow, both ~~shall~~ **must** be measured or otherwise accounted for by other flow measurement facilities. (3-31-22)()

(3) **I** Other flows ~~required to be monitored under the~~ **measurement must be provided if required by** provisions of the discharge permit **or as required for plant operational control such as return activated sludge, waste activated sludge, and recycled flow.** (3-31-22)()

(4) **O**ther flows such as return activated sludge, waste activated sludge, and recycle ~~required for plant operational control.~~ (3-31-22)

ii. **D**eveloping ~~Devices.~~ Indicating, totalizing, and recording flow measurement devices for all influent or effluent flows ~~shall~~ **must** be provided for all plants. Any other flow measurement device may be indicating and totalizing only. All flow measurement equipment must be sized to function to a satisfactory level of accuracy over the full range of flows expected and ~~shall~~ **must** be protected against freezing. (3-31-22)()

iii. **H**ydraulic ~~Conditions.~~ Flow measurement equipment including approach and discharge conduit configuration and critical control elevations ~~shall~~ **must** be designed to ensure the required hydraulic conditions necessary for the measurement accuracy needed for the specific application. (3-31-22)()

iv. **C**alibration ~~and Certification.~~ The flow measurement devices ~~specified in Subsections 450.06.e.i.(1) through 450.06.e.i.(3)~~ **shall** **must** be calibrated and certified at manufacturer-specified frequencies. (3-31-22)()

~~fd.~~ **S**ampling ~~Equipment.~~ Effluent composite sampling equipment ~~shall~~ **must** be provided at all mechanical plants and at other facilities where necessary to meet discharge permit monitoring requirements. Composite sampling equipment ~~shall~~ **must** also be provided as needed for influent sampling and for monitoring plant operations. The influent sampling point ~~shall~~ **must** be located prior to any process return flows. (3-31-22)()

07. Safety. (3-31-22)

a. **G**eneral. Provisions ~~shall~~ **must** be made to consider the protection of maintenance personnel and visitors from typical and foreseeable hazards in accordance with the engineering standards of care. Enclosure of the plant site with a fence and signs designed to discourage the entrance of unauthorized persons and animals is required.

(3-31-22)()

b. ~~Hazardous Chemical Handling.~~ The materials utilized for storage, piping, valves, pumping, metering, splash guards, etc., ~~shall~~ must be specially selected considering the physical and chemical characteristics of each hazardous or corrosive chemical. (3-31-22)()

08. Laboratory. (3-31-22)

a. All treatment plants ~~shall~~ must include a laboratory for making the necessary analytical determinations and operating control tests, except for those plants utilizing only processes not requiring laboratory testing for plant control and where satisfactory off-site laboratory provisions are made to meet the permit monitoring requirements. The laboratory ~~shall~~ must have sufficient size, bench space, equipment, and supplies to perform all self-monitoring analytical work required by ~~discharge disposal~~ permits, and to perform the process control tests necessary for good management of each treatment process included in the design. (3-31-22)()

b. Expected minimum laboratory needs must be addressed in the PER pursuant to Section 411. Treatment plant laboratory needs may be are divided into the following three (3) general categories: (3-31-22)()

i. Plants performing only basic operational testing; this typically includes pH, temperature, dissolved oxygen, and chlorine residual. (3-31-22)

ii. Plants performing more complex operational and permit laboratory tests including biochemical oxygen demand, suspended solids, and fecal coliform analysis. (3-31-22)

iii. Plants performing more complex operational, permit, industrial pretreatment, and multiple plant laboratory testing. (3-31-22)

~~c. Expected minimum laboratory needs for the three (3) plant classifications set out in Subsection 450.08.b. must be addressed in the preliminary engineering report. (3-31-22)~~

~~**09. Instructions and Equipment.** Wastewater treatment equipment shall be supplied with a complete set of operational instructions, including emergency procedures, maintenance schedules, tools and such spare parts as may be necessary. (3-31-22)~~

~~**409. Operation and Maintenance.** An operation and maintenance manual ~~shall~~ must be submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual ~~shall be~~ is required. The owner ~~shall be~~ is responsible for maintaining the wastewater treatment facility in a manner that assures ensures its designed operation. (3-31-22)()~~

(BREAK IN CONTINUITY OF SECTIONS)

493. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER ~~TREATMENT OR DISPOSAL FACILITIES~~ SYSTEMS: WASTEWATER LAGOONS.

01. General. (3-31-22)

a. These rules pertain to all new, and existing material modified, municipal wastewater lagoons, including discharging or ~~non discharging~~ total containment lagoons, municipal wastewater treatment lagoons, municipal wastewater or recycled water storage lagoons, and any other municipal wastewater lagoons not regulated under IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules and Rules for Cleaning of Septic Tanks." that, ~~if leaking~~, have the potential to degrade waters ~~of the state~~. Lagoons are also sometimes referred to as ponds. Section 493 does not apply to industrial lagoons or mining tailings ponds, single-family dwellings utilizing a single lagoon, two (2) cell infiltrative system, those animal waste lagoons excluded from review under Section 39-118, Idaho Code, or storm water ponds. (3-31-22)()

b. Lagoons utilized for equalization, ~~percolation, evaporation,~~ and sludge storage do not have to meet the requirements ~~set forth in~~ of Subsections 493.056 through 493.1008, but must comply with all other applicable subsections. (3-31-22)()

02. Seepage Testing ~~Requirements.~~ (3-31-22)()

a. ~~Existing Lagoons. All existing lagoons covered under these rules shall be seepage tested by an Idaho licensed professional engineer, an Idaho licensed professional geologist, or by individuals under their supervision by April 15, 2012 unless otherwise specified in a current permit issued by the Director.~~ All lagoons covered under this section must be seepage tested at an interval of at least every ten (10) years by or under the supervision of an Idaho licensed professional engineer or an Idaho licensed professional geologist. (3-31-22)()

b. ~~New Lagoons.~~ As part of the construction process, all new lagoons must be seepage tested by or under the supervision of an Idaho licensed professional engineer; or an Idaho licensed professional geologist; ~~or by individuals under their supervision prior to being put into service.~~ (3-31-22)()

~~e. Subsequent Tests. All lagoons covered under these rules must be seepage tested by an Idaho licensed professional engineer, an Idaho licensed professional geologist, or by individuals under their supervision every ten (10) years after the initial testing.~~ (3-31-22)

~~dc. Testing Due to Change of Conditions to Liner. Prior to being returned to service,~~ Lagoons must be seepage tested if a change of condition to the liner occurs that may affect its permeability, including but not limited to liner repair below the high water line, liner replacement, lagoon dewatering of soil-lined lagoons which results in desiccation of the soil liner, seal installation, or earthwork affecting liner integrity. A seepage test may be required after solids removal. Prior to performing activities that may affect liner permeability, such as solids removal, the system owner must contact the Department in writing to determine if a seepage test will be required prior to returning the lagoon to service. (3-31-22)()

~~ed. Procedures for Performing a Seepage Test.~~ The procedure for performing a seepage test or alternative analysis must be approved by the Department prior to conducting the test, and the test results must be submitted to the Department for review. ~~If an existing lagoon has passed a seepage test before April 15, 2012 and submitted the results to the Department, the owner of that lagoon has ten (10) years from the date of the testing to comply with this requirement.~~ (3-31-22)()

03. Allowable Seepage Rates. (3-31-22)

a. ~~Design Standard. Lagoons shall be designed for a maximum leakage rate of five hundred (500) gallons per acre per day.~~ Lagoons must be designed and sealed such that seepage loss through the seal is as low as possible. Seals consisting of soils, bentonite, or synthetic liners may be considered, provided the permeability, durability, and integrity of the proposed material can be satisfactorily demonstrated for anticipated conditions. (3-31-22)()

b. ~~Operating Standard.~~ The leakage seepage rate for lagoons constructed after April 15, 2007, shall ~~must~~ be no more than zero point one hundred twenty-five (0.125) inches (1/8 inch) per day, ~~which is approximately thirty four hundred (3400) gallons per acre per day.~~ The leakage rate for existing lagoons constructed prior to April 15, 2007, ~~shall~~ must be no more than zero point twenty-five (0.25) inches (1/4 inch) per day. (3-31-22)()

c. For lagoons located over sensitive aquifers or near with a documented direct hydraulic connection to a 303d listed stream segments, the leakage seepage rate ~~shall~~ may be no more than zero point one hundred twenty-five (0.125) inches (one-eighth (1/8) inch) per day, ~~which is approximately thirty four hundred (3400) gallons per acre per day.~~ The operating standard may be considerably lower based on a ground water investigation considering fate and transport of contaminants to determine the effect of the seepage on the aquifer or stream segment and the best capability of measurement at the time of the investigation. (3-31-22)()

04. ~~Requirements for~~ Lagoons Leaking Above the Allowable Amount. If a lagoon is found to be leaking at a rate higher than ~~that allowed under Subsection 493.03.b.,~~ the owner of the lagoon, in accordance with a schedule negotiated with and approved by the Director, is required to: (3-31-22)()

- a. Repair the leak and retest for compliance; (3-31-22)
- b. Re-line the lagoon and retest for compliance with a leakage rate of no more than zero point one hundred twenty-five (0.125) inches (1/8 inch) per day regardless of the original lagoon construction date; (3-31-22)()
- c. Drain the lagoon in an approved manner and stop using the lagoon; or (3-31-22)
- d. Determine the impact of the leaking lagoon on the environment based on ~~ground-water~~ groundwater sampling and modeling. The procedure for performing ~~ground-water~~ groundwater sampling and monitoring must be approved by the Department. Any impact must comply with IDAPA 58.01.11, “Ground Water Groundwater Quality Rule,” and IDAPA 58.01.02, “Water Quality Standards.” If the impact does not comply with IDAPA 58.01.11, “Ground Water Quality Rule,” and IDAPA 58.01.02, “Water Quality Standards,” the owner of the lagoon must follow one (1) of the steps set out in Subsections 493.04.a. through 493.04.c. (3-31-22)()
- 05. Location.** (3-31-22)
- a. Wastewater ~~treatment~~ lagoons ~~shall~~ must be placed ~~a minimum of two hundred (200) feet from residential property lines in accordance with the provisions in Section 450.01.c.~~ In all cases, the design location ~~shall~~ must consider odors, nuisances, etc. This distance is to the toe of the exterior slope of the dike or to the top of the cut for a lagoon placed into a hillside. More restrictive planning and zoning or other local requirements ~~shall~~ may apply. (3-31-22)()
- b. ~~Ground Water Separation.~~ A minimum separation of two (2) feet between the bottom of the ~~pond lagoon~~ and the maximum ~~ground-water~~ groundwater elevation ~~shall~~ must be ~~maintained~~ provided in the design. (3-31-22)()
- c. ~~Bedrock Separation.~~ A minimum separation of two (2) feet between the ~~pond lagoon~~ bottom and any bedrock formation ~~shall~~ must be ~~maintained~~ provided in the design. (3-31-22)()
- 06. Basis of Design.** (3-31-22)
- a. Design variables such as climatic conditions, odor, ~~pond lagoon~~ depth, multiple units, detention time, and additional treatment units must be considered with respect to applicable standards for BOD₅, total suspended solids (TSS), fecal coliform, dissolved oxygen (DO), pH, and other effluent requirements and limits. (3-31-22)()
- b. The ~~preliminary engineering report shall~~ PER must include all design criteria for the development of the ~~pond lagoon~~ design. (3-31-22)()
- c. The reaction rate coefficient for domestic wastewater which includes some industrial wastes, other wastes, and partially treated wastewater must be determined experimentally for various conditions which might be encountered in the lagoons or actual data from lagoons in similar climates. Conversion of the reaction rate coefficient at other temperatures ~~shall~~ must be made based on experimental data. (3-31-22)()
- d. Oxygen requirements ~~generally will depend~~ are based on the design average BOD₅ loading, the degree of treatment, and the concentration of suspended solids to be maintained. If needed for treatment objectives, aeration equipment ~~shall~~ must be ~~capable of~~ designed to maintaining a minimum dissolved oxygen level of two (2) mg/L in the ~~ponds lagoons~~ at all times. Suitable protection from weather ~~shall~~ must be provided for electrical controls. Aerated cells ~~shall~~ must be followed by a polishing cell with a detention time of a minimum of twenty-four (24) hours. (3-31-22)()
- e. See Subsection 490.02 for details on aeration equipment. (3-31-22)
- 07. Industrial Wastes as a Part of the Municipal Wastewater.** (3-31-22)

a. ~~Consideration shall be given to~~ Design must account for the type and effects of industrial wastes on the treatment process. (3-31-22)()

b. Industrial wastes ~~shall must~~ not be discharged to ~~ponds lagoons~~ without assessment of the effects such substances may have upon the treatment process or ~~discharge disposal~~ requirements in accordance with state and federal laws. (3-31-22)()

08. Number of Cells ~~Required~~. (3-31-22)

a. A wastewater treatment ~~pond lagoon~~ system ~~shall must~~ consist of a minimum of three (3) cells designed to facilitate both series and parallel operations. Two (2) cell systems may be utilized in very small installations of less than fifty thousand (50,000) gallons per day average day flow. (3-31-22)()

b. All systems ~~shall must~~ be designed with piping flexibility to permit isolation of any cell without affecting the transfer and ~~discharge disposal~~ capabilities of the total system. (3-31-22)()

09. ~~Pond Lagoon~~ Construction Details. (3-31-22)

a. Embankments and Dikes. (3-31-22)

i. ~~Material~~—Dikes ~~shall must~~ be constructed of relatively impervious soil and compacted to at least ninety-five (95) percent Standard Proctor Density to form a stable structure. Vegetation and other unsuitable materials ~~shall must~~ be removed from the area where the embankment is to be placed. (3-31-22)()

ii. ~~Top Width~~—The minimum dike top width ~~shall must~~ be ten (10) feet to permit access for maintenance vehicles. (3-31-22)()

iii. ~~Maximum Slopes~~—Inner and outer dike slopes ~~shall must~~ not be steeper than one (1) vertical to three (3) horizontal (1:3). (3-31-22)()

iv. ~~Minimum Slopes~~—Inner slopes ~~should must~~ not be flatter than one (1) vertical to four (4) horizontal (1:4). Flatter slopes can be specified for larger installations because of wave action but have the disadvantage of added shallow areas being conducive to emergent vegetation. Outer slopes ~~shall must~~ be sufficient to prevent surface runoff from entering the ~~ponds lagoons~~. (3-31-22)()

v. ~~Freeboard~~—Minimum freeboard ~~shall must~~ be three (3) feet, except ~~that~~ for small systems of less than fifty thousand (50,000) gallons per day average day flow, two (2) feet ~~may be is~~ acceptable. (3-31-22)()

vi. ~~Design Depth~~—The minimum operating depth ~~shall must~~ be ~~suffieient~~ designed to prevent growth of aquatic plants and damage to the dikes, bottom, control structures, aeration equipment, and other appurtenances. ~~In no case shall pond~~ Operating depths must not be less than two (2) feet. (3-31-22)()

b. ~~Pond Lagoon~~ Bottom. (3-31-22)()

i. ~~Soil~~—Soil used in constructing the ~~pond lagoon~~ bottom (not including the seal) and dike cores ~~shall must~~ be relatively incompressible and tight and compacted to at least ninety-five (95) percent Standard Proctor Density. (3-31-22)()

ii. ~~Seal Ponds shall Lagoons must~~ be sealed such that seepage loss through the seal complies with Subsection 493.03. Results of a testing program which substantiates the adequacy of the proposed seal must be incorporated into or accompany the ~~preliminary engineering report~~ PER. (3-31-22)()

c. Miscellaneous. (3-31-22)

i. ~~Fencing~~—The ~~pond lagoon~~ area ~~shall must~~ be enclosed with an adequate fence to prevent ~~entering of~~ livestock entering and discourage trespassing. This requirement does not apply to ~~pond lagoon~~ areas which store or impound Class A ~~municipal reclaimed effluent~~ recycled water. (3-31-22)()

- ii. ~~Access.~~ An all-weather access road ~~shall~~ must be provided to the ~~pond~~ lagoon site to allow year-round maintenance of the facility. (3-31-22)
- iii. ~~Warning Signs.~~ Appropriate permanent signs ~~shall~~ must be provided along the fence around the ~~pond~~ lagoon to designate the nature of the facility and advise against trespassing. At least one (1) sign ~~shall~~ must be provided on each side of the site and one (1) for every five hundred (500) feet of its perimeter. ~~(3-31-22)~~()
- iv. ~~Flow Measurement.~~ Flow measurement requirements are provided in Subsection 450.06.ec. Effective weather protection ~~shall~~ must be provided for the recording equipment. ~~(3-31-22)~~()
- v. ~~Ground Water Monitoring.~~ A ~~ground water~~ groundwater monitoring plan ~~shall~~ must be submitted to the Department for review and approval as a part of the ~~preliminary engineering report~~ PER. ~~An approved~~ Unless otherwise approved by the Department, a system of wells or lysimeters ~~shall be~~ is required around the perimeter of the ~~pond~~ lagoon site to facilitate ~~ground water~~ groundwater monitoring. ~~(3-31-22)~~()
- 10. Closure.** The owner ~~shall~~ must notify the Department at least six (6) months prior to permanently removing any wastewater lagoon facility from service, including any treatment or storage ~~pond~~ lagoon. Prior to commencing closure activities, the ~~facility shall~~ owner must: ~~(3-31-22)~~()
- a. Participate in a pre-closure on-site meeting with the Department; (3-31-22)
- b. Develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the ~~pre-site closure meeting~~ pre-closure on-site meeting; and ~~(3-31-22)~~()
- c. Submit the completed site closure plan to the Department for review and approval within forty-five (45) days of the ~~pre-site closure meeting~~ pre-closure on-site meeting. The facility must complete the Department approved site closure plan. ~~(3-31-22)~~()