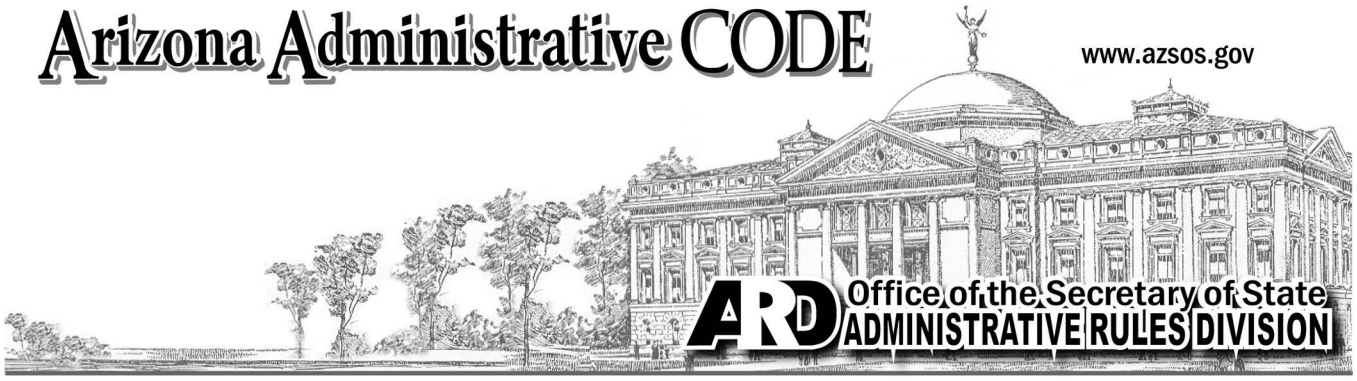

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER POLLUTION CONTROL

18 A.A.C. 9

Supplement Information
Supp. 25-2

Rules codified between April 1, 2025 through June 30, 2025 are underlined in this Chapter's table of contents.

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The release of this Chapter in Supp. 25-2 replaces Supp. 25-1, 1-215 pages.
Please note that the Chapter you are about to replace may have rules still in effect after the publication date of this supplement. Therefore, all superseded material should be retained in a separate binder and archived for future reference.

PREFACE

Under Arizona law, the Department of State, Office of the Secretary of State (Office), Administrative Rules Division, accepts state agency rule notice and other legal filings and is the publisher of Arizona rules. The Office of the Secretary of State does not interpret or enforce rules in the *Administrative Code*. Questions about rules should be directed to the state agency responsible for the promulgation of the rule.

Scott Cancelosi, Director
ADMINISTRATIVE RULES DIVISION

RULES

The definition for a rule is provided for under A.R.S. § 41-1001. *"'Rule' means an agency statement of general applicability that implements, interprets, or prescribes law or policy, or describes the procedures or practice requirements of an agency."*

THE ADMINISTRATIVE CODE

The *Arizona Administrative Code* is where the official rules of the state of Arizona are published. The *Code* is the official codification of rules that govern state agencies, boards, and commissions.

The *Code* is separated by subject into Titles. Titles are divided into Chapters. A Chapter includes state agency rules. Rules in Chapters are divided into Articles, then Sections. The "R" stands for "rule" with a sequential numbering and lettering outline separated into subsections.

Rules are codified quarterly in the *Code*. Supplement release dates are printed on the footers of each Chapter.

First Quarter: January 1 - March 31
Second Quarter: April 1 - June 30
Third Quarter: July 1 - September 30
Fourth Quarter: October 1 - December 31

For example, the first supplement for the first quarter of 2025 is cited as Supp. 25-1. Supplements are traditionally released three to four weeks after the end of the quarter because filings are accepted until the last day of the quarter.

Please note: The Office publishes by Chapter, not by individual rule Section. Therefore there might be only a few Sections codified in each Chapter released in a supplement. The Office links to these codified Sections in the Table of Contents of this Chapter.

RULE HISTORY

Refer to the HISTORICAL NOTE at the end of each Section for the effective date of a rule. The note also includes the *Register* volume and page number in which the notice was published (A.A.R.) and beginning in supplement 21-4, the date the notice was published in the *Register*.

AUTHENTICATION OF PDF CODE CHAPTERS

The Office began to authenticate Chapters of the *Code* in Supp. 18-1 to comply with A.R.S. §§ 41-1012(B) and A.R.S. § 41-5505.

A certification verifies the authenticity of each *Code* Chapter posted as it is released by the Office of the Secretary of State. The authenticated pdf of the *Code* includes an integrity mark with a certificate ID. Users should check the validity of the signature, especially if the pdf has been downloaded. If the digital signature is invalid it means the document's content has been compromised.

HOW TO USE THE CODE

Rules may be in effect before a supplement is released by the Office. Therefore, the user should refer to issues of the *Arizona Administrative Register* for recent updates to rule Sections.

ARIZONA REVISED STATUTE REFERENCES

The Arizona Revised Statutes (A.R.S.) are available online at the Legislature's website, www.azleg.gov. An agency's authority note to make rules is often included at the beginning of a Chapter. Other Arizona statutes may be referenced in rule under the A.R.S. acronym.

SESSION LAW REFERENCES

Arizona Session Law references in a Chapter can be found at the Secretary of State's website, www.azsos.gov under Services-> Legislative Filings.

EXEMPTIONS FROM THE APA

It is not uncommon for an agency to be exempt from the steps outlined in the rulemaking process as specified in the Arizona Administrative Procedures Act, also known as the APA (Arizona Revised Statutes, Title 41, Chapter 6, Articles 1 through 10). Other agencies may be given an exemption to certain provisions of the Act.

An agency's exemption is written in law by the Arizona State Legislature or under a referendum or initiative passed into law by Arizona voters.

When an agency files an exempt rulemaking package with our Office it specifies the law exemption in what is called the preamble of rulemaking. The preamble is published in the *Register* online at www.azsos.gov/rules, click on the *Administrative Register* link.

Editor's notes at the beginning of a Chapter provide information about rulemaking Sections made by exempt rulemaking. Exempt rulemaking notes are also included in the historical note at the end of a rulemaking Section.

The Office makes a distinction to certain exemptions because some rules are made without receiving input from stakeholders or the public. Other exemptions may require an agency to propose exempt rules at a public hearing.

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Rhonda Paschal, rules managing editor, assisted with the editing of this Chapter.

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TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER POLLUTION CONTROL

Supp. 25-2

Authority: A.R.S. §§ 49-203(A)(2), 49-203(A)(6), 49-203(A)(9), 49-104(C)(1)

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Article 8, consisting of Sections R18-9-801 through R18-9-819, repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

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Editor's Note: The recodification at 7 A.A.R. 2522 described below erroneously moved Sections into 18 A.A.C. 9, Article 9. Those Sections were actually recodified to 18 A.A.C. 9, Article 10. See the Historical Notes for more information (Supp. 01-4).

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER POLLUTION CONTROL

Article 9, consisting of Sections R18-9-901 through R18-9-914 and Appendix A, recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

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ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101. Definitions

In addition to the definitions established in A.R.S. § 49-201, the following terms apply to Articles 1, 2, 3, and 4 of this Chapter:

1. "Aggregate" means a clean graded hard rock, volcanic rock, or gravel of uniform size, between 3/4 inch and 2 1/2 inches in diameter, offering 30 percent or more void space, washed or prepared to be free of fine materials that will impair absorption surface performance, and has a hardness value of three or greater on the Moh's Scale of Hardness (can scratch a copper penny).
2. "Alert level" means a value or criterion established in an individual permit that serves as an early warning indicating a potential violation of a permit condition related to BADCT or the discharge of a pollutant to groundwater.
3. "AQL" means an aquifer quality limit and is a permit limitation set for aquifer water quality measured at the point of compliance that either represents an Aquifer Water Quality Standard or, if an Aquifer Water Quality Standard for a pollutant is exceeded in an aquifer at the time of permit issuance or amendment to incorporate a new or adjusted aquifer water quality standard, represents the ambient or baseline water quality for that pollutant.
4. "Aquifer Protection Permit" means an individual or general permit issued under A.R.S. §§ 49-203, 49-241 through 49-252, and Articles 1, 2, and 3 of this Chapter.
5. "Aquifer Water Quality Standard" or "AWQS" or "AWQSs" means a standard or standards established under A.R.S. §§ 49-221 and 49-223.
6. "AZPDES" means the Arizona Pollutant Discharge Elimination System, which is the state program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment and biosolids requirements under A.R.S. Title 49, Chapter 2, Article 3.1 and 18 A.A.C. 9, Articles 9 and 10.
7. "BADCT" means the best available demonstrated control technology, process, operating method, or other alternative to achieve the greatest degree of discharge reduction determined for a facility by the Director under A.R.S. § 49-243.
8. "Bedroom" means, for the purpose of determining design flow for an on-site wastewater treatment facility for a dwelling, any room that has:
   a. A floor space of at least 70 square feet in area, excluding closets;
   b A ceiling height of at least 7 feet;
   c. Electrical service and ventilation;
   d. A closet or an area where a closet could be constructed;
   e. At least one window capable of being opened and used for emergency egress; and
   f. A method of entry and exit to the room that allows the room to be considered distinct from other rooms in the dwelling and to afford a level of privacy customarily expected for such a room.
9. "Book net worth" means the net difference between total assets and total liabilities.
10. "CCR" means coal combustion residuals which include fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.
11. "CCR landfill" means an area of land or an excavation that receives CCR and which is not a municipal solid waste landfill, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. A CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of beneficial use of CCR.
12. "CCR surface impoundment" means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.
13. "CCR unit" means any CCR landfill which receives CCR, any CCR surface impoundment designed to hold an accumulation of CCR and liquids, and the unit treats, stores or disposes of CCR. CCR unit includes a lateral expansion of a CCR unit, or a combination of more than one of these units that receives CCR.
14. "Cesspool" means a pit, collection structure, or subsurface fluid distribution system, which may or may not be partially lined, that receives discharged sewage. A cesspool is not an on-site wastewater treatment facility, such as a septic tank, vault, or other structure permitted under Article 3 of this Chapter.
15. "Chamber technology" means a method for dispersing treated wastewater into soil from an on-site wastewater treatment facility by one or more manufactured leaching chambers with an open bottom and louvered, load-bearing sidewalls that substitute for an aggregate-filled trench described in R18-9-E302.
16. "CMOM Plan" means a Capacity, Management, Operations, and Maintenance Plan, which is a written plan that describes the activities a permittee will engage in and actions a permittee will take to ensure that the capacity of the sewage collection system, when unobstructed, is sufficient to convey the peak wet weather flow through each reach of sewer, and provides for the management, operation, and maintenance of the permittee's sewage collection system.
17. "Design capacity" means the volume of a containment feature at a discharging facility that accommodates all permitted flows and meets all Aquifer Protection Permit conditions, including allowances for appropriate peaking and safety factors to ensure sustained, reliable operation.
18. "Design flow" means the daily flow rate a facility is designed to accommodate on a sustained basis while satisfying all Aquifer Protection Permit discharge limitations and treatment and operational requirements. The design flow either incorporates or is used with appropriate peaking and safety factors to ensure sustained, reliable operation.
19. "Direct reuse site" means an area where reclaimed water is applied or impounded.
20. "Disposal works" means the system for disposing treated wastewater generated by the treatment works of a sewage treatment facility or on-site wastewater treatment facility, by surface or subsurface methods. Disposal works do not include systems for activities regulated under 18 A.A.C. 9, Article 7.
21. *"Drywell" means a well which is a bored, drilled or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water. Drywells do not include class 1, class 2, class 3 or class 4 injection wells as defined by the*

Federal Underground Injection Control Program (P.L. 93-523, part C), as amended. A.R.S. § 49-331(3).

22. "Dwelling" means any building, structure, or improvement intended for residential use or related activity, including a house, an apartment unit, a condominium unit, a townhouse, or a mobile or manufactured home that has been constructed or will be constructed on real property.
23. "Final permit determination" means a written notification to the applicant of the Director's final decision whether to issue or deny an Individual Aquifer Protection Permit.
24. *"Gray water" means wastewater that has been collected separately from a sewage flow and that originates from a clothes washer or a bathroom tub, shower or sink but that does not include wastewater from a kitchen sink, dishwasher or toilet.* A.R.S. § 49-201(20).
25. "Groundwater Quality Protection Permit" means a permit issued by the Arizona Department of Health Services or the Department before September 27, 1989 that regulates the discharge of pollutants that may affect groundwater.
26. "Homeowner's association" means a nonprofit corporation or unincorporated association of owners created pursuant to a declaration to own and operate portions of a planned community and which has the power under the declaration to assess association members to pay the costs and expenses incurred in the performance of the association's obligations under the declaration.
27. "Injection well" means a well that receives a discharge through pressure injection or gravity flow.
28. "Intermediate stockpile" means in-process material not intended for long-term storage that is in transit from one process to another at a mining site. Intermediate stockpile does not include metallic ore concentrate stockpiles or feedstocks not originating at the mining site.
29. "Land treatment facility" means an operation designed to treat and improve the quality of waste, wastewater, or both, by placement wholly or in part on the land surface to perform part or all of the treatment. A land treatment facility includes a facility that performs biosolids drying, processing, or composting, but not land application performed in compliance with 18 A.A.C. 9, Article 10.
30. "Mining site" means a site assigned one or more of the following primary Standard Industrial Classification Codes: 10, 12, 14, 32, and 33, and includes noncontiguous properties owned or operated by the same person and connected by a right-of-way controlled by that person to which the public is not allowed access.
31. "New or adjusted aquifer water quality standard" or "New or adjusted AWQS" means a standard or standards established under A.R.S. §§ 49-221 and/or 49-223 after January 1, 2025, for the purposes of R18-9-A215. A "New or adjusted AWQS" becomes an established AWQS, pursuant to R18-9-101(5), for the purposes of an individual Aquifer Protection Permit when a determination is made by the Department on whether new or adjusted Alert Levels, Discharge Limits and/or AQLs are required pursuant to R18-9-A215(G).
32. "Nitrogen Management Area" means an area designated by the Director for which the Director prescribes measures on an area-wide basis to control sources of nitrogen, including cumulative discharges from on-site wastewater treatment facilities, that threaten to cause or have caused an exceedance of the Aquifer Water Quality Standard for nitrate.
33. "Notice of Disposal" means a document submitted to the Arizona Department of Health Services or the Department before September 27, 1989, giving notification of a pollutant discharge that may affect groundwater.
34. *"On-site wastewater treatment facility" means a conventional septic tank system or alternative system that is installed at a site to treat and dispose of wastewater of predominantly human origin that is generated at that site.* A.R.S. § 49-201(29). An on-site wastewater treatment facility does not include a pre-fabricated, manufactured treatment works that typically uses an activated sludge unit process and has a design flow of 3000 gallons per day or more.
35. "Operational life" means the designed or planned period during which a facility remains operational while being subject to permit conditions, including closure requirements. Operational life does not include post-closure activities.
36. *"Person" means an individual, employee, officer, managing body, trust, firm, joint stock company, consortium, public or private corporation, including a government corporation, partnership, association or state, a political subdivision of this state, a commission, the United States government or any federal facility, interstate body or other entity.* A.R.S. § 49-201(33). For the purposes of permitting a sewage treatment facility under Article 2 of this Chapter, person does not include a homeowner's association.
37. "Pilot project" means a short-term, limited-scale test designed to gain information regarding site conditions, project feasibility, or application of a new technology.
38. "Process solution" means a pregnant leach solution, barren solution, raffinate, or other solution uniquely associated with the mining or metals recovery process.
39. "Residential soil remediation level" means the applicable predetermined standard established in 18 A.A.C. 7, Article 2, Appendix A.
40. "Seasonal high water table" means the free surface representing the highest point of groundwater rise within an aquifer due to seasonal water table changes over the course of a year.
41. "Setback" means a minimum horizontal distance maintained between a feature of a discharging facility and a potential point of impact.
42. "Sewage" means untreated wastes from toilets, baths, sinks, lavatories, laundries, other plumbing fixtures, and waste pumped from septic tanks in places of human habitation, employment, or recreation. Sewage does not include gray water as defined in A.R.S. § 49-201(20), if the gray water is reused according to 18 A.A.C. 9, Article 7.
43. "Sewage collection system" means a system of pipelines, conduits, manholes, pumping stations, force mains, and all other structures, devices, and appurtenances that collect, contain, and convey sewage from its sources to the entry of a sewage treatment facility or on-site wastewater treatment facility serving sources other than a single-family dwelling.
44. "Sewage treatment facility" means a plant or system for sewage treatment and disposal, except for an on-site wastewater treatment facility, that consists of treatment works, disposal works and appurtenant pipelines, conduits, pumping stations, and related subsystems and devices. A sewage treatment facility does not include

components of the sewage collection system or the reclaimed water distribution system.

45. "Surface impoundment" means a pit, pond, or lagoon with a surface dimension equal to or greater than its depth, and used for the storage, holding, settling, treatment, or discharge of liquid pollutants or pollutants containing free liquids.
46. "Tracer" means a substance, such as a dye or other chemical, used to change the characteristic of water or some other fluid to detect movement.
47. "Tracer study" means a test conducted using a tracer to measure the flow velocity, hydraulic conductivity, flow direction, hydrodynamic dispersion, partitioning coefficient, or other property of a hydrologic system.
48. "Treatment works" means a plant, device, unit process, or other works, regardless of ownership, used for treating, stabilizing, or holding municipal or domestic sewage in a sewage treatment facility or on-site wastewater treatment facility.
49. "Typical sewage" means sewage conveyed to an on-site wastewater treatment facility in which the total suspended solids (TSS) content does not exceed 430 mg/l, the five-day biochemical oxygen demand (BOD_5) does not exceed 380 mg/l, the total nitrogen does not exceed 53 mg/l, and the content of oil and grease does not exceed 75 mg/l.
50. "Underground storage facility" means a constructed underground storage facility or a managed underground storage facility. A.R.S. § 45-802.01(21).
51. "Waters of the United States" means:
    a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
    b. All interstate waters, including interstate wetlands;
    c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any waters:
        i. That are or could be used by interstate or foreign travelers for recreational or other purposes;
        ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
        iii. That are used or could be used for industrial purposes by industries in interstate commerce;
    d. All impoundments of waters defined as waters of the United States under this definition;
    e. Tributaries of waters identified in subsections (a) through (d);
    f. The territorial sea; and
    g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in subsections (a) through (f).

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 25 A.A.R. 3060, effective immediately September 23, 2019, pursuant to A.R.S. § 41-1027(H) (Supp. 19-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1). Amended by final rulemaking at 31 A.A.R. 2167 (July 4, 2025), effective August 4, 2025 (Supp. 25-2).

R18-9-102. Facilities to which Articles 1, 2, and 3 Do Not Apply

Articles 1, 2, and 3 do not apply to:

1. A drywell used solely to receive storm runoff and located so that no use, storage, loading, or treating of hazardous substances occurs in the drainage area;
2. A direct pesticide application in the commercial production of plants and animals subject to the Federal Insecticide, Fungicide, and Rodenticide Act (P.L. 92-516; 86 Stat. 975; 7 United States Code 135 et seq., as amended), or A.R.S. §§ 49-301 through 49-309 and applicable rules, or A.R.S. Title 3, Chapter 2, Article 6 and applicable rules.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-103. Class Exemptions

Class exemptions. In addition to the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the Aquifer Protection Permit requirements in Articles 1, 2, and 3 of this Chapter:

1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), or have been issued a permit according to the hazardous waste management rules adopted under 18 A.A.C. 8, Article 2;
2. Underground storage tanks that contain a regulated substance as defined in A.R.S. § 49-1001;
3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from four or fewer households;
4. Land application of biosolids in compliance with 18 A.A.C. 9, Articles 9 and 10;
5. CCR Units regulated by 40 CFR 257, Subpart D or by a permit in effect under a Department program approved by the United States Environmental Protection Agency in accordance with 42 U.S.C. § 6945(d)(1);
6. Underground Injection Control Class V injection wells regulated under an area or individual permit per 18 A.A.C. 9, Article 6, Part I.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Subsection 4 citation corrected to reflect recodification at 7 A.A.R. 2522 (Supp. 03-1). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 25 A.A.R. 3060, effective immediately September 23, 2019, pursu-

ant to A.R.S. § 41-1027(H) (Supp. 19-3). Amended by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-104. Transition from Notices of Disposal and Groundwater Quality Protection Permitted Facilities

A person who owns, operates, or operated a facility on or after January 1, 1986 for which a Notice of Disposal was filed or a Groundwater Quality Protection Permit was issued shall, within 90 days from the date on the Director's notification, submit an application for an Aquifer Protection Permit or a closure plan as specified under A.R.S. § 49-252. The person shall obtain a permit for continued operation, closure of the facility, or clean closure approval. Failure to submit an application or closure plan as required terminates continuance of the Notice of Disposal or Groundwater Quality Protection Permit.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-105. Permit Continuance

A. Continuance.
1. Groundwater Quality Protection Permits.
   a. Subject to R18-9-104 and other provisions of this Section, a Groundwater Quality Protection Permit issued before September 27, 1989 is valid according to the terms of the permit until replaced by an Aquifer Protection Permit issued by the Department.
   b. A person who owns or operates a facility to which a Groundwater Quality Protection Permit was issued is in compliance with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3, if the facility:
      i. Meets the conditions of the Groundwater Quality Protection Permit; and
      ii. Is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
2. Notice of Disposal. A person who owns or operates a facility for which a Notice of Disposal was filed before September 27, 1989 complies with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3 if the facility is not causing or contributing to the violation of an Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
3. Aquifer Protection Permit application submittal. A person who did not file a Notice of Disposal and does not possess a Groundwater Quality Protection Permit or an Aquifer Protection Permit for an existing facility, but submitted the information required in applicable rules before December 27, 1989, is in compliance with Articles 1, 2, and 3 of this Chapter only if the person submitted an Aquifer Protection Permit application to the Department before January 1, 2001.

B. Applicability. Subsection (A) applies until the Director:
1. Issues an Aquifer Protection Permit for the facility,
2. Denies an Aquifer Protection Permit for the facility,
3. Issues a letter of clean closure approval for the facility under A.R.S. § 49-252, or
4. Determines that the person failed to submit an application under R18-9-104.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Amended effective November 12, 1996 (Supp. 96-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-106. Determination of Applicability

A. A person who engages or who intends to engage in an operation or an activity that may result in a discharge regulated under Articles 1, 2, and 3 of this Chapter may submit a request, on a form provided by the Department, that the Department determine the applicability of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter to the operation or activity.

B. A person requesting a determination of applicability shall provide the following information and the applicable fee under 18 A.A.C. 14:
1. The name and location of the operation or activity;
2. The name of any person who is engaging or who proposes to engage in the operation or activity;
3. A description of the operation or activity;
4. A description of the volume, chemical composition, and characteristics of materials stored, handled, used, or disposed of in the operation or activity; and
5. Any other information required by the Director to make the determination of applicability.

C. Within 45 days after receipt of a request for a determination of applicability, the Director shall notify in writing the person making the request that the operation or activity:
1. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter because the operation or facility does not discharge as described under A.R.S. § 49-241;
2. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter because the operation or activity is exempted by A.R.S. § 49-250 or R18-9-103;
3. Is eligible for a general permit under A.R.S. §§ 49-245.01, 49-245.02 or 49-247 or Article 3 of this Chapter, specifying the particular general permit that would apply if the person meets the conditions of the permit; or
4. Is subject to the permit requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter.

D. If, after issuing a determination of applicability under this Section, the Director concludes that the determination or the information relied upon for a determination is inaccurate, the Director may modify or withdraw its determination upon written notice to the person who requested the determination of applicability.

E. If the Director determines that an operation or activity is subject to the requirements of A.R.S. §§ 49-241 through 49-252, the person who owns or operates the discharging facility shall, within 90 days from receiving the Director's written notification, submit an application for an Aquifer Protection Permit or a closure plan.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-107. Consolidation of Aquifer Protection Permits

A. The Director may consolidate any number of individual permits or the coverage for any facility authorized to discharge under a general permit into a single individual permit, if:
1. The facilities are part of the same project or operation and are located in a contiguous geographic area, or
2. The facilities are part of an area under the jurisdiction of a single political subdivision.

B. All applicable individual permit requirements established in Articles 1 and 2 of this Chapter apply to the consolidation of Aquifer Protection Permits.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-108. Public Notice

A. Individual permits.
1. The Department shall provide the entities specified in subsection (A)(2), with monthly written notification, by regular mail or electronically, of the following:
   a. Individual permit applications,
   b. Temporary permit applications,
   c. Preliminary and final decisions by the Director whether to issue or deny an individual or temporary permit,
   d. Closure plans received under R18-9-A209(B),
   e. Significant permit amendments and "other" permit amendments,
   f. Permit revocations, and
   g. Clean closure approvals.
2. Entities.
   a. Each county department of health, environmental services department, or comparable department;
   b. A federal, state, local agency, or council of government, that may be affected by the permit action; and
   c. A person who requested, in writing, notification of the activities described in subsection (A).
3. The Department may post the information referenced in subsections (A)(1) and (2) on the Department web site: www.azdeq.gov.

B. General permits. Public notice requirements do not apply.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-109. Public Participation

A. Notice of Preliminary Decision.
1. The Department shall publish a Notice of Preliminary Decision regarding the issuance or denial of a significant permit amendment or a final permit determination in one or more newspapers of general circulation where the facility is located.
2. The Department shall accept written comments from the public before a significant permit amendment or a final permit determination is made.
3. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.

B. Public hearing.
1. The Department shall provide notice and conduct a public hearing to address a Notice of Preliminary Decision regarding a significant permit amendment or final permit determination if:
   a. Significant public interest in a public hearing exists, or
   b. Significant issues or information has been brought to the attention of the Department that has not been considered previously in the permitting process.
2. If, after publication of the Notice of Preliminary Decision, the Department determines that a public hearing is necessary, the Department shall schedule a public hearing and publish the Notice of Preliminary Decision at least once, in one or more newspapers of general circulation where the facility is located.
3. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

C. The Department shall respond in writing to all comments submitted during the formal public comment period.

D. At the same time the Department notifies a permittee of a significant permit amendment or an applicant of the final permit determination, the Department shall send, through regular mail or electronically, a notice of the amendment or determination and the summary of response to comments to any person who submitted comments or attended a public hearing on the significant permit amendment or final permit determination.

E. General permits. Public participation requirements do not apply.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-110. Inspections, Violations, and Enforcement

A. The Department shall conduct an inspection of a permitted facility as specified under A.R.S. § 41-1009.

B. A person who owns or operates a facility contrary to a provision of Articles 1, 2, and 3 of this Chapter, violates a condition of an Aquifer Protection Permit, or violates a condition of a Groundwater Quality Protection Permit continued under R189105(A)(1) is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4.

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-111. Repealed

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-112. Repealed

Historical Note

Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effec-

tive January 1, 2001 (Supp. 00-4).

R18-9-113. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-114. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-115. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-116. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-117. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-118. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-119. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-120. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective July 14, 1998 (Supp. 98-3).

R18-9-121. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-122. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-123. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective November 15, 1996 (Supp. 96-4).

R18-9-124. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-125. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-126. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-127. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-128. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective November 12, 1996 (Supp. 96-4).

R18-9-129. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-130. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

Appendix I. Repealed

Historical Note
Appendix I repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

ARTICLE 2. AQUIFER PROTECTION PERMITS - INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201. Individual Permit Application

A. An individual permit application covers one or more of the following categories:
1. Drywell,
2. Industrial,
3. Mining,
4. Wastewater,
5. Solid waste disposal, or
6. Land treatment facility.

B. An applicant for an individual permit shall provide the Department with:

1. The following information on an application form:
   a. The name and mailing address of the applicant;
   b. The name and mailing address of the owner of the facility;
   c. The name and mailing address of the operator of the facility;
   d. The legal description, including latitude and longitude, of the location of the facility;
   e. The expected operational life of the facility; and
   f. The permit number for any other federal or state environmental permit issued to the applicant for that facility or site.
2. A copy of the certificate of disclosure required by A.R.S. § 49-109;
3. Evidence that the facility complies with applicable municipal or county zoning ordinances, codes, and regulations;
4. Two copies of the technical information required in R18-9-A202(A);
5. Cost estimates for facility construction, operation, maintenance, closure, and post-closure as follows.
   a. The applicant shall ensure that the cost estimates are derived by an engineer, controller, or accountant using competitive bids, construction plan take-off's, specifications, operating history for similar facilities, or other appropriate sources, as applicable.
   b. The following cost estimates that are representative of regional fair market costs:
      i. The cost of closure estimate under R18-9-A209(B)(2), consistent with the closure plan or strategy submitted under R18-9-A202(A)(10);
      ii. The estimated cost of post-closure monitoring and maintenance under R18-9-A209(C), consistent with the post-closure plan or strategy submitted under R18-9-A202(A)(10); and
      iii. For a sewage treatment facility or utility subject to Title 40 of the Arizona Revised Statutes, the operation and maintenance costs of those elements of the facility used to make the demonstration under A.R.S. § 49-243(B);
6. For a sewage treatment facility:
   a. Documentation that the sewage treatment facility or expansion conforms with the Certified Areawide Water Quality Management Plan and the Facility Plan, and
   b. The additional information required in R18-9-B202 and R18-9-B203;
7. Certification in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge; and
8. The applicable fee established in 18 A.A.C. 14.

C. Special provision for an underground storage facility as defined in A.R.S. § 45-802.01(21). A person applying for an individual permit for an underground storage facility shall submit the information described in R18-9-A201 through R18-9-A203, except for the BADCT information specified in R18-9-A202(A)(5).
1. Upon receipt of the application, the Department shall process the application in coordination with the underground storage facility permit process administered by the Department of Water Resources.
2. The Department shall advise the Department of Water Resources of each permit application received.

D. Pre-application conference. Upon request of the applicant, the Department shall schedule and hold a pre-application conference with the applicant to discuss any requirements in Articles 1 and 2 of this Chapter.

E. Draft permit. The Department shall provide the applicant with a draft of the individual permit before publication of the Notice of Preliminary Decision specified in R18-9-109.

F. Permit duration. Except for a temporary permit, an individual permit is valid for the operational life of the facility and any period during which the facility is subject to a post-closure plan under R18-9-A209(C).

G. Permit issuance or denial.
1. The Director shall issue an individual permit, based upon the information obtained by or made available to the Department, if the Director determines that the applicant will comply with A.R.S. §§ 49-241 through 49-252 and Articles 1 and 2 of this Chapter.
2. The Director shall provide the applicant with written notification of the final decision to issue or deny the permit within the overall licensing time-frame requirements under 18 A.A.C. 1, Article 5, Table 10 and the following:
   a. The applicant's right to appeal the final permit determination, including the number of days the applicant has to file a protest and the name and telephone number of the Department contact person who can answer questions regarding the appeals process;
   b. If the permit is denied under R18-9-A213(B), the reason for the denial with reference to the statute or rule on which the denial is based; and
   c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A202. Technical Requirements

A. Except as specified in R18-9-A201(C)(1), an applicant shall, as required under R18-9-A201(B)(4), submit the following technical information as attachments to the individual permit application:
1. A topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area showing the known use of adjacent properties, all known water well locations found within one-half mile of the facility, and a description of well construction details and well uses, if available;
2. A facility site plan showing all known property lines, structures, water wells, injection wells, drywells and their uses, topography, and the location of points of discharge. The facility site plan shall include all known borings. If the Department determines that borings are numerous, the applicant shall satisfy this requirement with a narrative description of the number and location of the borings;
3. The facility design documents indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge. When formal as-built plan submittals are not available, the applicant shall provide documentation sufficient to allow evaluation of those elements of

the facility affecting discharge, following the demonstration requirements of A.R.S. § 49-243(B). An applicant seeking an Aquifer Protection Permit for a sewage treatment facility satisfies the requirements of this subsection by submitting the documents required in R18-9-B202 and R18-9-B203;

4. A summary of the known past facility discharge activities and the proposed facility discharge activities indicating all of the following:
   a. The chemical, biological, and physical characteristics of the discharge;
   b. The rate, volume, and frequency of the discharge for each facility; and
   c. The location of the discharge and a map outlining the pollutant management area described in A.R.S. § 49-244(1);
5. A description of the BADCT employed in the facility, including:
   a. A statement of the technology, processes, operating methods, or other alternatives proposed to meet the requirements of A.R.S. § 49-243(B), (G), or (P), as applicable. The statement shall describe:
      i. The alternative discharge control measures considered,
      ii. The technical and economic advantages and disadvantages of each alternative, and
      iii. The justification for selection or rejection of each alternative;
   b. An evaluation of each alternative discharge control technology relative to the amount of discharge reduction achievable, site-specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation;
   c. For a new facility, an industry-wide evaluation of the economic impact of implementation of each alternative discharge control technology;
   d. For an existing facility, a statement reflecting the consideration of factors listed in A.R.S. § 49-243(B)(1)(a) through (h);
   e. A sewage treatment facility meeting the BADCT requirements under Article 2, Part B of this Chapter satisfies the requirements under subsections (A)(5)(a) through (d).
6. Proposed points of compliance for the facility based on A.R.S. § 49-244. An applicant shall demonstrate that:
   a. The facility will not cause or contribute to a violation of an Aquifer Water Quality Standard at the proposed point of compliance; or
   b. If an Aquifer Water Quality Standard for a pollutant is exceeded in an aquifer at the time of permit issuance, no additional degradation of the aquifer relative to that pollutant and determined at the proposed point of compliance will occur as a result of the discharge from the proposed facility. In this case, the applicant shall submit an Ambient Groundwater Monitoring Report that includes:
      i. Data from eight or more rounds of ambient groundwater samples collected to represent groundwater quality at the proposed points of compliance, and
      ii. An AQL proposal for each pollutant that exceeds an Aquifer Water Quality Standard;
7. A contingency plan that meets the requirements of R18-9-A204;
8. A hydrogeologic study that defines the discharge impact area for the expected duration of the facility. The Department may allow the applicant to submit an abbreviated hydrogeologic study or, if warranted, no hydrogeologic study, based upon the quantity and characteristics of the pollutants discharged, the methods of disposal, and the site conditions. The applicant may include information from a previous study of the affected area to meet a requirement of the hydrogeologic study, if the previous study accurately represents current hydrogeologic conditions.
   a. The hydrogeologic study shall demonstrate:
      i. That the facility will not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance; or
      ii. If an Aquifer Water Quality Standard for a pollutant is exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and determined at the applicable point of compliance will occur as a result of the discharge from the proposed facility;
   b. Based on the quantity and characteristics of pollutants discharged, methods of disposal, and site conditions, the Department may require the applicant to provide:
      i. A description of the surface and subsurface geology, including a description of all borings;
      ii. The location of any perennial, intermittent, or ephemeral surface water bodies;
      iii. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity;
      iv. The rate, volume, and direction of surface water and groundwater flow, including hydrographs, if available, and equipotential maps;
      v. The precise location or estimate of the location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility;
      vi. Documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis, quality assurance, and quality control procedures associated with the documentation;
      vii. Documentation of the extent and degree of any known soil contamination at the site;
      viii. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials;
      ix. For an underground water storage facility, an assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials or cause the migration of contaminated groundwater;
      x. Any changes in the water quality expected because of the discharge;
      xi. A description of any expected changes in the elevation or flow directions of the groundwater expected to be caused by the facility;
      xii. A map of the facility's discharge impact area; or

xiii. The criteria and methodologies used to determine the discharge impact area.

9. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary cessation or plans that the applicant will use to satisfy the requirements of A.R.S. Title 49, Chapter 2, Article 3, and Articles 1 and 2 of this Chapter;
10. Closure and post-closure strategies or plans; and
11. Any other relevant information required by the Department to determine whether to issue a permit.

B. An applicant shall demonstrate the ability to maintain the technical capability necessary to carry out the terms of the individual permit, including a demonstration that a certified operator will operate the facility if a certified operator is required under 18 A.A.C. 5. The applicant shall make the demonstration by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:

1. Pertinent licenses or certifications held by the person;
2. Professional training relevant to the design, construction, or operation of the facility; and
3. Work experience relevant to the design, construction, or operation of the facility.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A203. Financial Requirements

A. Definitions.

1. "Book net worth" means the net difference between total assets and total liabilities.
2. "Face amount" means the total amount the insurer is obligated to pay under the policy.
3. "Net working capital" means current assets minus current liabilities.
4. "Substantial business relationship" means a pattern of recent or ongoing business transactions to the extent that a guaranty contract issued incident to that relationship is valid and enforceable.
5. "Tangible net worth" means an owner or operator's book net worth, plus subordinated debts, less goodwill, patent rights, royalties, and assets and receivables due from affiliates or shareholders.

B. Financial demonstration. A person applying for an individual permit shall demonstrate financial capability to construct, operate, close, and ensure proper post-closure care of the facility in compliance with A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; and the conditions of the individual permit. The applicant shall:

1. Submit a letter signed by the chief financial officer stating that the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5);
2. For a state or federal agency, county, city, town, or other local governmental entity, submit a statement specifying the details of the financial arrangements used to meet the estimated closure and post-closure costs submitted under R18-9-A201(B)(5), including any other details that demonstrate how the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5);
3. For other than a state or federal agency, county, city, town, or other local governmental entity, submit the information required for at least one of the financial assurance mechanisms listed in subsection (C) that covers the closure and post-closure costs submitted under R18-9-A201(B)(5), including:
   a. The selected financial mechanism or mechanisms;
   b. The amount covered by each financial mechanism;
   c. The institution or company that is responsible for each financial mechanism used in the demonstration; and
   d. Any other details that demonstrate how the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5); and
4. For a facility subject to R18-9-A201(B)(5)(b)(iii) and not owned by a state or federal agency, county, city, town, or other local governmental entity, submit evidence of financial arrangements to cover the operation and maintenance costs described in R18-9-A201(B)(5).

C. Financial assurance mechanisms. The applicant may use any of the following mechanisms to cover the financial assurance obligation under R18-9-A201(B)(5):

1. Financial test for self-assurance. If an applicant uses a financial test for self-assurance, the applicant shall not consolidate the financial statement with a parent or sibling company. The applicant shall make the demonstration in either subsection (C)(1)(a) or (b) and submit the information required in subsection (C)(1)(c):
   a. The applicant may demonstrate:
      i. One of the following:
         (1) A ratio of total liabilities to net worth less than 2.0 and a ratio of current assets to current liabilities greater than 1.5;
         (2) A ratio of total liabilities to net worth less than 2.0 and a ratio of the sum of net annual income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; or
         (3) A ratio of the sum of net annual income plus depreciation, depletion, and amortization to total liabilities greater than 0.1 and a ratio of current assets to current liabilities greater than 1.5;
      ii. The net working capital and tangible net worth of the applicant each are at least six times the closure cost estimate; and
      iii. The applicant has assets in the U.S. of at least 90 percent of total assets or six times the closure and post-closure cost estimate; or
   b. The applicant may demonstrate:
      i. The applicant's senior unsecured debt has a current investment-grade rating as issued by Moody's Investor Service, Inc.; Standard and Poor's Corporation; or Fitch Ratings;
      ii. The tangible net worth of the applicant is at least six times the closure cost estimate; and
      iii. The applicant has assets in the U.S. of at least 90 percent of total assets or six times the closure and post-closure cost estimate; and
   c. The applicant shall submit:
      i. A letter signed by the applicant's chief financial officer that identifies the criterion specified in subsection (C)(1)(a) or (b) and used by the applicant to satisfy the financial assurance requirements of this Section, an explanation of how the applicant meets the criterion, and certification of the letter's accuracy, and

ii. A statement from an independent certified public accountant verifying that the demonstration submitted under subsection (C)(1)(c)(i) is accurate based on a review of the applicant's financial statements for the latest completed fiscal year or more recent financial data and no adjustment to the financial statement is necessary.

2. Performance surety bond. The applicant may use a performance surety bond if the following conditions are met:
   a. The company providing the performance bond is listed as an acceptable surety on federal bonds in Circular 570 of the U.S. Department of the Treasury;
   b. The bond provides for performance of all the covered items listed in R18-9-A201(B)(5) by the surety, or by payment into a standby trust fund of an amount equal to the penal amount if the permittee fails to perform the required activities;
   c. The penal amount of the bond is at least equal to the amount of the cost estimate developed in R18-9-A201(B)(5) if the bond is the only method used to satisfy the requirements of this Section or a pro-rata amount if used with another financial assurance mechanism;
   d. The surety bond names the Arizona Department of Environmental Quality as beneficiary;
   e. The original surety bond is submitted to the Director;
   f. Under the terms of the bond, the surety is liable on the bond obligation when the permittee fails to perform as guaranteed by the bond; and
   g. The surety payments under the terms of the bond are deposited directly into the Standby Trust Fund.
3. Certificate of deposit. The applicant may use a certificate of deposit if the following conditions are met:
   a. The applicant submits to the Director one or more certificates of deposit made payable to or assigned to the Department to cover the applicant's financial assurance obligation or a pro-rata amount if used with another financial assurance mechanism;
   b. The certificate of deposit is insured by the Federal Deposit Insurance Corporation and is automatically renewable;
   c. The bank assigns the certificate of deposit to the Arizona Department of Environmental Quality;
   d. Only the Department has access to the certificate of deposit; and
   e. Interest accrues to the permittee during the period the applicant gives the certificate as financial assurance, unless the interest is required to satisfy the requirements in R18-9-A201(B)(5).
4. Trust fund. The applicant may use a trust fund if the following conditions are met:
   a. The trust fund names the Arizona Department of Environmental Quality as beneficiary, and
   b. The trust is initially funded in an amount at least equal to:
      i. The cost estimate of the closure plan or strategy submitted under R18-9-A201(B)(5),
      ii. The amount specified in a compliance schedule approved in the permit, or
      iii. A pro-rata amount if used with another financial assurance mechanism.
5. Letter of credit. The applicant may use a letter of credit if the following conditions are met:
   a. The financial institution issuing the letter is regulated and examined by a federal or state agency;
   b. The letter of credit is irrevocable and issued for at least one year in an amount equal to the cost estimate submitted under R18-9-A201(B)(5) or a pro-rata amount if used with another financial assurance mechanism. The letter of credit provides that the expiration date is automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the permittee and to the Director 90 days in advance of cancellation or expiration. The permittee shall provide alternate financial assurance within 60 days of receiving the notice of expiration or cancellation;
   c. The financial institution names the Arizona Department of Environmental Quality as beneficiary for the letter of credit; and
   d. The letter is prepared by the financial institution and identifies the letter of credit issue date, expiration date, dollar sum of the credit, the name and address of the Department as the beneficiary, and the name and address of the applicant as the permittee.
6. Insurance policy. The applicant may use an insurance policy if the following conditions are met:
   a. The insurance is effective before signature of the permit or substitution of insurance for other extant financial assurance instruments posted with the Director;
   b. The insurer is authorized to transact the business of insurance in the state and has an AM BEST Rating of at least a B+ or the equivalent;
   c. The permittee submits a copy of the insurance policy to the Department;
   d. The insurance policy guarantees that funds are available to pay costs as submitted under R18-9-A201(B)(5) without a deductible. The policy also guarantees that once cleanup steps begin that the insurer will pay out funds to the Director or other entity designated by the Director up to an amount equal to the face amount of the policy;
   e. The policy guarantees that while closure and post-closure activities are conducted the insurer will pay out funds to the Director or other entity designated by the Director up to an amount equal to the face amount of the policy;
   f. The insurance policy is issued for a face amount at least equal to the current cost estimate submitted to the Director for performance of all items listed in R18-9-A201(B)(5) or a pro-rata amount if used with another financial assurance mechanism. Actual payments by the insurer will not change the face amount, although the insurer's future liability is reduced by the amount of the payments, during the policy period;
   g. The insurance policy names the Arizona Department of Environmental Quality as additional insured;
   h. The policy contains a provision allowing assignment of the policy to a successor permittee. The transfer of the policy is conditional upon consent of the insurer and the Department; and

i. The insurance policy provides that the insurer does not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy, at a minimum, provides the insured with a renewal option at the face amount of the expiring policy. If the permittee fails to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the permittee and to the Director 90 days in advance of the cancellation. If the insurer cancels the policy, the permittee shall provide alternate financial assurance within 60 days of receiving the notice of cancellation.

7. Cash deposit. The applicant may use a cash deposit if the cash is deposited with the Department to cover the financial assurance obligation under R18-9-A201(B)(5).
8. Guarantees.
   a. The applicant may use guarantees to cover the financial assurance obligation under R18-9-A201(B)(5) if the following conditions are met:
      i. The applicant submits to the Department an affidavit certifying that the guarantee arrangement is valid under all applicable federal and state laws. If the applicant is a corporation, the applicant shall include a certified copy of the corporate resolution authorizing the corporation to enter into an agreement to guarantee the permittee's financial assurance obligation;
      ii. The applicant submits to the Department documentation that explains the substantial business relationship between the guarantor and the permittee;
      iii. The applicant demonstrates that the guarantor meets conditions of the financial mechanism listed in subsection (C)(1). For purposes of applying the criteria in subsection (C)(1) to a guarantor, substitute "guarantor" for the term "applicant" as used in subsection (C)(1);
      iv. The guarantee is governed by and complies with state law;
      v. The guarantee continues in full force until released by the Director or replaced by another financial assurance mechanism listed under subsection (C);
      vi. The guarantee provides that, if the permittee fails to perform closure or post-closure care of a facility covered by the guarantee, the guarantor shall perform or pay a third party to perform closure or post-closure care, as required by the permit, or establish a fully funded trust fund as specified under subsection (C)(4) in the name of the owner or operator; and
      vii. The guarantor names the Arizona Department of Environmental Quality as beneficiary of the guarantee.
   b. Guarantee reporting. The guarantor shall notify or submit a report to the Department within 30 days of:
      i. An increase in financial responsibility during the fiscal year that affects the guarantor's ability to meet the financial demonstration;
      ii. Receiving an adverse auditor's notice, opinion, or qualification; or
      iii. Receiving a Department notification requesting an update of the guarantor's financial condition.
   9. An applicant may use a financial assurance mechanism not listed in subsection (C)(1) through (8) if approved by the Director.

D. Loss of coverage. If the Director believes that a permittee will lose financial capability under subsection (C), the permittee shall, within 30 days from the date of receipt of the Director's request, submit evidence that the financial demonstration under subsection (B) is being met or provide an alternative financial assurance mechanism.

E. Financial assurance mechanism substitution. A permittee may substitute one financial assurance mechanism for another if the substitution is approved by the Director through an amendment under subsection (F).

F. Permit amendment. The permittee shall apply for an amendment to the individual permit if the permittee changes a financial assurance mechanism or if the permittee's revision of the closure strategy results in an increase in the estimated cost under R18-9-A201(B)(5). If a permittee seeks to amend a permit under R18-9-A211(B), the permittee shall submit a financial capability demonstration for all facilities covered by the amended individual permit with the permit amendment request.

G. Previous financial demonstration. If an applicant shows that the financial assurance demonstration required under this Section is covered within a financial demonstration already made to a governmental agency and the Department has access to that information, the applicant is not required to resubmit the information. The applicant shall certify that the current financial condition is equal to or better than the condition reflected in the financial demonstration provided to the other governmental agency. This provision does not apply to a demonstration required under subsection (F).

H. Recordkeeping. A permittee shall maintain the financial capability for the duration of the permit and report as specified in the permit.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A204. Contingency Plan

A. An individual permit shall specify a contingency plan that defines the actions to be taken if a discharge results in any of the following:
   1. A violation of an Aquifer Water Quality Standard or an AQL,
   2. A violation of a discharge limitation,
   3. A violation of any other permit condition,
   4. An alert level is exceeded, or
   5. An imminent and substantial endangerment to the public health or the environment.

B. The contingency plan may include one or more of the following actions if a discharge results in any of the conditions described in subsection (A):
   1. Verification sampling;
   2. Notification to downstream or downgradient users who may be directly affected by the discharge;
   3. Further monitoring that may include increased frequency, additional constituents, or additional monitoring locations;

4. Inspection, testing, operation, or maintenance of discharge control features at the facility;
5. Evaluation of the effectiveness of discharge control technology at the facility that may include technology upgrades;
6. Evaluation of pretreatment for sewage treatment facilities;
7. Preparation of a hydrogeologic study to assess the extent of soil, surface water, or aquifer impact;
8. Corrective action that includes any of the following measures:
   a. Control of the source of an unauthorized discharge,
   b. Soil cleanup,
   c. Cleanup of affected surface waters,
   d. Cleanup of affected parts of the aquifer, or
   e. Mitigation measures to limit the impact of pollutants on existing uses of the aquifer.

C. A permittee shall not take a corrective action proposed under subsection (B)(8) unless the action is approved by the Department.
1. Emergency response provisions and corrective actions specifically identified in the contingency plan submitted with a permit application are subject to approval by the Department during the application review process.
2. The permittee may propose to the Department a corrective action other than those already identified in the contingency plan if a discharge results in any of the conditions identified in subsection (A).
3. The Department shall approve the proposed corrective action if the corrective action provides a plan and expedient time-frame to return the facility to compliance with the facility's permit conditions, A.R.S. Title 49, Chapter 2, and Articles 1 and 2 of this Chapter.
4. The Director may incorporate corrective actions into an Aquifer Protection Permit.

D. A contingency plan shall contain emergency response provisions to address an imminent and substantial endangerment to public health or the environment including:
1. Twenty-four hour emergency response measures;
2. The name of an emergency response coordinator responsible for implementing the contingency plan;
3. Immediate notification to the Department regarding any emergency response measure taken;
4. A list of people to contact, including names, addresses, and telephone numbers if an imminent and substantial endangerment to public health or the environment arises; and
5. A general description of the procedures, personnel, and equipment proposed to mitigate unauthorized discharges.

E. A permittee may amend a contingency plan required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1251, et seq., as amended), or the Resource Conservation and Recovery Act of 1976 (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), to meet the requirements of this Section and submit it to the Department for approval instead of a separate aquifer protection contingency plan.

F. A permittee shall maintain at least one copy of the contingency plan required by the individual permit at the location where day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of the contingency plan.

G. A permittee shall promptly revise the contingency plan upon any change to the information contained in the plan.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A205. Alert Levels, Discharge Limitations, and AQLs

A. Alert levels.
1. If the Department prescribes an alert level in an individual permit, the Department shall base the alert level on the site-specific conditions described by the applicant in the application submitted under R18-9-A201(A)(2) or other information available to the Department.
2. The Department may specify an alert level based on a pollutant that indicates the potential appearance of another pollutant.
3. The Department may specify the measurement of an alert level at a location appropriate for the discharge activity, considering the physical, chemical, and biological characteristics of the discharge, the particular treatment process, and the site-specific conditions.

B. Discharge limitations. If the Department prescribes discharge limitations in an individual permit, the Department shall base the discharge limitations on the considerations described in A.R.S. § 49-243.

C. AQLs. The Department may prescribe an AQL in an individual permit to ensure that the facility continues to meet the criteria under A.R.S. § 49-243(B)(2) or (3).
1. If the concentration of a pollutant in the aquifer does not exceed the Aquifer Water Quality Standard, the Department shall set the AQL at the Aquifer Water Quality Standard.
2. If the concentration of a pollutant in the aquifer exceeds the Aquifer Water Quality Standard, the Department shall set the AQL higher than the Aquifer Water Quality Standard.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A206. Monitoring Requirements

A. Monitoring.
1. The Department shall determine whether monitoring is required to assure compliance with Aquifer Protection Permit conditions and with the applicable Aquifer Water Quality Standards established under A.R.S. §§ 49-221, 49-223, 49-241 through 49-244, and 49-250 through 49-252.
2. If monitoring is required, the Director shall specify to the permittee:
   a. The type and method of monitoring;
   b. The frequency of monitoring;
   c. Any requirements for the installation, use, or maintenance of monitoring equipment; and
   d. The intervals at which the permittee reports the monitoring results to the Department.

B. Recordkeeping.
1. A permittee shall make a monitoring record for each sample taken as required by the individual permit consisting of all of the following:

a. The date, time, and exact place of a sampling and the name of each individual who performed the sampling;
b. The procedures used to collect the sample;
c. The date sample analysis was completed;
d. The name of each individual or laboratory performing the analysis;
e. The analytical techniques or methods used to perform the sampling and analysis;
f. The chain of custody records; and
g. Any field notes relating to the information described in subsections (B)(1)(a) through (f).

2. A permittee shall make a monitoring record for each measurement made, as required by the individual permit, consisting of all of the following:
a. The date, time, and exact place of the measurement and the name of each individual who performed the measurement;
b. The procedures used to make the measurement; and
c. Any field notes relating to the information described in subsections (B)(2)(a) and (b).

3. A permittee shall maintain monitoring records for at least 10 years after the date of the sample or measurement, unless the Department specifies a shorter time period in the permit.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A207. Reporting Requirements

A. A permittee shall notify the Department within five days after becoming aware of a violation of a permit condition or that an alert level was exceeded. The permittee shall inform the Department whether the contingency plan described in R18-9-A204 was implemented.

B. In addition to the requirements in subsection (A), a permittee shall submit a written report to the Department within 30 days after the permittee becomes aware of a violation of a permit condition. The report shall contain:
1. A description of the violation and its cause;
2. The period of violation, including exact date and time, if known, and the anticipated time period the violation is expected to continue;
3. Any action taken or planned to mitigate the effects of the violation or to eliminate or prevent recurrence of the violation;
4. Any monitoring activity or other information that indicates that a pollutant is expected to cause a violation of an Aquifer Water Quality Standard; and
5. Any malfunction or failure of a pollution control device or other equipment or process.

C. A permittee shall notify the Department within five days after the occurrence of any of the following:
1. The permittee's filing of bankruptcy, or
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any federal or state environmental protection statute or rule.

D. The Director shall specify the format for submitting results from monitoring conducted under R18-9-A206.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A208. Compliance Schedule

A. A permittee shall follow the compliance schedule established in the individual permit.
1. If a compliance schedule provides that an action is required more than one year after the date of permit issuance, the schedule shall establish interim requirements and dates for their achievement.
2. If the time necessary for completion of an interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date.
3. Unless otherwise specified in the permit, within 30 days after the applicable date specified in a compliance schedule, a permittee shall submit to the Department a report documenting that the required action was taken within the time specified.
4. After reviewing the compliance schedule activity the Director may amend the Aquifer Protection Permit, based on changed circumstances relating to the required action.

B. The Department shall consider all of the following factors when setting the compliance schedule requirements:
1. The character and impact of the discharge,
2. The nature of construction or activity required by the permit,
3. The number of persons affected or potentially affected by the discharge,
4. The current state of treatment technology, and
5. The age of the facility.

C. For a new facility, the Department shall not defer to a compliance schedule any requirement necessary to satisfy the criteria under A.R.S. § 49-243(B).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A209. Temporary Cessation, Closure, Post-closure

A. Temporary cessation.
1. A permittee shall notify the Department before a cessation of operations at the facility of at least 60 days duration.
2. The permittee shall implement any condition specified in the individual permit for the temporary cessation.
3. If the permit does not specify any temporary cessation condition, the permittee shall, prior to implementation, submit the proposed temporary cessation plan for Department approval.

B. Closure.
1. Before providing notice under subsection (B)(2), a person may request that the Director review a site investigation plan for a facility under subsection (B)(3)(a) or the results of a site investigation at a facility to determine compliance with this subsection and A.R.S. § 49-252.
2. A person shall notify the Department of the person's intent to cease operations without resuming an activity for which the facility was designed or operated.
3. The person shall submit a closure plan for Director approval within 90 days following the notification of intent to cease operations with the applicable fee estab-

lished in 18 A.A.C. 14. A complete closure plan shall include:

a. A site investigation plan that includes a summary of relevant site studies already conducted and a proposed scope of work for any additional site investigation necessary to identify:
   i. The lateral and vertical extent of contamination in soils and groundwater, using applicable standards;
   ii. The approximate quantity and chemical, biological, and physical characteristics of each waste, contaminated water, or contaminated soil proposed for removal from the facility;
   iii. The approximate quantity and chemical, biological, and physical characteristics of each waste, contaminated water, or contaminated soil that will remain at the facility; and
   iv. Information regarding site conditions related to pollutant fate and transport that may influence the scope of sampling necessary to characterize the site for closure;

b. A summary describing the results of a site investigation and any other information used to identify:
   i. The lateral and vertical extent of soil and groundwater contamination, using applicable standards, and the analytical results that support the determination;
   ii. The approximate quantity and chemical, biological, and physical characteristics of each material scheduled for removal;
   iii. The destination of the materials and documentation that the destination is approved to accept the materials;
   iv. The approximate quantity and chemical, biological, and physical characteristics of each material that remains at the facility; and
   v. Any other relevant information the Department determines is necessary;

c. A closure design that identifies:
   i. The method used, if any, to treat any material remaining at the facility;
   ii. The method used to control the discharge of pollutants from the facility;
   iii. Any limitation on future land or water uses created as a result of the facility's operations or closure activities and a Declaration of Environmental Use Restriction according to A.R.S. § 49-152, if necessary; and
   iv. The methods used to secure the facility;

d. An estimate of the cost of closure;

e. A schedule for implementation of the closure plan and submission of a post-closure plan if clean closure is not achieved; and

f. For an implemented closure plan, a summary report of the results of site investigation performed during closure activities, including confirmation and verification sampling.

4. Within 60 days of receipt of a complete closure plan, the Department shall determine whether the closure plan achieves clean closure.

   a. If the implemented complete closure plan achieves clean closure, the Director shall:
      i. If the facility is not covered by an Aquifer Protection Permit, send the person a letter of approval; or
      ii. If the facility is covered by an Aquifer Protection Permit, send the person a Permit Release Notice issued under subsection (C)(2)(c).

   b. If the implemented complete closure plan did not achieve clean closure, the person shall submit a post-closure plan under subsection (C) and the following documents within 90 days from the date on the Department's notice or as specified under A.R.S. § 49-252(E):
      i. An application for an individual permit, or
      ii. A request to amend a current individual permit to address closure activities and post-closure monitoring and maintenance at the facility.

C. Post-closure. A person shall describe post-closure monitoring and maintenance activities in an application for a permit or an amendment to an individual permit and submit it to the Department for approval.

1. The application shall include:
   a. The duration of post-closure care;
   b. The monitoring procedures proposed by the permittee, including monitoring frequency, type, and location;
   c. A description of the operating and maintenance procedures proposed for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, surface water and stormwater management systems, and monitoring wells;
   d. A schedule and description of physical inspections proposed at the facility following closure;
   e. An estimate of the cost of post-closure maintenance and monitoring;
   f. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations; and
   g. The applicable fee established in 18 A.A.C. 14.
2. The Director shall include the post-closure plan submitted under subsection (C)(1) in the individual permit or permit amendment.
   a. The permittee shall provide the Department written notice that a closure plan or a post-closure plan was fully implemented within 30 calendar days of implementation of the plan. The notice shall include a summary report confirming the closure design and describing the results of sampling performed during closure activities and post-closure activities, if any, to demonstrate the level of cleanup achieved.
   b. The Director may, upon receipt of the notice, inspect the facility to ensure that the closure plan has been fully implemented.
   c. The Director shall issue a Permit Release Notice if the permittee satisfies all closure and post-closure requirements.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A210. Temporary Individual Permit

A. A person may apply for a temporary individual permit for either of the following:

1. A pilot project to develop data for an Aquifer Protection Permit application for the full-scale project, or
2. A facility with a discharge lasting no more than six months.

B. The applicant shall submit a preliminary application containing the information required in R18-9-A201(B)(1).

C. The Department shall, based on the preliminary application and in consultation with the applicant, determine and provide the applicant notice of any additional information in R18-9-A201(B) that is necessary to complete the application.

D. Public participation.
1. If the Director issues a temporary individual permit, the Director shall postpone the public participation requirements under R18-9-109.
2. The Director shall not postpone notification of the opportunity for public participation for more than 30 days from the date on the temporary individual permit.
3. The Director may amend or revoke the temporary individual permit after consideration of public comments.
4. The Director shall not issue a public notice or hold a public hearing if a temporary individual permit is renewed without change.
5. The Director shall follow the public participation requirements under R18-9-109 when making a significant amendment to a temporary individual permit.

E. A temporary individual permit expires after one year unless it is renewed. The Director may renew a temporary individual permit no more than one time.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A211. Permit Amendments

A. The Director may amend an individual permit based upon a request or upon the Director's initiative.
1. A permittee shall submit a request for permit amendment in writing on a form provided by the Department with the applicable fee established in 18 A.A.C. 14, explaining the facts and reasons justifying the request.
2. The Department shall process amendment requests following the licensing time-frames established under 18 A.A.C. 1, Article 5, Table 10.
3. An amended permit supersedes the previous permit upon the effective date of the amendment.

B. Significant permit amendment. The Director shall make a significant amendment to an individual permit if:
1. Part or all of an existing facility becomes a new facility under A.R.S. § 49-201;
2. A physical change in a permitted facility or a change in its method of operation results in:
   a. An increase of 10 percent or more in the permitted volume of pollutants discharged, except a sewage treatment facility;
   b. An increase in design flow of a sewage treatment facility as follows:

Permitted Design Flow	Increase in Design Flow
500,000 gallons per day or less	10%
Greater than 500,000 gallons per day but less than or equal to five million gallons per day	6%
Greater than five million gallons per day but less than or equal to 50 million gallons per day	4%
Greater than 50 million gallons per day	2%

   c. Discharge of an additional pollutant not allowed by a facility's original individual permit. The Director may consider the addition of a pollutant with a chemical composition substantially similar to a pollutant the permit currently allows by making an "other" amendment to the individual permit as prescribed in subsection (D);
   d. For any pollutant not addressed in a facility's individual permit, any increase that brings the level of the pollutant to within 80 percent or more of a numeric Aquifer Water Quality Standard at the point of compliance; or
   e. An increase in the concentration in the discharge of a pollutant listed under A.R.S. § 49-243(I);
3. Based upon available information, the facility can no longer demonstrate that its discharge will comply with A.R.S. § 49-243(B)(2) or (3);
4. The permittee requests and the Department agrees to less stringent monitoring that reduces the frequency in monitoring or reporting or reduces the number of pollutants monitored, and the permittee demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
5. It is necessary to change the designation of a point of compliance;
6. It is necessary to update BADCT for a facility that was issued an individual permit and was not constructed within five years of permit issuance;
7. The permittee requests and the Department agrees to less stringent discharge limitations when the permittee demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
8. It is necessary to make an addition to or a substantial change in closure requirements or to provide for post-closure maintenance and monitoring; or
9. Material and substantial alterations or additions to a permitted facility, including a change in disposal method, justify a change in permit conditions.

C. Minor permit amendment. The Director shall make a minor amendment to an individual permit to:
1. Correct a typographical error;
2. Change nontechnical administrative information, excluding a permit transfer;
3. Correct minor technical errors, such as errors in calculation, locational information, citations of law, and citations of construction specifications;
4. Increase the frequency of monitoring or reporting, or to revise a laboratory method;
5. Make a discharge limitation more stringent;
6. Make a change in a recordkeeping retention requirement; or
7. Insert calculated alert levels, AQLs, or other permit limits into a permit based on monitoring subsequent to permit issuance, if a requirement to establish the levels or limits and the method for calculation of the levels or limits was established in the original permit.

D. "Other" permit amendment.

1. The Director may make an "other" amendment to an individual permit if the amendment is not a significant or minor permit amendment prescribed in this Section, based on an evaluation of the information relevant to the amendment.
2. Examples of an "other" amendment to an individual permit include:
   a. A change in a construction requirement, treatment method, or operational practice, if the alteration complies with the requirements of Articles 1 and 2 of this Chapter and provides equal or better performance;
   b. A change in an interim or final compliance date in a compliance schedule, if the Director determines just cause exists for changing the date;
   c. A change in the permittee's financial assurance mechanism under R18-9-A203(C);
   d. A permit transfer under R18-9-A212;
   e. The replacement of monitoring equipment, including a well, if the replacement results in equal or greater monitoring effectiveness;
   f. Any increase in the volume of pollutants discharged that is less than that described in subsection (B)(2)(a) or (b);
   g. An adjustment of the permit to conform to rule or statutory provisions;
   h. A calculation of an alert level, AQL, or other permit limit based on monitoring subsequent to permit issuance;
   i. An addition of a point of compliance monitor well;
   j. A combination of two or more permits at the same site as specified under R18-9-107;
   k. An adjustment or incorporation of monitoring requirements to ensure Reclaimed Water Quality Standards developed under 18 A.A.C. 11, Article 3 are met; or
   l. A change in a contingency plan resulting in equal or more efficient responsiveness.

E. The public notice and public participation requirements of R18-9-108 and R18-9-109 apply to a significant amendment. The public notice requirements apply to an "other" amendment. A minor amendment does not require a public notice or public participation.

F. The Director shall not amend or reissue a permit to allow use of a discharge control technology that provides a lesser degree of pollutant discharge reduction than the BADCT established in the individual Aquifer Protection Permit previously issued for a facility, unless:
1. The industrial classification of the facility has changed so that a new assessment of BADCT is appropriate,
2. The pollutant load has decreased or the pollutant composition has changed significantly to warrant a new assessment of the BADCT,
3. The Director approves a corrective or contingency action that necessitates a change in the treatment technology, or
4. The approved discharge control technology is not operating properly due to circumstances beyond the control of the owner or operator.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A212. Permit Transfer

A. The person subject to the continuance requirements under R18-9-105(A)(1), (2), or (3) shall notify the Department by certified mail within 15 days following a change of ownership. The notice shall include:
1. The name of the person transferring the facility;
2. The name of the new owner or operator;
3. The name and location of the facility;
4. The written agreement between the person transferring the facility and the new owner or operator indicating a specific date for transfer of all permit responsibility, coverage, and liability;
5. A signed declaration by the new owner or operator that the new owner or operator has reviewed the permit and agrees to the terms of the permit, including fee obligations under A.R.S. § 49-242; and
6. The applicable fee established in 18 A.A.C. 14.

B. A permittee may request that the Department transfer an individual permit to a new owner or operator.
1. The new owner or operator shall:
   a. Notify the Department by certified mail within 15 days after the change of ownership and include a written agreement between the previous and new owner indicating a specific date for transfer of all permit responsibility, coverage, and liability;
   b. Submit the applicable fee established in 18 A.A.C. 14;
   c. Demonstrate the technical and financial capability necessary to fully carry out the terms of the permit according to R18-9-A202 and R18-9-A203;
   d. Submit a signed statement that the new owner or operator has reviewed the permit and agrees to the terms of the permit; and
   e. Provide the Department with a copy of the Certificate of Disclosure if required by A.R.S. § 49-109.
2. If the Director amends the individual permit for the transfer, the new permittee is responsible for all conditions of the permit.

C. A permittee shall comply with all permit conditions until the Director transfers the permit, regardless of whether the permittee has sold or disposed of the facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A213. Permit Suspension, Revocation, Denial, or Termination

A. The Director may, after notice and opportunity for hearing, suspend or revoke an individual permit or a continuance under R18-9-105(A)(1), (2), or (3) for any of the following:
1. A permittee failed to comply with any applicable provision of A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; or any permit condition;
2. A permittee misrepresented or omitted a fact, information, or data related to an Aquifer Protection Permit application or permit condition;
3. The Director determines that a permitted activity is causing or will cause a violation of an Aquifer Water Quality Standard at a point of compliance;

4. A permitted discharge is causing or will cause imminent and substantial endangerment to public health or the environment;
5. A permittee failed to maintain the financial capability under R18-9-A203(B); or
6. A permittee failed to construct a facility within five years of permit issuance and:
   a. It is necessary to update BADCT for the facility, and
   b. The Department has not issued an amended permit under R18-9-A211(B)(6).

B. The Director may deny an individual permit if the Director determines upon completion of the application process that the applicant has:
1. Failed or refused to correct a deficiency in the permit application;
2. Failed to demonstrate that the facility and the operation will comply with the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1 and 2 of this Chapter. The Director shall base this determination on:
   a. The information submitted in the Aquifer Protection Permit application,
   b. Any information submitted to the Department following a public hearing, or
   c. Any relevant information that is developed or acquired by the Department; or
3. Provided false or misleading information.

C. The Director shall terminate an individual permit if each facility covered under the individual permit:
1. Has closed and the Director issued a Permit Release Notice under R18-9-A209(C)(2)(c) or A209(B)(4)(a)(ii) for the closed facility, or
2. Is covered under another Aquifer Protection Permit.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-A214. Requested Coverage Under a General Permit

A. If a person who applied for or was issued an individual permit qualifies to operate a facility under a general permit established in Article 3 of this Chapter, the person may request that the individual permit be terminated and replaced by the general permit. The person shall submit the Notice of Intent to Discharge under R18-9-A301(B) with the appropriate fee established in 18 A.A.C. 14.

B. The individual permit is valid and enforceable with respect to a discharge from each facility until the Director determines that the discharge from each facility is covered under a general permit.

C. The owner or operator operating under a general permit shall comply with all applicable general permit requirements in Article 3 of this Chapter.

Historical Note

New Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A215. New or Adjusted Aquifer Water Quality Standards

A. Permit Amendment Schedule. Upon the effective date of a new or adjusted AWQS, the Director shall develop a schedule to amend issued individual permits to reflect the new or adjusted AWQS pursuant to R18-9-A211.

B. Permit Amendment Requirement. Persons holding issued individual permits as of the effective date of a new or adjusted AWQS shall submit an administratively complete application to amend their permit to reflect a new or adjusted AWQS in accordance with the amendment schedule described in subsection (A).
1. Notwithstanding the amendment schedule described in subsection (A) above, administratively complete applications shall be submitted to the Department no later than four years after a new or adjusted AWQS effective date.
2. The requirement to submit an application to amend in subsection (B) is not applicable for pollutants with a new or adjusted AWQS that are within the scope of a demonstration submitted pursuant to subsection (H).

C. Baseline Monitoring. Persons with issued individual permits as of a new or adjusted AWQS effective date shall begin Baseline Monitoring, pursuant to subsection (E) below, for a new or adjusted AWQS within three months, unless:
1. The permit has no ongoing monitoring requirements,
2. The permittee has not begun ongoing monitoring,
3. The permittee has submitted a request for an alternative timeframe, duration or frequency pursuant to subsection (D) below, or
4. The permittee has submitted a demonstration pursuant to subsection (H).
5. For the purposes of this subsection, "ongoing monitoring" means permit-required monitoring at groundwater point of compliance, discharge or other monitoring locations subject to alert levels, discharge limitations or AQLs based on AWQSs pursuant to R18-9-A205.

D. Alternative Baseline Monitoring Timeframe, Duration and/or Frequency. Permittees subject to Baseline Monitoring may submit a request to conduct Baseline Monitoring under an alternative timeframe, monitoring duration and/or sampling frequency within three months of a new or adjusted AWQS effective date with reasonable cause for the request included therein.

E. Baseline Monitoring Requirements.
1. Baseline Monitoring shall occur at permit-required groundwater point of compliance, discharge or other monitoring locations subject to alert levels, discharge limitations or AQLs based on AWQSs pursuant to R18-9-A205.
2. Subsection R18-9-A206(B) applies to Baseline Monitoring.
3. Permittees that have collected relevant samples prior to the Baseline Monitoring period at permit-required groundwater point of compliance, discharge or other monitoring locations subject to alert levels, discharge limitations or AQLs based on AWQSs pursuant to R18-9-A205, may use that data to develop the Baseline Monitoring Report. Previously collected data may be used to shorten or eliminate a Baseline Monitoring period if all data components:
   a. Are sampled pursuant to subsection (E)(4) below,
   b. Are analyzed using industry standard quality assurance and quality control procedures,
   c. Collectively, are representative of a complete data set per the applicable requirements of Baseline Monitoring, and
   d. Collectively, meet other applicable requirements of Baseline Monitoring.

4. Sampling for each pollutant with a new or adjusted AWQS shall be conducted using Arizona Department of Health Services-approved (ADHS) methods under A.A.C. R9-14-610, including methods on the ADHS Director Approved List, if available. If an ADHS-approved method does not exist, sampling shall be conducted using an appropriate EPA-approved method or a method specified by the ADEQ Director.
5. Groundwater Monitoring. Permittees that are required to monitor groundwater shall conduct Baseline Monitoring for a new or adjusted AWQS at the point of compliance monitoring location or locations for eight quarters unless an alternative timeframe, duration or frequency is approved by the Department pursuant to subsection (D) above. The Director may lengthen the monitoring period if one or more of the following events occur:
   a. A deviation from an operational practice or design authorized in the permit;
   b. An exceedance of any discharge limitation;
   c. An exceedance of a new or adjusted AWQS;
   d. A significant trend in the monitoring data; or
   e. Any other significant issue that affects the representativeness of Baseline Monitoring.
6. Discharge Monitoring. Permittees that are required to monitor discharge or water quality shall conduct Baseline Monitoring for a new or adjusted AWQS at the discharge monitoring location or locations on a monthly frequency for one year unless an alternative timeframe, duration or frequency is approved by the Department pursuant to subsection (D) above. If a permittee conducting Discharge Baseline Monitoring collects a sample that is at or above a new or adjusted AWQS, the permittee shall notify ADEQ within five days of becoming aware. The Director may lengthen the monitoring period if one or more of the following events occur:
   a. A deviation from an operational practice or design authorized in the permit;
   b. An exceedance of any discharge limitation;
   c. An exceedance of a new or adjusted AWQS;
   d. A significant trend in the monitoring data; or
   e. Any other significant issue that affects the representativeness of Baseline Monitoring.

F. Baseline Monitoring Report.
1. At the conclusion of Baseline Monitoring, or upon the compilation of a complete and representative data set pursuant to subsection (E)(3) above, permittees shall develop a Baseline Monitoring Report within three months of receipt of the last sample result.
2. Permittees subject to both Groundwater and Discharge Baseline Monitoring may develop a combined, comprehensive Baseline Monitoring Report within three months of receipt of the last sample result.
3. The report shall characterize the discharge and/or groundwater quality at the permit-required monitoring locations pursuant to subsections (C) and (E) of this Section.
4. The report shall include:
   a. The sampling results of discharge and/or groundwater monitoring for a pollutant with a new or adjusted AWQS,
   b. A demonstration of the baseline concentration of a new or adjusted AWQS at permit-required groundwater point of compliance, discharge or other monitoring locations subject to alert levels, discharge limitations or AQLs based on AWQSs pursuant to R18-9-A205,
   c. Laboratory data from the entire Baseline Monitoring period, and
   d. An Alert Level, Discharge Limitation and/or AQL proposal in accordance with R18-9-A205, as applicable, for each pollutant with a new or adjusted AWQS.
5. A permittee may include additional information in a Baseline Monitoring Report.
6. The permittee shall submit the monitoring data in a manner prescribed by the Director.
7. After review by the Department, additional information may be required.

G. Report Review and Permit Amendment. After the conclusion of Baseline Monitoring, a permittee shall submit an administratively complete application to amend their permit to reflect a new or adjusted AWQS in accordance with the amendment schedule described in subsection (A). The Baseline Monitoring Report shall be a component of the amendment application. Upon receipt, the Department shall review, process and determine whether a new or adjusted Alert Level, Discharge Limitation and/or AQL is required for a new or adjusted AWQS in accordance with R18-9-A205. Thereafter, the Department may incorporate, through a permit amendment, a new or adjusted Alert Level, Discharge Limitation and/or AQL for a new or adjusted AWQS in accordance with R18-9-A205.

H. Unlikely to be Present in Discharge Demonstration. A pollutant with a new or adjusted AWQS shall be removed from the scope of Baseline Monitoring upon a demonstration that the pollutant is not likely to be present in a facility's discharge. The Department may require a permittee to begin Baseline Monitoring for a pollutant with a new or adjusted AWQS after review of the demonstration if the Department has a reasonable basis to believe the pollutant is, or is likely to be, present in the facility's discharge. Demonstrations may include, but are not limited to:
1. A characterization of the facility's discharge in relation to the pollutant with a new or adjusted AWQS;
2. Past monitoring and sampling data at the facility and the facility's site; or
3. Process or other information demonstrating that the pollutant is not used or generated at the site or is otherwise not likely to be present in discharges at the site.

I. Permits Without Monitoring. The Department may require persons with issued individual permits as of the effective date of a new or adjusted AWQS without ongoing monitoring to reasonably characterize their discharge and/or groundwater quality in relation to a pollutant with a new or adjusted AWQS within a reasonable amount of time if the Department has a reasonable basis to believe a pollutant with a new or adjusted AWQS is, or is likely to be, present in the facility's discharge.
1. For the purposes of this subsection, "ongoing monitoring" means permit-required monitoring at groundwater point of compliance, discharge or other monitoring locations subject to alert levels, discharge limitations or AQLs based on AWQSs pursuant to R18-9-A205.
2. A requirement to reasonably characterize discharge and/or groundwater quality in relation to a pollutant with a new or adjusted AWQS does not apply upon the submission of a demonstration pursuant to subsection (H). The Department may require a permittee to reasonably characterize their discharge and/or groundwater quality in relation to a pollutant with a new or adjusted AWQS if, after review of a subsection (H) demonstration, the

Department has a reasonable basis to believe the pollutant is, or is likely to be, present in the facility's discharge.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 2167 (July 4, 2025), effective August 4, 2025 (Supp. 25-2).

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

A. Applicability. The requirements in this Article apply to all sewage treatment facilities, including expansions of existing sewage treatment facilities, that treat wastewater containing sewage, unless the discharge is authorized by a general permit under Article 3 of this Chapter.

B. The Director may specify alert levels, discharge limitations, design specifications, and operation and maintenance requirements in the permit that are based upon information provided by the applicant and that meet the requirements under A.R.S. § 49-243(B)(1).

C. The permittee shall ensure that a sewage treatment facility is operated by a person certified under 18 A.A.C. 5, Article 1, for the grade of the facility.

D. Operation and maintenance.

1. The owner or operator shall maintain, at the sewage treatment facility, an operation and maintenance manual for the facility and shall update the manual as needed.
2. The owner or operator shall use the operation and maintenance manual to guide facility operations to ensure compliance with the terms of the Aquifer Protection Permit and to prevent any environmental nuisance described under A.R.S. § 49-141(A).
3. The Director may specify adherence to any operation or maintenance requirement as an Aquifer Protection Permit condition to ensure that the terms of the Aquifer Protection Permit are met.
4. The owner or operator shall make the operation and maintenance manual available to the Department upon request.

E. A person shall not create or maintain a connection between any part of a sewage treatment facility and a potable water supply so that sewage or wastewater contaminates a potable or public water supply. A person may only create and maintain a connection between sewage treatment facilities, advanced water treatment facilities, and a potable water supply under an Advanced Water Purification permit issued pursuant to Article 8 of this Chapter.

F. A person shall not bypass or release sewage or partially treated sewage that has not completed the treatment process from a sewage treatment facility.

G. Reclaimed water dispensed to a direct reuse site from a sewage treatment facility is regulated under Reclaimed Water Quality Standards in 18 A.A.C. 11, Article 3.

H. The preparation, transport, or land application of any biosolids generated by a sewage treatment facility is regulated under 18 A.A.C. 9, Article 10.

I. The owner or operator of a sewage treatment facility that is a new facility or undergoing a major modification shall provide setbacks established in the following table. Setbacks are measured from the noise or odor-producing treatment and disposal components within the sewage treatment facility to the nearest property line of an adjacent dwelling, workplace, or private property. If an owner or operator cannot meet a setback for a facility undergoing a major modification that incorporates full noise, odor, and aesthetic controls, the owner or operator shall not further encroach into setback distances existing before the major modification except as allowed in subsection (I)(2).

Sewage Treatment Facility Design Flow (gallons per day)	Minimum Setback Distance (feet)	
	No Noise, Odor, or Aesthetic Controls	Full Noise, Odor, and Aesthetic Controls
3000 to less than 24,000	250	25
24,000 to less than 100,000	350	50
100,000 to less than 500,000	500	100
500,000 to less than 1,000,000	750	250
1,000,000 or greater	1000	350

1. Full noise, odor, and aesthetic controls means that:
   a. Noise due to the sewage treatment facility does not exceed 50 decibels at the facility property boundary on the A network of a sound level meter or a level established in a local noise ordinance,
   b. All odor-producing components of the sewage treatment facility are fully enclosed,
   c. Odor scrubbers or other odor-control devices are installed on all vents, and
   d. Fencing aesthetically matched to the area surrounding the facility.
2. The owner or operator of a sewage treatment facility undergoing a major modification may decrease setbacks if:
   a. Allowed by local ordinance; or
   b. Setback waivers are obtained from affected property owners in which the property owner acknowledges awareness of the established setbacks, basic design of the sewage treatment facility, and the potential for noise and odor.

J. The owner or operator of a sewage treatment facility shall not operate the facility so that it emits an offensive odor on a persistent basis beyond the setback distances specified in subsection (I).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-B202. Design Report

A. A person applying for an individual permit shall submit a design report signed, dated, and sealed by an Arizona-registered professional engineer. The design report shall include the following information:

1. Wastewater characterization, including quantity, quality, seasonality, and impact of increased flows as the facility reaches design flow;
2. The proposed method of disposal, including solids management;
3. A description of the treatment unit processes and containment structures, including diagrams and calculations that demonstrate that the design meets BADCT requirements and will achieve treatment levels specified in R18-9-B204 through R18-9-B206, as applicable, for all flow conditions indicated in subsection (A)(9). If soil aquifer treatment or other aspects of site conditions are used to meet BADCT requirements, the applicant shall document

performance of the site in the design report or the hydrogeologic report;
4. A description of planned normal operation;
5. A description of key maintenance activities and a description of contingency and emergency operation for the facility;
6. A description of construction management controls;
7. A description of the facility startup plan, including preoperational testing, expected treated wastewater characteristics and monitoring requirements during startup, expected time-frame for meeting performance requirements specified in R18-9-B204, and any other special startup condition that may merit consideration in the individual permit;
8. A site diagram depicting compliance with the setback requirements established in R18-9-B201(I) for the facility at design flow, and for each phase if the applicant proposes expansion of the facility in phases;
9. The following flow information in gallons per day for the proposed sewage treatment facility. If the application proposes expansion of the facility in phases, the following flow information for each phase:
   a. The design flow of the sewage treatment facility. The design flow is the average daily flow over a calendar year calculated as the sum of all influent flows to the facility based on Table 1, Unit Design Flows, unless a different basis for determining influent flows is approved by the Department;
   b. The maximum day. The maximum day is the greatest daily total flow that occurs over a 24-hour period within an annual cycle of flow variations;
   c. The maximum month. The maximum month is the average daily flow of the month with the greatest total flow within the annual cycle of flow variations;
   d. The peak hour. The peak hour is the greatest total flow during one hour, expressed in gallons per day, within the annual cycle of flow variations;
   e. The minimum day. The minimum day is the least daily total flow that occurs over a 24-hour period within the annual cycle of flow variations;
   f. The minimum month. The minimum month is the average daily flow of the month with the least total flow within the annual cycle of flow variations; and
   g. The minimum hour. The minimum hour is the least total flow during one hour, expressed in gallons per day, within the annual cycle of flow variations; and
10. Specifications for pipe, standby power source, and water and sewer line separation.

B. The Department may inspect an applicant's facility without notice to ensure that construction conforms to the design report.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-B203. Engineering Plans and Specifications

A. A person applying for an individual permit for a sewage treatment facility with a design flow under one million gallons per day, shall submit engineering plans and specifications to the Department. The Director may waive this requirement if the Director previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with a design flow of more than one million gallons per day.

B. A person applying for an individual permit for a sewage treatment facility with a design flow of one million gallons per day or greater shall submit engineering plans and specifications if, upon review of the design report required in R18-9-B202, the Department finds that:
1. The design report fails to provide sufficient detail to determine adequacy of the proposed sewage treatment facility design;
2. The described design is innovative and does not reflect treatment technologies generally accepted within the industry;
3. The Department's calculations of removal efficiencies based on the design report show that the treatment facility cannot achieve treatment performance requirements;
4. The design report does not demonstrate:
   a. Protection from physical damage due to a 100-year flood,
   b. Ability to continuously operate during a 25-year flood, or
   c. Provision for a standby power source;
5. The design report shows inconsistency in sizing or compatibility between two or more unit process components of the sewage treatment facility;
6. The designer of the facility has:
   a. Designed a sewage treatment facility of at least a similar size on less than three previous occasions,
   b. Designed a sewage treatment facility that has been the subject of a Director enforcement action due to the facility design, or
   c. Been found by the Board of Technical Registration to have violated a provision in A.R.S. Title 32, Chapter 1;
7. The permittee seeks to expand its sewage treatment facility and the Department believes that the facility will require upgrades to the design not described and evaluated in the design report to meet the treatment performance requirements; or
8. The construction does not conform to the design report if the sewage treatment facility has already been constructed.

C. The Department shall review engineering plans and specifications upon request by an applicant seeking a permit for a sewage treatment facility, regardless of its flow.

D. The Department may inspect an applicant's facility without notice to ensure that construction generally conforms to engineering plans and specifications, as applicable.

E. Before discharging under a permit, the permittee shall submit an Engineer's Certificate of Completion signed, dated, and sealed by an Arizona-registered professional engineer in a format approved by the Department, that confirms that the facility is constructed according to the Department-approved design report or plans and specifications, as applicable.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-B204. Treatment Performance Requirements for a New Facility

A. Definition. "Week" means a seven-day period starting on Sunday and ending on the following Saturday.

B. An owner or operator of a new sewage treatment facility shall ensure that the facility meets the following performance requirements upon release of the treated wastewater at the outfall:

1. Secondary treatment levels.
   a. Five-day biochemical oxygen demand (BOD_5) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand ($CBOD_5$) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
   b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
   c. pH maintained between 6.0 and 9.0 standard units; and
   d. A removal efficiency of 85 percent for BOD_5, $CBOD_5$, and TSS;
2. Secondary treatment by waste stabilization ponds is not considered BADCT unless an applicant demonstrates to the Department that site-specific hydrologic and geologic characteristics and other environmental factors are sufficient to justify secondary treatment by waste stabilization ponds;
3. Total nitrogen in the treated wastewater is less than 10 mg/l (five-month rolling geometric mean). If an applicant demonstrates, using appropriate monitoring that soil aquifer treatment will produce a total nitrogen concentration less than 10 mg/l in wastewater that percolates to groundwater, the Department may approve soil aquifer treatment for removal of total nitrogen as an alternative to meeting the performance requirement of 10 mg/l at the outfall;
4. Pathogen removal.
   a. For a sewage treatment facility with a design flow of less than 250,000 gallons per day at a site where the depth to the seasonally high groundwater table is greater than 20 feet and there is no karstic or fractured bedrock at the surface:
      i. The concentration of fecal coliform organisms in four of the wastewater samples collected during the week is less than 200 cfu/100 ml or the concentration of *E. coli* bacteria in four of the wastewater samples collected during the week is less than 126 cfu/100 ml, based on a sampling frequency of seven daily samples per week;
      ii. The single sample maximum concentration of fecal coliform organisms in a wastewater sample is not greater than 800 cfu/100 ml or the single sample maximum concentration of *E. coli* bacteria in a wastewater sample is not greater than 504 cfu/100 ml; and
      iii. An owner or operator of a facility may request a reduction in the monitoring frequency required in subsection (B)(4)(a)(i) if equipment is installed to continuously monitor an alternative indicator parameter and the owner or operator demonstrates that the continuous monitoring will ensure reliable production of wastewater that meets the numeric concentration levels in subsections (B)(4)(a)(i) and (ii) at the discharge point;
   b. For any other sewage treatment facility:
      i. No fecal coliform organisms or no *E. coli* bacteria are detected in four of the wastewater samples collected during the week, based on a sampling frequency of seven daily samples per week;
      ii. The single sample maximum concentration of fecal coliform organisms in a wastewater sample is not greater than 23 cfu/100 ml or the single sample maximum concentration of *E. coli* is not greater than 15 cfu/100 ml;
      iii. An owner or operator may request a reduction in the monitoring frequency required in subsection (B)(4)(b)(i) if equipment is installed to continuously monitor an alternative indicator parameter and the owner or operator demonstrates that the continuous monitoring will ensure reliable production of wastewater that meets the numeric concentration levels in subsections (B)(4)(b)(i) or (ii) at the discharge point;
   c. An owner or operator may use unit treatment processes, such as chlorination-dechlorination, ultraviolet, and ozone to achieve the pathogen removal performance requirements specified in subsections (B)(4)(a) and (b);
   d. The Department may approve soil aquifer treatment for the removal of fecal coliform or *E. coli* bacteria as an alternative to meeting the performance requirement in subsection (B)(4)(a) or (b), if the soil aquifer treatment process will produce a fecal coliform or *E. coli* bacteria concentration less than that required under subsection (B)(4)(a) or (b), in wastewater that percolates to groundwater;
5. Unless governed by A.R.S. § 49-243(I), the performance requirement for each constituent regulated under R18-11-406(B) through (E) is the numeric Aquifer Water Quality Standard;
6. The performance requirement for a constituent regulated under A.R.S. § 49-243(I) is removal to the greatest extent practical regardless of cost.
   a. An operator shall minimize trihalomethane compounds generated as disinfection byproducts using chlorination, dechlorination, ultraviolet, or ozone as the disinfection system or using a technology demonstrated to have equivalent or better performance for removing or preventing trihalomethane compounds.
   b. For other pollutants regulated by A.R.S. § 49-243(I), an operator shall use one of the following methods to achieve industrial pretreatment:
      i. Regulate industrial sources of influent to the sewage treatment facility by setting limits on pollutant concentrations, monitoring for pollutants, and enforcing the limits to reduce, eliminate, or alter the nature of a pollutant before release into a sewage collection system;
      ii. Meet the pretreatment requirements of A.R.S. § 49-255.02; or
      iii. For sewage treatment facilities without significant industrial input, conduct periodic monitoring to detect industrial discharge; and
7. A maximum seepage rate less than 550 gallons per day per acre for all containment structures within the treatment works. A sewage treatment facility that consists solely of containment structures with no other form of discharge complies with Article 2 Part

B by operating below the maximum 550 gallon per day per acre seepage rate.

C. The Director shall incorporate treated wastewater discharge limitations and associated monitoring specified in this Section into the individual permit to ensure compliance with the BADCT requirements.

D. An applicant shall formally request in writing and justify an alternative that allows less stringent performance than that established in this Section, based on the criteria specified in A.R.S. § 49-243(B)(1).

E. If the request specified in subsection (D) involves treatment or disposal works that are a demonstration, experimental, or pilot project, the Director may issue an individual permit that places greater reliance on monitoring to ensure operational capability.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-B205. Treatment Performance Requirements for an Existing Facility

For a sewage treatment facility that is an existing facility defined in A.R.S. § 49-201(18), the BADCT shall conform with the following:

1. The designer shall identify one or more design improvements that brings the facility closer to or within the treatment performance requirements specified in R18-9-B204, considering the factors listed in A.R.S. § 49-243(B)(1)(a) and (B)(1)(c) through (h);
2. The designer may eliminate from consideration alternatives identified in subsection (1) that are more expensive than the number of gallons of design flow times $1.00 per gallon; and
3. The designer shall select a design that incorporates one or more of the considered alternatives by giving preference to measures that will provide the greatest improvement toward meeting the treatment performance requirements specified in R18-9-B204.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-B206. Treatment Performance Requirements for Expansion of a Facility

For an expansion of a sewage treatment facility, the BADCT shall conform with the following:

1. New facility BADCT requirements in R18-9-B204 apply to the following expansions:
   a. An increase in design flow by an amount equal to or greater than the increases specified in R18-9-A211(B)(2)(b); or
   b. An addition of a physically separate process or major piece of production equipment, building, or structure that causes a separate discharge to the extent that the treatment performance requirements for the pollutants addressed in R18-9-B204 can practicably be achieved by the addition.
2. BADCT requirements for existing facilities established in R18-9-B205 apply to an expansion not covered under subsection (1).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (1) (Supp. 01-1). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

ARTICLE 3. AQUIFER PROTECTION PERMITS - GENERAL PERMITS

PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

A. Discharging requirements.

1. Type 1 General Permit. A person may discharge under a Type 1 General Permit without submitting a Notice of Intent to Discharge if the discharge is authorized by and meets:
   a. The applicable requirements of Article 3, Part A of this Chapter; and
   b. The specific terms of the Type 1 General Permit established in Article 3, Part B of this Chapter.
2. Type 2 General Permit. A person may discharge under a Type 2 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the Type 2 General Permit established in Article 3, Part C of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B); and
   c. The person submits the applicable fee established in 18 A.A.C. 14.
3. Type 3 General Permit. A person may discharge under a Type 3 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the Type 3 General Permit established in Article 3, Part D of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review and receives a written Discharge Authorization from the Director; and
   d. The person submits the applicable fee established in 18 A.A.C. 14.
4. Type 4 General Permit. A person may discharge under a Type 4 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the Type 4 General Permit established in Article 3, Part E of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review, including any deficiency relating to the construction of the facility;
   d. The person receives a written Discharge Authorization from the Director before the facility discharges; and

e. The person submits the applicable fee established in 18 A.A.C. 14 or according to A.R.S. §§ 49-107 and 49-112.

B. Notice of Intent to Discharge.

1. A person seeking a Discharge Authorization under a general permit under subsections (A)(2), (3), or (4) shall submit, by certified mail, in person, or by another method approved by the Department, a Notice of Intent to Discharge on a form provided by the Department.
2. The Notice of Intent to Discharge shall include:
   a. The name, address, and telephone number of the applicant;
   b. The name, address, and telephone number of a contact person familiar with the operation of the facility;
   c. The name, position, address, and telephone number of the owner or operator of the facility who has overall responsibility for compliance with the permit;
   d. The legal description of the discharge areas, including the latitude and longitude coordinates;
   e. A narrative description of the facility or project, including expected dates of operation, rate, and volume of discharge;
   f. The additional requirements, if any, specified in the general permit for which the authorization is being sought;
   g. A listing of any other federal or state environmental permits issued for or needed by the facility, including any individual permit, Groundwater Quality Protection Permit, or Notice of Disposal that may have previously authorized the discharge; and
   h. A signature on the Notice of Intent to Discharge certifying that the applicant agrees to comply with all applicable requirements of this Article, including specific terms of the general permit.
3. Receipt of a completed Notice of Intent to Discharge by the Department begins the administrative completeness review for a Type 3 or Type 4 General Permit.

C. Type 3 General Permit authorization review.

1. Inspection. The Department may inspect the facility to determine that the applicable terms of the general permit have been met.
2. Discharge Authorization issuance.
   a. If the Department determines, based on its review and an inspection, if conducted, that the facility conforms to the requirements of the general permit and the applicable requirements of this Article, the Director shall issue a Discharge Authorization.
   b. The Discharge Authorization authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
3. Discharge Authorization denial. If the Department determines, based on its review and an inspection, if conducted, that the facility does not conform to the requirements of the general permit or other applicable requirements of this Article, the Director shall notify the person of the decision not to issue the Discharge Authorization and the person shall not discharge under the general permit. The notification shall inform the person of:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
   c. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

D. Type 4 General Permit review.

1. Pre-construction phase and facility construction. A person shall not begin facility construction until the Director issues a Construction Authorization.
   a. Inspection. The Department may inspect the facility site before construction to determine that the applicable terms of the general permit will be met.
   b. Review. If the Department determines, based on an inspection or its review of design plans, specifications, or other required documents that the facility does not conform to the requirements of the general permit or other applicable requirements of this Article, the Department shall make a written request for additional information to determine whether the facility will meet the requirements of the general permit.
   c. Construction Authorization. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design conforms with the requirements of the general permit and other applicable requirements of this Article, the Director shall issue a Construction Authorization to the person seeking to discharge. A Construction Authorization for an on-site wastewater treatment facility shall contain:
      i. The design flow of the facility,
      ii. The characteristics of the wastewater sources contributing to the facility,
      iii. The general permits that apply, and
      iv. A list of the documents that are the basis for the authorization.
   d. Construction Authorization denial. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design does not conform to the requirements of the general permit or other applicable requirements of this Article, the Director shall notify the person of the decision not to issue a Construction Authorization. The notification shall include the information listed in subsections (D)(2)(d).
   e. Construction.
      i. A person shall complete construction within two years of receiving a Construction Authorization.
      ii. Construction shall conform with the plans and documents approved by the Department in the Construction Authorization. A change in location, configuration, dimension, depth, material, or installation procedure does not require approval by the Department if the change continues to conform with the specific standard in this Article used as the basis for the original design.
      iii. The person shall record all changes made during construction, including any changes approved under R18-9-A312(G) on the site plan as specified in R18-9-A309(C)(1) or on

documents as specified in R18-9-A309(C)(2) or R18-9-E301(E), as applicable.

f. Completion of construction.
   i. After completing construction of the facility, the person seeking to discharge shall submit any applicable documents specified in R18-9-A309(C) with the Request for Discharge Authorization form for an on-site wastewater treatment facility and the Engineer's Certificate of Completion specified in R18-9-E301(E) for a sewage collection system. Receipt of the documents by the Department initiates the post-construction review phase.
   ii. If the Department does not receive the documentation specified in subsection (D)(1)(f)(i) by the end of the two-year construction period, the Notice of Intent to Discharge expires, and the person shall not continue construction or discharge.
   iii. If the Notice of Intent to Discharge expires, the person shall submit a new Notice of Intent to Discharge under subsection (B) and the applicable fee under subsection (A)(4)(e) to begin or continue construction.

2. Post-construction phase.
   a. Inspection. The Department may inspect the facility before issuing a Discharge Authorization to determine whether:
      i. The construction conforms with the design authorized by the Department under subsection (D)(1)(c) and any changes recorded on the site plan as specified in R18-9-A309(C)(1) or other documents as specified in R18-9-A309(C)(2), or R18-9-E301(E), as applicable; and
      ii. Terms of the general permit and applicable terms of this Article are met.
   b. Deficiencies. If the Department identifies deficiencies based on an inspection of the constructed facility or during the review of documents submitted with the request for the Discharge Authorization, the Director shall provide a written explanation of the deficiencies to the person.
   c. Discharge Authorization issuance.
      i. Upon satisfactory completion of construction and documents required under R18-9-A309(C)(1) R18-9-A309(C)(2), or R18-9-E301(E), as applicable, the Director shall issue a Discharge Authorization.
      ii. The Discharge Authorization allows a person to discharge under terms of the general permit and applicable requirements of this Article and the stated terms of the Construction Authorization.
   d. Discharge Authorization denial. If, after receiving evidence of correction submitted by the person seeking to discharge, the Department determines that the deficiencies are not satisfactorily corrected, the Director shall notify the person seeking to discharge of the Director's decision not to issue the Discharge Authorization and the person shall not discharge under the general permit. The notification shall inform the person of:
      i. The reason for the denial with reference to the statute or rule on which the denial is based;
      ii. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
      iii. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A302. Point of Compliance
The point of compliance is the point at which compliance with Aquifer Water Quality Standards is determined.

1. Except as provided in this Section or as stated in a specific general permit, the applicable point of compliance at a facility operating under a general permit is a vertical plane downgradient of the facility that extends through the uppermost aquifers underlying that facility.
2. The point of compliance is the limit of the pollutant management area.
   a. The pollutant management area is the horizontal plane of the area on which pollutants are or will be placed.
   b. If a facility operating under a general permit is located within a larger pollutant management area established under an individual permit issued to the same person, the point of compliance is the applicable point of compliance established in the individual permit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A303. Renewal of a Discharge Authorization

A. Unless a Discharge Authorization under a general permit is transferred, revoked, or expired, a person may discharge under the general permit for the authorization period as specified by the permit type, including any closure activities required by a specific general permit.

B. An authorization to discharge under a Type 1 or Type 4 General Permit is valid for the operational life of the facility.

C. A permittee authorized under a Type 2 or Type 3 General Permit shall submit an application for renewal on a form provided by the Department with the applicable fee established in 18 A.A.C. 14 at least 30 days before the end of the renewal period.

1. The following are the renewal periods for Type 2 and Type 3 General Permit Discharge Authorizations:
   a. 2.01 General Permit, five years;
   b. 2.02 General Permit, seven years;
   c. 2.03 General Permit, two years;
   d. 2.04 General Permit, five years;
   e. 2.05 General Permit, five years;
   f. 2.06 General Permit, five years; and
   g. Type 3 General Permits, five years.
2. The renewal period for coverage under a Type 2 General Permit begins on the date the Department receives the Notice of Intent to Discharge.

3. The renewal period for coverage under a Type 3 General Permit begins on the date the Director issues the written Discharge Authorization.

D. If the Discharge Authorization is not renewed within the renewal period specified in subsection (C)(1), the Discharge Authorization expires.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A304. Notice of Transfer

A. Transfer of authorization under a Type 1 General Permit.
1. A permittee transferring ownership of a facility covered by a Type 1.01 through 1.08, or 1.10 through 1.12 General Permit is not required to notify the Department of the transfer.
2. A permittee transferring ownership of an on-site wastewater treatment facility operating under a Type 1.09 General Permit shall follow the requirements under R18-9-A316.
3. A permittee transferring ownership of a sewage treatment facility operating under a Type 1.09 General Permit shall submit a Notice of Transfer to the Department by certified mail within 15 days after the date that ownership changes.

B. Transfer of authorization under a Type 2, 3, or 4.01 General Permit.
1. If a change of ownership occurs for a facility covered by a Type 2, 3, or 4.01 General Permit facility, the permittee shall provide a Notice of Transfer to the Department or to the health or environmental agency delegated by the Director to administer Type 4.01 General Permits, by certified mail within 15 days after the date that ownership changes. The Notice of Transfer, on a form approved by the Department, shall include:
   a. Any information that has changed from the original Notice of Intent to Discharge,
   b. Any other transfer requirements specified for the general permit, and
   c. The applicable fee established in 18 A.A.C. 14.
2. The Department may require a permittee covered by a Type 2, 3, or Type 4.01 General Permit to submit a new Notice of Intent to Discharge and to obtain a new authorization under R18-9-A301(A)(2), (3) and (4), as applicable, if the volume or characteristics of the discharge have changed from the original application.

C. Transfer of a Type 4.02 through 4.23 General Permit. A permittee transferring ownership of an on-site wastewater treatment facility operating under one or more Type 4.02 through 4.23 General Permits shall follow the requirements under R18-9-A316.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A305. Facility Expansion

A. A permittee may expand a facility covered by a Type 2 General Permit if, before the expansion, the permittee provides the Department with the following information by certified mail:
1. An updated Notice of Intent to Discharge,
2. A certification signed by the facility owner stating that the expansion continues to meet all the conditions of the applicable general permit, and
3. The applicable fee established under 18 A.A.C. 14.

B. A permittee may expand a facility covered by a Type 3 or Type 4 General Permit if the permittee submits a new Notice of Intent to Discharge and the Department issues a new Discharge Authorization.
1. The person submitting the Notice of Intent to Discharge for the expansion may reference the previous Notice of Intent to Discharge if the previous information is identical, but shall provide full and detailed information for any changed items.
2. The Notice of Intent to Discharge shall include:
   a. Any applicable fee established under 18 A.A.C. 14, and
   b. A certification signed by the facility owner stating that the expansion continues to meet all of the requirements relating to the applicable general permit.
3. Upon receiving the Notice of Intent to Discharge, the Department shall follow the applicable review and authorization procedures described in R18-9-A301(A)(3) or (4).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A306. Closure

A. To satisfy the requirements under A.R.S. § 49-252, a permittee shall close a facility authorized to discharge under a general permit as follows:
1. If the discharge is authorized under a Type 1.01 through 1.08, 1.10, 1.11, 2.05, 2.06, or 4.01 General Permit, closure notification is unnecessary and clean closure is met when:
   a. The permittee removes material that may contribute to a continued discharge; and
   b. The permittee eliminates, to the greatest degree practical, any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance;
2. For a discharge authorized under a Type 2.02, 3.02, 3.05 through 3.07, or 4.23 General Permit, the facility meets clean closure requirements if the permittee provides notice and submits sufficient information for the Department to determine that:
   a. Any material that may contribute to a continued discharge is removed;
   b. The permittee has eliminated to the greatest degree practicable any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance; and
   c. Closure requirements, if any, established in the general permit are met;

3. If the discharge is authorized under a Type 1.12, 2.01, 2.03, 2.04, 3.01, 3.03, or 3.04 General Permit, the permittee shall comply with the closure requirements in the general permit;
4. If the discharge is from an on-site wastewater treatment facility authorized under a Type 1.09 or 4.02 through 4.22 General Permit, the permittee shall comply with the closure requirements in R18-9-A309(D); and
5. If the discharge is from a sewage treatment facility authorized under a Type 1.09 General Permit, the permittee shall comply with the closure requirements under subsection (A)(1).

B. For a facility operating under a general permit and located at a site where an individual area-wide permit has been issued, a permittee may defer some or all closure activities required by this subsection if the Director approves the deferral in writing. The permittee shall complete closure activities no later than the date that closure activities identified in the individual area-wide permit are performed.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A307. Revocation of Coverage Under a General Permit

A. After notice and opportunity for a hearing, the Director may revoke coverage under a general permit and require the permittee to obtain an individual permit for any of the following:
1. The permittee fails to comply with the terms of the general permit as described in this Article, or
2. The discharge activity conducted under the terms of the general permit causes or contributes to the violation of an Aquifer Water Quality Standard at the applicable point of compliance.

B. The Director may revoke coverage under a general permit for any or all facilities within a specific geographic area, if, due to geologic or hydrologic conditions, the cumulative discharge of the facilities has violated or will violate an Aquifer Water Quality Standard established under A.R.S. §§ 49-221 and 49-223. Unless the public health or safety is jeopardized, the Director may allow continuation of a discharge until the Department:
1. Issues a single individual permit,
2. Authorizes a discharge under another general permit, or
3. Consolidates the discharges authorized under the general permits by following R18-9-107.

C. If an individual permit is issued to replace general permit coverage, the coverage under the general permit allowing the discharge is automatically revoked upon issuance of the individual permit and notification under subsection (E) is not required.

D. If the Director revokes coverage under a general permit, the facility shall not discharge unless allowed under subsection (B) or under an individual permit.

E. If coverage under the general permit is revoked under subsections (A) or (B), the Director shall notify the permittee by certified mail of the decision. The notification shall include:
1. A brief statement of the reason for the decision;
2. The effective revocation date of the general permit coverage;
3. A statement of whether the discharge shall cease or whether the discharge may continue under the terms of revocation in subsection (B);
4. Whether the Director requires a person to obtain an individual permit, and if so:
   a. An individual permit application form, and
   b. Identification of a deadline between 90 and 180 days after receipt of the notification for filing the application;
5. The applicant's right to appeal the revocation, the number of days the applicant has to file an appeal, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
6. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A308. Repealed

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Repealed by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A309. General Provisions for On-site Wastewater Treatment Facilities

A. General requirements and prohibitions.
1. No person shall discharge sewage or wastewater that contains sewage from an on-site wastewater treatment facility except under an Aquifer Protection Permit issued by the Director.
2. A person shall not install, allow to be installed, or maintain a connection between any part of an on-site wastewater treatment facility and a drinking water system or supply so that sewage or wastewater contaminates the drinking water.
3. A person shall not bypass or release sewage or partially treated sewage that has not completed the treatment process from an on-site wastewater treatment facility.
4. A person shall not use a cesspool for sewage disposal.
5. A person constructing a new on-site wastewater treatment facility or replacing the treatment works or disposal works of an existing on-site wastewater treatment facility shall connect to a sewage collection system if either (a) or (b) apply:
   a. One of the following applies:
      i. A provision of a Nitrogen Management Area designation under R18-9-A317(C) requires connection;
      ii. A county, municipal, or sanitary district ordinance requires connection; or
      iii. The on-site wastewater treatment facility is located within an area identified for connection to a sewage collection system by a Certified Area-wide Water Quality Management Plan adopted under 18 A.A.C. 5 or a master plan adopted by a majority of the elected officials of

a board or council for a county, municipality, or sanitary district; or

b. A sewer service line extension is available at the property boundary and both of the following apply:
   i. The service connection fee is not more than $6000 for a dwelling or $10 times the daily design flow in gallons for a source other than a dwelling, and
   ii. The cost of constructing the building sewer from the wastewater source to the service connection is not more than $3000 for a dwelling or $5 times the daily design flow in gallons for a source other than a dwelling.

6. The Department shall prohibit installation of an on-site wastewater treatment facility if the installation will create an unsanitary condition or environmental nuisance or cause or contribute to a violation of an Aquifer Water Quality Standard.
7. A person shall design and operate the permitted on-site wastewater treatment facility so that:
   a. Flows to the facility consist of typical sewage and do not include any motor oil, gasoline, paint, varnish, solvent, pesticide, fertilizer, or other material not generally associated with toilet flushing, food preparation, laundry, or personal hygiene;
   b. Flows to the facility from commercial operations do not contain hazardous wastes as defined under A.R.S. § 49921(5) or hazardous substances;
   c. If the sewage contains a component of nonresidential flow such as food preparation, laundry service, or other source, the sewage is adequately pretreated by an interceptor that complies with R18-9-A315 or another device authorized by a general permit or approved by the Department under R18-9-A312(G);
   d. Except as provided in subsection (A)(7)(c), a sewage flow that does not meet the numerical levels for typical sewage is adequately pretreated to meet the numerical levels before entry into an on-site wastewater treatment facility authorized by this Article;
   e. Flow to the facility does not exceed the design flow specified in the Discharge Authorization;
   f. The facility does not create an unsanitary condition or environmental nuisance, or cause or contribute to a violation of either a Aquifer Water Quality Standard or a Surface Water Quality Standard; and
   g. Activities at the site do not adversely affect the operation of the facility.
8. A person shall control the discharge of total nitrogen from an on-site wastewater treatment facility as follows:
   a. For an on-site wastewater treatment facility operating under the 1.09 General Permit or proposed for construction in a Notice of Intent to Discharge under a Type 4 General Permit and the facility is located within a Nitrogen Management Area, the provisions of R18-9-A317(D) apply;
   b. For an on-site wastewater treatment facility proposed for construction in a Notice of Intent to Discharge under R18-9-E323, the provisions of R18-9-E323(A)(4) apply;
   c. For a subdivision proposed under 18 A.A.C. 5, Article 4, for which on-site wastewater treatment facilities are used for sewage disposal, the permittee shall demonstrate in the geological report required in R18-5-408(E)(1) that total nitrogen loading from the on-site wastewater treatment facilities to groundwater is controlled by providing one of the following:
      i. For a subdivision platted for a single family dwelling on each lot, calculations that demonstrate that the number of lots within the subdivision does not exceed the number of acres contained within the boundaries of the subdivision;
      ii. For a subdivision platted for dwellings that do not meet the criteria specified in subsection (A)(8)(c)(i), calculations that demonstrate that the nitrogen loading over the total area of the subdivision is not more than 0.088 pounds (39.9 grams) of total nitrogen per day per acre calculated at a horizontal plane immediately beneath the active treatment of the disposal fields, based on a total nitrogen contribution to raw sewage of 0.0333 pounds (15.0 grams) of total nitrogen per day per person; or
      iii. An analysis by another means of demonstration showing that the nitrogen loading to the aquifer due to on-site wastewater treatment facilities within the subdivision does not cause or contribute to a violation of the Aquifer Water Quality Standard for nitrate at the applicable point of compliance.
9. Repairs and Routine Work.
   a. A Notice of Intent to Discharge is not required for repair or routine work that maintains a facility.
   b. A Notice of Intent to Discharge is required for the following non-routine work or repairs:
      i. Converting a facility from operation under gravity to one requiring a pump or other mechanical device for treatment or disposal;
      ii. Modifying or replacing a treatment works or disposal works, as defined in R18-9-101; or
      iii. Modifying a facility in any manner that is inconsistent with the originally approved design and installation of the facility.
   c. A permittee shall comply with any local ordinance that provides independent permitting requirements for repair or routine work.
   d. A person, as defined in R18-9-101, shall not modify the facility so as to create an unsanitary condition or environmental nuisance or cause or contribute to an exceedance of a water quality standard.
10. Cumulative flows. When there is more than one on-site wastewater treatment facility on a property or on a site under common ownership or subject to a larger plan of sale or development, the Director shall determine whether an individual permit is required or whether the applicant qualifies for coverage to discharge under a general permit based on the sum of the design flows from the proposed installation and existing on-site wastewater treatment facilities on the property or site.
    a. If the sum of the design flows is less than 3000 gallons per day, the Department will process the application under R18-9-E302 through R18-9-E322, as applicable.
    b. If the sum of the design flows is equal to or more than 3000 gallons per day but less than 24,000 gallons per day, the Department will process the application under R18-9-E323.

c. If the sum of the design flows is equal to or more than 24,000 gallons per day, the project does not qualify for coverage under a Type 4 General Permit and the applicant shall submit an application for an individual permit under Article 2 of this Chapter.

11. The use of a gray water system does not change the design, capacity, or reserve area requirements for an on-site wastewater treatment facility regulated under R18-9-E302 through R18-9-E323. The design of an on-site facility shall ensure the on-site facility can treat and dispose of the combined black water and gray water flows generated at the site. Black water includes wastewater flows from a kitchen sink. Kitchen sink wastewater flows are not gray water. Kitchen sink wastewater flows are not gray water even if a holding tank receiving kitchen sink wastewater, such as a recreational vehicle holding tank, is labeled as holding gray water. Gray water, as defined in R18-9-101, may be utilized in accordance with Article 7 of this Chapter.
12. To obtain coverage under a Type 4 General Permit, an applicant must, in the following order:
    a. Submit a Notice of Intent to Discharge according to requirements in R18-9-A301(B), R18-9-A309(B), and according to permit-specific requirements in Part E of Article 3,
    b. Receive a Construction Authorization from the Director pursuant to R18-9-A301(D)(1)),
    c. Submit a Request for Discharge Authorization according to requirements in R18-9-A301(D)(1)(f), R18-9-A309(C), and according to permit-specific requirements in Part E of Article 3, and
    d. Receive a Discharge Authorization from the Director pursuant to R18-9-A301(D)(2) and R18-9-A309(C).

B. Notice of Intent to Discharge under a Type 4 General Permit. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information in a format approved by the Department:

1. A site investigation report that summarizes the results of the site investigation conducted under R18-9-A310(B), including:
    a. Results from any soil evaluation, percolation test, or seepage pit performance test;
    b. Any surface limiting condition identified in R18-9-A310(C)(2); and
    c. Any subsurface limiting condition identified in R18-9-A310(D)(2);
2. A site plan that includes:
    a. The parcel and lot number, if applicable, the property address or other appropriate legal description, the property size in acres, and the boundaries of the property;
    b. A plan of the site drawn to scale, dimensioned, and with a north arrow that shows:
        i. Proposed and existing on-site wastewater treatment facilities; dwellings and other buildings; driveways, swimming pools, tennis courts, wells, ponds, and any other paved, concrete, or water feature; down slopes and cut banks with a slope greater than 15 percent; retaining walls; and any other constructed feature that affects proper location, design, construction, or operation of the facility;
        ii. Any feature less than 200 feet from the on-site wastewater treatment facility excavation and reserve area that constrains the location of the on-site wastewater treatment facility because of setback limitations specified in R18-9-A312(C);
        iii. Topography, delineated with an appropriate contour interval, showing original and post-installation grades;
        iv. Drainage patterns, and as applicable, drainage controls and erosion protection for the facility;
        v. Location and identification of the treatment and disposal works and wastewater pipelines, the reserve disposal area, and location and identification of all sites of percolation testing and soil evaluation performed under R18-9-A310; and
        vi. Location of any public sewer if 400 feet or less from the property line;
3. The design flow of the on-site wastewater treatment facility, consisting of gray water and black water flows, expressed in gallons per day based on Table 1, Unit Design Flows, the expected strength of the wastewater if the strength exceeds the levels for typical sewage, and:
    a. For a single family dwelling, a list of the number of bedrooms and plumbing fixtures and corresponding unit flows used to calculate the design flow of the facility; and
    b. For a dwelling other than for a single family, a list of each wastewater source and corresponding unit flows used to calculate the design flow of the facility;
4. A list of materials, components, and equipment for constructing the on-site wastewater treatment facility;
5. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department;
6. If pretreatment is necessary for a facility to comply with the requirements of this Chapter, including R18-9-A309(A)(7), then a design report approved by the on-site wastewater treatment facility manufacturer or manufacturers that specifies component capacities, control settings, and supplemental installation and operation practices necessary to produce typical sewage numerical levels before entry into an on-site wastewater treatment facility; and
7. For a facility that includes treatment or disposal works permitted under R18-9-E303 through R18-9-E323:
    a. Construction quality drawings that show the following:
        i. Systems, subsystems, and key components, including manufacturer's name, model number, and associated construction notes and inspection milestones, as applicable;
        ii. A title block, including facility owner, revision date, space for addition of the Department's application number, and page numbers;
        iii. A plan and profile with the elevations of wastewater pipelines, and treatment and disposal components, including calculations justifying the absorption area, to allow Department verification of hydraulic and performance characteristics;
        iv. Cross sections showing wastewater pipelines, construction details and elevations of treatment

and disposal components, original and finished grades of the land surface, seasonal high water table if less than 10 feet below the bottom of a disposal works or 60 feet below the bottom of a seepage pit, and a soil elevation evaluation to allow Department verification of installation design and performance; and

b. A draft operation and maintenance manual for the on-site wastewater treatment facility consisting of the tasks and schedules for operating and maintaining performance over a 20-year operational life;

C. Additional requirements for a Request for Discharge Authorization and for the issuance of a Discharge Authorization under a Type 4 General Permit.

1. If the entire on-site wastewater treatment facility, including treatment works and disposal works, will be permitted under R18-9-E302, the Director shall issue the Discharge Authorization if, as a part of the Request for Discharge Authorization:
   a. The site plan accurately reflects the final location and configuration of the components of the treatment and disposal works, and
   b. The applicant or the applicant's agent certifies on the Request for Discharge Authorization form that the septic tank passed the watertightness test required by R18-9-A314(5)(d).
2. If the on-site wastewater treatment facility is proposed under R18-9-E303 through R18-9-E323, either separately or in any combination with each other or with R18-9-E302, the Director shall issue the Discharge Authorization if the following documents are submitted to the Department as part of the Request for Discharge Authorization:
   a. As-built plans showing changes from construction quality drawings submitted under subsection (B)(6)(a);
   b. A final list of equipment and materials showing changes from the list submitted under subsection (B)(4);
   c. A final operation and maintenance manual for the on-site wastewater treatment facility consisting of the tasks and schedules for operating and maintaining performance over a 20-year operational life;
   d. A certification that a service contract for ensuring that the facility is operated and maintained to meet the performance and other requirements of the applicable general permits exists for at least one year following the beginning of the operation of the on-site wastewater treatment facility, including the name of the service provider, if the on-site wastewater treatment facility is permitted under:
      i. R18-9-E304;
      ii. R18-9-E308 through R18-9-E315;
      iii. R18-9-E316, if the facility includes a pump; or
      iv. R18-9-E318 through R18-9-E322;
   e. Other documents, if required by the separate general permits in 18 A.A.C. 9, Article 3, Part E;
   f. A Certificate of Completion signed by the current engineer or designer of record assuring that installation of the facility conforms to the design approved under the Construction Authorization under R18-9-A301(D)(1)(c); and a regulatory representative, such as an inspector, may not act as an applicant's agent, nor authorize backfill before the current engineer or designer of record has verified proper installation of the system;
   g. The name of the installation contractor and the Registrar of Contractor's license number issued to the installation contractor; and
   h. A certification that any septic tank installed as a component of the on-site wastewater treatment facility passed the watertightness test required by R18-9-A314(5)(d).
3. The Director shall specify in the Discharge Authorization:
   a. The permitted design flow of the facility,
   b. The characteristics of the wastewater sources contributing to the facility, and
   c. A list of the documents submitted to and reviewed by the Department satisfying subsection (C)(2).

D. Closure requirements. A person who permanently discontinues use of an on-site wastewater treatment facility or a cesspool, or is ordered by the Director to close an abandoned facility shall:

1. Remove all sewage from the facility and dispose of the sewage in a lawful manner;
2. Disconnect and remove electrical and mechanical components;
3. Remove or collapse the top of any tank or containment structure.
   a. Punch a hole in the bottom of the tank or containment structure if the bottom is below the seasonal high groundwater table;
   b. Fill the tank or containment structure or any cavity resulting from its removal with earth, sand, gravel, concrete, or other approved material; and
   c. Regrade the surface to provide drainage away from the closed area;
4. Cut and plug both ends of the abandoned sewer drain pipe between the building and the on-site wastewater treatment facility not more than 5 feet outside the building foundation if practical, or cut and plug as close to each end as possible; and
5. Notify the Department within 30 days of closure.

E. Proprietary and other reviewed products.

1. The Department shall maintain a list of proprietary and other reviewed products that may be used for on-site wastewater treatment facilities to comply with the requirements of this Article. The list shall include appropriate information on the applicability and limitations of each product.
2. The list of proprietary and other reviewed products may include manufactured systems, subsystems, or components within the treatment works and disposal works if the products significantly contribute to the treatment performance of the system or provide the means to overcome site limitations. The Department will not list septic tanks, effluent filters or components that do not significantly affect treatment performance or provide the means to overcome site limitations.
3. A person may request that the Department add a product to the list of proprietary and other reviewed products. The request may include a proposed reference design for review. The Department shall ensure that performance values in the list reflect the treatment performance for defined wastewater characteristics. The Department shall assess fees under 18 A.A.C. 14 for product review.

F. Recordkeeping. A permittee authorized to discharge under one or more Type 4 General Permits shall maintain the Discharge Authorization and associated documents for the life of the facility.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A310. Site Investigation for Type 4 On-site Wastewater Treatment Facilities

A. Definition. For purposes of this Section, "clean water" means water free of colloidal material or additives that could affect chemical or physical properties if the water is used for percolation or seepage pit performance testing.

B. Site investigation. An applicant shall ensure that an investigator qualified under subsection (H) conducts a site investigation consisting of a surface characterization under subsection (C) and a subsurface characterization under subsection (D). The applicant shall submit the results in a format prescribed by the Department. The site investigation shall provide sufficient data to:
1. Select appropriate primary and reserve disposal areas for an on-site wastewater treatment facility considering all surface and subsurface limiting conditions in subsections (C)(2) and (D)(2); and;
2. Effectively design and install the selected facility to serve the anticipated development at the site, whether or not limiting conditions exist.

C. Surface characterization.
1. Surface characterization method. The investigator shall characterize the surface of the site where an on-site wastewater treatment facility is proposed for installation using one of the following methods:
   a. The "Standard Practice for Surface Site Characterization for On-site Septic Systems, D5879-95 (2003)," published by the American Society for Testing and Materials. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or
   b. Another method of surface characterization that can, with accuracy and reliability, identify and delineate the surface limiting conditions specified in subsection (C)(2).
2. Surface limiting conditions. The investigator shall determine whether, and if so, where any of the following surface limiting conditions exist:
   a. The surface slope is greater than 15 percent at the intended location of the on-site wastewater treatment facility;
   b. Minimum setback distances are not within the limits specified in R18-9-A312(C);
   c. Surface drainage characteristics at the intended location of the on-site wastewater treatment facility will adversely affect the ability of the facility to function properly;
   d. A 100-year flood hazard zone, as indicated on the applicable flood insurance rate map, is located within the property on which the on-site wastewater treatment facility will be installed, and the flood hazard zone may adversely affect the ability of the facility to function properly;
   e. An outcropping of rock that cannot be excavated exists in the intended location of the on-site wastewater treatment facility or will impair the function of soil receiving the discharge; and
   f. Fill material deposits exist in the intended location of the on-site wastewater treatment facility.

D. Subsurface characterization.
1. Subsurface characterization method. The investigator shall characterize the subsurface of the site where an on-site wastewater treatment facility is proposed for installation using one or more of the following methods:
   a. The following ASTM standard practice, which is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959: "Standard Practice for Subsurface Site Characterization of Test Pits for On-site Septic Systems, D5921-96(2003)e1 (2003)," published by the American Society for Testing and Materials;
   b. Percolation testing as specified in subsection (F);
   c. Seepage pit performance testing as specified in subsection (G); or
   d. Another method of subsurface characterization, approved by the Department, that ensures compliance with water quality standards through proper system location, selection, design, installation, and operation.
2. Subsurface limiting conditions. The investigator shall determine whether any of the following limiting conditions exist in the primary and reserve areas of the on-site wastewater treatment facility within a minimum of 12 feet of the land surface or to an impervious soil or rock layer if encountered at a shallower depth:
   a. The soil absorption rate determined under R18-9-A312(D)(2) is:
      i. More than 1.20 gallons per day per square foot, or
      ii. Less than 0.20 gallons per day per square foot;
   b. The vertical separation distance from the bottom of the lowest point of the disposal works to the seasonal high water table is less than the minimum vertical separation specified in R18-9-A312(E)(1);
   c. Seasonal saturation occurs within surface soils that could affect the performance of the on-site wastewater treatment facility;
   d. One of the following subsurface conditions that may cause or contribute to the surfacing of wastewater:
      i. An impervious soil or rock layer,
      ii. A zone of saturation that substantially limits downward percolation from the disposal works,
      iii. Soil with more than 50 percent rock fragments;

e. One of the following subsurface conditions that promotes accelerated downward movement of insufficiently treated wastewater:
   i. Fractures or joints in rock that are open, continuous, or interconnected;
   ii. Karst voids or channels; or
   iii. Highly permeable materials such as deposits of cobbles or boulders; or
f. A subsurface condition that may convey wastewater to a water of the state and cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4.

3. Applicability of subsurface characterization methods. The investigator shall:
   a. For a seepage pit constructed under R18-9-E302, test seepage pit performance using the procedure specified in subsection (G);
   b. For an on-site wastewater treatment facility other than a seepage pit, characterize soil by using the ASTM method specified in subsection (D)(1)(a) if any of the following site conditions exists:
      i. The natural surface slope at the intended location of the on-site wastewater treatment facility is greater than 15 percent;
      ii. Bedrock or similar consolidated rock formation that cannot be excavated with a shovel outcrops on the property or occurs less than 12 feet below the land surface;
      iii. The native soil at the surface or encountered in a boring, trench, or hole consists of more than 35 percent rock fragments;
      iv. The seasonal high water table occurs within 12 feet of the natural land surface as encountered in trenches or borings, or evidenced by well records or hydrologic reports;
      v. Seasonal saturation at the natural land surface occurs as indicated by soil mottling, vegetation adapted to near-surface saturated soils, or springs, seeps, or surface water near enough to the intended location of the on-site wastewater treatment facility to have a connection with potential seasonal saturation at the land surface; or
      vi. A percolation test yields results outside the limits specified in subsection (D)(2)(a) and (b).
   c. Percolation testing. The investigator may perform percolation testing as specified in subsection (F):
      i. To augment another method of subsurface characterization if useful to locate or design an on-site wastewater treatment facility, or
      ii. As the sole method of subsurface characterization if a subsurface characterization by an ASTM method is not required under subsection (D)(3)(b).

E. If an ASTM method is used for subsurface characterization, the investigator shall conduct subsurface characterization tests at the site to provide adequate, credible, and representative information to ensure proper location, selection, design, and installation of the on-site wastewater treatment facility. The investigator shall:
1. Select at least two test locations in the primary area and one test location in the reserve area to conduct the tests;
2. Perform the characterization at each test location at appropriate depths to:
   a. Establish the wastewater absorption capacity of the soil under R18-9-A312(D), and
   b. Aid in determining that a sufficient zone of unsaturated flow is provided below the disposal works to achieve necessary wastewater treatment; and
3. Submit with the site investigation report:
   a. A log of soil formations for each test location with information on soil type, texture, and classification; percentage of rock; structure; consistence; and mottles;
   b. A determination of depth to groundwater below the land surface by test trenches or borings, published groundwater data, subdivision reports, or relevant well data; and
   c. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(b), sufficient to allow location and design of the on-site wastewater treatment facility.

F. Percolation testing method for subsurface characterization.
1. Planning and preparation. The investigator shall:
   a. Select at least two locations in the primary area and at least one location in the reserve area for percolation testing, to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility;
   b. Perform percolation testing at each location at intervals in the soil profile sufficient to:
      i. Establish the wastewater absorption capability of the soil under R18-9-A312(D), and
      ii. Aid in determining that a sufficient zone of unsaturated flow is provided below the disposal works to achieve necessary wastewater treatment. The investigator shall perform percolation tests at multiple depths if there is an indication of an obvious change in soil characteristics that affect the location, selection, design, installation, or disposal performance of the on-site wastewater treatment facility;
   c. Excavate percolation test holes in undisturbed soil at least 12 inches deep with dimensions of 12 inches by 12 inches, if square, or a diameter of 15 inches, if round. The investigator shall not alter the structure of the soil during the excavation;
   d. Place percolation test holes away from site or soil features that yield unrepresentative or misleading data pertaining to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;
   e. Scarify smeared soil surfaces within the percolation test holes and remove any loosened materials from the bottom of the hole; and
   f. Use buckets with holes in the sides to support the sidewalls of the percolation test hole, if necessary. The investigator shall fill any voids between the walls of the hole and the bucket with pea gravel to reduce the impact of the enlarged hole.
2. Presoaking procedure. The investigator shall:
   a. Fill the percolation test hole with clean water to a depth of 12 inches above the bottom of the hole;
   b. Observe the decline of the water level in the hole and record time in minutes for the water to completely drain away;

c. Repeat the steps specified in subsection (F)(2)(a) and (b) if the water drains away in less than 60 minutes.
   i. If the water drains away the second time in less than 60 minutes, the investigator shall repeat the steps specified in subsections (F)(2)(a) and (b).
   ii. If the water drains away a third time in less than 60 minutes, the investigator shall perform the percolation test by following subsection (F)(3); and
d. Add clean water to the hole after 60 minutes and maintain the water at a minimum depth of 9 inches for at least four more hours if it takes 60 minutes or longer for the water to drain away. The investigator shall protect the hole from precipitation and runoff, and perform the percolation test specified in subsection (F)(3) between 16 and 24 hours after presoaking.

3. Conducting the test. The investigator shall:
   a. Conduct the percolation test before soil hydraulic conditions established by the presoaking procedure substantially change. The investigator shall remove loose materials in the percolation test hole to ensure that the specified dimensions of the hole are maintained and the infiltration surfaces are undisturbed native soil;
   b. Fill the test hole to a depth of six inches above the bottom with clean water;
   c. Observe the decline of the water level in the test hole and record the time in minutes for the water level to fall exactly 1 inch from a fixed reference point. The investigator shall:
      i. Immediately refill the hole with clean water to a depth of 6 inches above the bottom, and determine and record the time in minutes for the water level to fall exactly 1 inch,
      ii. Refill the hole again with clean water to a depth of 6 inches above the bottom and determine and record the time in minutes for the water to fall exactly 1 inch, and
      iii. Ensure that the method for measuring water level depth is accurate and does not significantly affect the percolation rate of the test hole;
   d. If the percolation rate stabilizes for three consecutive measurements by varying no more than 10 percent, use the highest percolation rate value of the three measurements. If three consecutive measurements indicate that the percolation rate results are not stabilizing or the percolation rate is between 60 and 120 minutes per inch, the investigator shall use an alternate method based on a graphical solution of the test data to approximate the stabilized percolation rate;
   e. Record the percolation rate results in minutes per inch; and
   f. Submit the following information with the site investigation report:
      i. A log of the soil formations encountered for all percolation tests including information on texture, structure, consistence, percentage of rock fragments, and mottles, if present;
      ii. Whether and which test hole was reinforced with a bucket;
      iii. The locations, depths, and bottom elevations of the percolation test holes on the site investigation map;
      iv. A determination of depth to groundwater below the land surface by test trenches or borings, published groundwater data, subdivision reports, or relevant well data; and
      v. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(a), sufficient to allow location and design of the on-site wastewater treatment facility.

G. Seepage pit performance testing method for subsurface characterization. The investigator shall test seepage pits described in R18-9-E302 as follows:
1. Planning and Preparation. The investigator shall:
   a. Identify the disposal areas at the site and drill a test hole at least 18 inches in diameter to the depth of the proposed seepage pit, at least 30 feet deep, and
   b. Scarify soil surfaces within the test hole and remove loosened materials from the bottom of the hole.
2. Presoaking procedure. The investigator shall:
   a. Fill the bottom 6 inches of the test hole with gravel, if necessary, to prevent scouring;
   b. Fill the test hole with clean water up to 3 feet below the land surface;
   c. Observe the decline of the water level in the hole and determine the time in hours and minutes for the water to completely drain away;
   d. Repeat the procedure if the water drains away in less than four hours; If the water drains away the second time in less than four hours, the investigator shall conduct the seepage pit performance test by following subsection (G)(3);
   e. Add water to the hole and maintain the water at a depth that leaves at least the top 3 feet of hole exposed to air for at least four more hours if the water drains away in four or more hours; and
   f. Not remove the water from the hole before the seepage pit performance test if there is standing water in the hole after at least 16 hours of presoaking.
3. Conducting the test. The investigator shall:
   a. Fill the test hole with clean water up to 3 feet below land surface;
   b. Observe the decline of the water level in the hole and determine and record the vertical distance to the water level from a fixed reference point every 10 minutes. The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the rate of fall of the water level in the test hole;
   c. Measure the decline of the water level continually until three consecutive 10-minute measurements indicate that the infiltration rates are within 10 percent. If measurements indicate that infiltration is not approaching a steady rate or if the rate is close to a numerical limit specified in R18-9-A312(E)(1), the investigator shall use, an alternate method based on a graphical solution of the test data to approximate the final stabilized infiltration rate;
   d. Percolation test rate. Calculate the stabilized infiltration rate for a seepage pit determined by the test hole

procedure specified in subsection (G)(1)(a) using the formula P = (15 / DS) x IS to determine an equivalent percolation test rate. Once "P" is determined, the investigator shall use R18-9-A312(D)(2)(a) to establish the design SAR for wastewater treated under R18-9-E302 and to calculate the required minimum sidewall area for the seepage pit using the equation specified in R18-9-E302(C)(5)(k).

i. "P" is the percolation test rate (minutes per inch) tabulated in the first column of the table in R18-9-A312(D)(2)(a),
ii. "DS" is the diameter of the seepage pit test hole in inches, and
iii. "IS" is the seepage pit stabilized infiltration rate (minutes per inch) determined by the procedure specified in R18-9-A310(G)(3)(c);

e. Submit the following information with the site investigation report:
i. The results of the seepage pit performance testing including data, calculations, and findings on a form provided by the Department;
ii. The log of the test hole indicating lithologic characteristics and points of change;
iii. The location of the test hole on the site investigation map;
iv. A determination of depth to groundwater below the land surface by borings, published groundwater data, subdivision reports, or relevant well data.

f. Fill the test hole so that groundwater quality and public safety are not compromised if the seepage pit is drilled elsewhere or if a seepage pit cannot be sited at the location because of unfavorable test results.

H. Qualifications. An investigator shall not perform a site investigation under this Section unless the investigator has knowledge and competence in the subject area and is licensed in good standing or otherwise qualified in one of the following categories:
1. Arizona-registered professional engineer,
2. Arizona-registered geologist,
3. Arizona-registered sanitarian,
4. A certificate of training from a course recognized by the Department as sufficiently covering the information specified in this Section, or
5. Qualifies under another category designated in writing by the Department.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A311. Facility Selection for Type 4 On-site Wastewater Treatment Facilities

A. A person shall select, design, and install an on-site wastewater treatment facility that is appropriate for the site's geographic location, setback limitations, slope, topography, drainage and soil characteristics, wastewater infiltration capability, depth to the seasonal high water table, and any surface or subsurface limiting condition.
1. A person may use on-site treatment and disposal technologies covered by a Type 4 General Permit alone or in combination with another Type 4 General Permit to overcome site limitations.
2. An applicant may submit a single Notice of Intent to Discharge for an on-site wastewater treatment facility consisting of components or technologies covered by multiple general permits if the information submittal requirements of all the general permits are met.
3. The Director shall issue a single Construction Authorization under R18-9-A301(D)(1) and a single Discharge Authorization under R18-9-A301(D)(2) for an on-site wastewater treatment facility that consists of components or technologies covered by multiple general permits.
4. If either a septic tank or disposal method, or both, as identified in R18-9-E302, is appropriately used in combination with an alternative technology listed under R18-9-E303 through R18-9-E322, the applicant shall apply the design requirements specified in R18-9-E302, except that the specific requirements for R18-9-E303 through R18-9-E323, as applicable, supersede requirements in R18-9-E302 if the rules conflict. If additional modifications are necessary and appropriate to ensure adequate treatment, the applicant may request review under R18-9-A312(G) to allow the Department to approve the application.

B. A person may install a septic tank and disposal works system described in R18-9-E302 as the sole method of wastewater treatment and disposal at a site if the site investigation conducted under R18-9-A310 indicates that no limiting condition identified under R18-9-A310(C) or R18-9-A310(D) exists at the site.
1. A person may install a seepage pit only in valley-fill sediments in a basin-and-range alluvial basin and only if the seepage pit performance test results meet the criteria specified in R18-9-A312(E).
2. The person shall specify in the Notice of Intent to Discharge that no limiting conditions described in R18-9-A310(C) and (D) were identified at the site.

C. If any surface or subsurface limiting condition is identified in the site investigation report, an applicant may propose installation of a septic tank and disposal works system described in R18-9-E302 as the sole method of wastewater treatment and disposal at a facility only if:
1. The applicant submits information under R18-9-A312(G) that describes:
a. How the design of the septic tank and disposal works system specified in R18-9-E302 was modified to overcome limiting conditions;
b. How the modified design meets the criteria of R18-9-A312(G)(3); and
c. A site-specific SAR under R18-9-A312(D)(2)(a) or (b), as applicable; and
2. None of the following surface or subsurface limiting conditions are identified at the site:
a. An outcropping of rock that cannot be excavated or will impair the function of soil receiving the discharge exists in the intended location of the on-site wastewater treatment facility, as described in R18-9-A310(C)(2)(e);
b. The vertical separation distance from the bottom of the lowest point of the disposal works to the seasonal high water table is less than the minimum vertical separation distance, as described in R18-9-A310(D)(2)(b); or

c. A subsurface condition that promotes accelerated downward movement of insufficiently treated wastewater as described in R18-9-A310(D)(2)(e).

D. If a site can accommodate a septic tank and disposal works system described in R18-9-E302, the applicant shall not install a treatment works or disposal works described in R18-9-E303 through R18-9-E322 unless the applicant submits a statement to the Department with the Notice of Intent to Discharge acknowledging the following:
1. The applicant is aware that although a septic tank and disposal works system described in R18-9-E302 is appropriate for the site, the applicant desires to install a treatment works or disposal works authorized under R18-9-E303 through R18-9-E322; and
2. The applicant is aware that a treatment works or disposal works authorized under R18-9-E303 through R18-9-E322 may result in higher capital, operation, and maintenance costs than a septic tank and disposal works system described in R18-9-E302.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A312. Facility Design for Type 4 On-site Wastewater Treatment Facilities

A. General design requirements. An applicant shall ensure that the person designing an on-site wastewater treatment facility:
1. Signs the design documents submitted as part of the Notice of Intent to Discharge to obtain a Construction Authorization, including plans, specifications, drawings, reports, and calculations; and
2. Locates and designs the on-site wastewater treatment facility project using good design judgment and relies on appropriate design methods and calculations.

B. Design considerations and flow determination. An applicant shall ensure that the person designing the on-site wastewater treatment facility shall:
1. Design the facility to satisfy a 20-year operational life;
2. Design the facility based on the provisions of one or more of the general permits in R18-9-E302 through R18-9-E322 for facilities with a design flow of less than 3000 gallons per day, and R18-9-E323 for facilities with a design flow of 3000 gallons per day to less than 24,000 gallons per day;
3. Design the facility based on the facility's design flow and wastewater characteristics as specified in R18-9-A309(A)(7), (10) and (11) and R18-9-A309(B)(3);
4. For on-site wastewater treatment facilities permitted under R18-9-E303 through R18-9-E323, apply the following design requirements, as applicable:
   a. Include the power source and power components in construction drawings if electricity or another type of power is necessary for facility operation;
   b. If a hydraulic analysis is required under subsection (E), perform the analysis based on the location and dimensions of the bottom and sidewall surfaces of the disposal works that are identified in the design documentation;
   c. Design components, piping, ports, seals, and appurtenances to withstand installation loads, internal and external operational loads, and buoyant forces. Design ports for resistance against movement, and cap or cover openings for protection from damage and entry by rodents, mosquitoes, flies, or other organisms capable of transporting a disease-causing organism;
   d. Design tanks, liners, ports, seals, piping to and within the facility, and appurtenances for watertightness under all operational conditions;
   e. Provide adequate storage capacity above high operating level to:
      i. Accommodate a 24-hour power or pump outage, and
      ii. Contain wastewater that is incompletely treated or cannot be released by the disposal works to the native soil;
   f. If a fixed media process is used, provide in the construction drawings the media material, installation specification, media configuration, and wastewater loading rate of the media at the daily design flow;
   g. Provide a fail-safe wastewater control or operational process, if required by the general permit to prevent discharge of inadequately treated wastewater; and
   h. Reference design. If using a reference design on file with the Department, indicate the reference design within the information submitted with the Notice of Intent to Discharge.

C. Setbacks. The following setbacks apply unless the Department:
1. Specifies alternative setbacks under Article 3, Part E of this Chapter;
2. Approves a different setback under the procedure specified in subsection (G); or
3. Establishes a more stringent setback on a site- or area-specific basis to ensure compliance with water quality standards.

Features Requiring Setbacks	Setback For An On-Site Wastewater Treatment Facility, Including Reserve Area (In Feet)	Special Provisions
1. Building	10	Includes porches, decks (including pool decks), and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks, and similar structures and appurtenances.

2. Property line shared with any adjoining lot or parcel not served by a common drinking water system* or an existing water well	50	A person may reduce the setback to a minimum of 5 feet from the property line if: a. The owners of any affected undeveloped adjacent properties agree, as evidenced by an appropriately recorded document, to limit the location of any new well on their property to at least 100 feet from the proposed treatment works and primary and reserve disposal works; and b. The arrangements and documentation are approved by the Department.
3. All other property lines	5	None
4. Public or private water supply well	100	None
5. Perennial or intermittent stream	100	Measured horizontally from the high water line of the peak streamflow from a 10-year, 24-hour rainfall event.
6. Lake, reservoir, or canal	100	Measured horizontally from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir and measured horizontally from the edge of the canal.
7. Drinking water intake from a surface water source (includes an open water body, downslope spring or a well tapping streamside saturated alluvium)	200	Measured horizontally from the on-site wastewater treatment facility to the structure or mechanism for withdrawing raw water such as a pipe inlet, grate, pump, intake or diversion box, spring box, well, or similar structure.
8. Wash or drainage easement with a drainage area of more than 20 acres	50	Measured horizontally from the nearest edge of the defined natural channel bank or drainage easement boundary. A person may reduce the setback to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.
9. Water main or branch water line	10	None
10. Domestic service water line (including domestic water holding tanks)	5	Measured horizontally between the water line and the wastewater pipe, except that the following are allowed: a. A water line may cross above a wastewater pipe if the crossing angle is between 45 and 90 degrees and the vertical separation distance is 1 foot or more. b. A water line may parallel a wastewater pipe with a horizontal separation distance of 1 foot to 5 feet if the bottom of the water line is 1 foot or more above the top of the wastewater pipe and is in a separate trench or on a bench in the same trench.

11. Downslopes or cut banks greater than 15 percent, culverts, and ditches from:		
a. Treatment works components	10	Measured horizontally from the bottom of the treatment works component to the closest point of daylighting on the surface.
b. Trench, bed, chamber technology, or gravelless trench with:		Measured horizontally from the bottom of the lowest point of the disposal pipe or drip lines, as applicable, to the closest point of daylighting on the surface.
i. No limiting subsurface condition specified in R18-9-A310(D)(2),	20	
ii. A limiting subsurface condition.	50	
c. Subsurface drip lines.	3	Measured horizontally from the bottom of the lowest point of the disposal pipe or drip lines, as applicable, to the closest point of daylighting on the surface.
12. Driveway	5	Measured horizontally to the nearest edge of an on-site wastewater treatment facility excavation. A person may place a properly reinforced and protected wastewater treatment facility, except for disposal works, at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.
13. Swimming pool excavation	5	Except if soil loading or stability concerns indicate the need for a greater separation distance.
14. Easement (except drainage easement)	5	None
15. Earth fissures	100	None
* A "common drinking water system" means a system that currently serves or is under legal obligation to serve the property and may include a drinking water utility, a well-sharing agreement, or other viable water supply agreement.		

D. Soil absorption rate (SAR) and disposal works sizing.

1. An applicant shall determine the soil absorption area by dividing the design flow by the applicable soil absorption rate. If soil characterization and percolation test methods yield different SAR values or if multiple applications of the same approach yield different values, the designer of the disposal works shall use the lowest SAR value unless a higher SAR value is proposed and justified to the Department's satisfaction in the Notice of Intent to Discharge.
2. The SAR used to calculate disposal works size for systems described in R18-9-E302 is as follows:
   a. The SAR by percolation testing as described in R18-9-A310(F) or (G), as applicable, is determined as follows:

Percolation Rate from Percolation Test (minutes per inch)	**SAR, Trench, Chamber, and Pit (gal/day/ft^2)**	**SAR, Bed (gal/day/ft^2)**
Less than 1.00	A site-specific SAR is required	A site-specific SAR is required
1.00 to less than 3.00	1.20	0.93
3.00	1.10	0.73
4.00	1.00	0.67
5.00	0.90	0.60
7.00	0.75	0.50
10.0	0.63	0.42
15.0	0.50	0.33
20.0	0.44	0.29
25.0	0.40	0.27

30.0	0.36	0.24
35.0	0.33	0.22
40.0	0.31	0.21
45.0	0.29	0.20
50.0	0.28	0.19
55.0	0.27	0.18
55.0+ to 60.0	0.25	0.17
60.0+ to 120	0.20	0.13
Greater than 120	A site-specific SAR is required	A site-specific SAR is required

b. The SAR using the soil evaluation method described in R18-9-A310(E) is determined by answering the questions in the following table. The questions are read in sequence starting with "A." The first "yes" answer determines the SAR. A seepage pit is required to determine percolation rate under the procedure described in R18-9-A310(G) and would only use this table to augment the percolation test results, if appropriate.

Sequence of Soil Characteristics Questions	**SAR, Trench, Chamber, and Pit gal/day/ft^2**	**SAR, Bed gal/day/ft^2**
A. Is the horizon gravelly coarse sand or coarser?	A site-specific SAR is required	A site-specific SAR is required
B. Is the structure of the horizon moderate or strongly platy?	A site-specific SAR is required	A site-specific SAR is required
C. Is the texture of the horizon sandy clay loam, clay loam, silty clay loam, or finer and the soil structure weak platy?	A site-specific SAR is required	A site-specific SAR is required
D. Is the moist consistence stronger than firm or any cemented class?	A site-specific SAR is required	A site-specific SAR is required
E. Is the texture sandy clay, clay, or silty clay of high clay content and the structure massive or weak?	A site-specific SAR is required	A site-specific SAR is required
F. Is the texture sandy clay loam, clay loam, silty clay loam, or silt loam and the structure massive?	A site-specific SAR is required	A site-specific SAR is required
G. Is the texture of the horizon loam or sandy loam and the structure massive?	0.20	0.13
H. s the texture sandy clay, clay, or silty clay of low clay content and the structure moderate or strong?	0.20	0.13
I. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure weak?	0.20	0.13
J. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure moderate or strong?	0.40	0.27
K. Is the texture sandy loam, loam, or silty loam and the structure weak?	0.40	0.27
L. Is the texture sandy loam, loam, or silt loam and the structure moderate or strong?	0.60	0.40
M. Is the texture fine sand, very fine sand, loamy fine sand, or loamy very fine sand?	0.40	0.27
N. Is the texture loamy sand or sand?	0.80	0.53
O. Is the texture coarse sand?	1.20	A site-specific SAR is required

c. If the percolation rate determined under R18-9-A310(F) or (G), whichever is applicable, is a value that lies between two consecutive percolation rate values listed in subsection (2)(a), the applicant must use the higher of the two listed percolation rates to obtain the most conservative SAR.

3. For an on-site wastewater treatment facility described in a general permit other than R18-9-E302, the SAR is dependent on the ability of the facility to reduce the level of TSS and BOD_5 and is calculated using the following formula:

$$SAR_a = \left[\left(\frac{11.39}{\sqrt[3]{TSS + BOD_5}} - 1.87\right) SAR^{1.13} + 1\right] SAR$$

a. "SAR_a" is the adjusted soil absorption rate for disposal works design in gallons per day per square foot,
b. "TSS" is the total suspended solids in wastewater delivered to the disposal works in milligrams per liter,
c. "BOD_5" is the five-day biochemical oxygen demand of wastewater delivered to the disposal works in milligrams per liter, and
d. "SAR" is the soil absorption rate for septic tank effluent determined by the subsurface characterization method described in R18-9-A310.

4. An applicant shall ensure that the facility is designed so that the area of the intended installation is large enough to allow for construction of the facility and for future replacement or repair and is at least as large as the following:
a. For a dwelling, a primary area for the disposal works sized according to subsection (D)(1) and a reserve area of 100 percent of the primary area, excluding the footprint of the treatment works. A reserve area is not required for a lot in a subdivision approved before 1974 if the lot conforms to its original approved configuration;
b. For other than a dwelling, a primary area for the disposal works sized according to subsection (D)(1) and a reserve area of 100 percent of the primary area, excluding the footprint of the treatment works.

5. An applicant shall ensure that the subsurface disposal works is designed to achieve the design flow established in R18-9-A309(B)(3) through proper hydraulic function, including conditions of seasonally cold and wet weather.

E. Vertical separation distances.
1. Minimum vertical separation to the seasonal high water table for a disposal works described in R18-9-E302 receiving septic tank effluent. For a disposal works described in R18-9-E302 receiving septic tank effluent at a facility where the septic tank and disposal system described in R18-9-E302 is the sole method of treatment and disposal of wastewater, the minimum vertical separation distance between the lowest point in the disposal works and the seasonal high water table is dependent on the soil absorption rate and is determined as follows:

Soil Absorption Rate (gallons per day per square foot)			**Minimum Vertical Separation Between The Bottom Of The Disposal Works And The Seasonal High Water Table (feet)**	
Trench and Chamber	Bed	Seepage Pit	Trench, Chamber, and Bed	Seepage Pit
1.20+	0.93+	1.20+	Not allowed for septic tank effluent	Not Allowed
0.63+ to 1.20	0.42 to 0.93	0.63+ to 1.20	10	60
0.20 to 0.63	0.13 to 0.42	0.36 to 0.63	5	60
Less than 0.20	Less than 0.13	Less than 0.36	Not allowed for septic tank effluent	Not Allowed

2. Minimum vertical separation to the seasonal high water table for treatment and disposal works technologies described in R18-9-E303 through R18-9-E322. If the minimum vertical separation distance to the seasonal high water table for a disposal works receiving septic tank effluent specified in subsection (E)(1) is not met, the applicant shall comply with the following:
a. Employ one or more technologies described in R18-9-E303 through R18-9-E322 to achieve a reduced concentration of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml) delivered to native soil at the bottom of the disposal works. The applicant shall use the following table to select works that achieve a reduced total coliform concentration corresponding to the available vertical separation distance between the bottom of the disposal works and the seasonal high water table:

Available Vertical Separation Distance Between the Bottom of The Disposal Works and the Seasonal High Water Table (feet)		**Maximum Allowable Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal Works (Log_{10} of coliform concentration in cfu per 100 milliliters)**
For SAR*, 0.20 to 0.63	**For SAR*, 0.63+ to 1.20**	
5	10	8**
4	8	7
3.5	7	6
3	6	5
2.5	5	4
2	4	3
1.5	3	2
1	2	1
0	0	0***

* Soil absorption rate from percolation testing or soil characterization, in gallons per square foot per day.
** Nominal value for a standard septic tank and disposal field (10^8 colony forming units per 100 ml).
*** Nominally free of coliform bacteria.

b. Include a hydraulic analysis with the Notice of Intent to Discharge, based on the dimensions of the absorption surfaces specified in R18-9-A312(B)(4)(b), showing that the soil is sufficiently permeable to conduct wastewater downward and laterally without surfacing for the site conditions at the disposal works.

3. Vertical separation from a subsurface limiting condition described in R18-9-A310(D)(2)(d) that may cause or contribute to surfacing of wastewater. If a subsurface limiting condition described in R18-9-A310(D)(2)(d) exists at the location of the disposal works, the applicant shall ensure that the design for the on-site wastewater treatment facility meets one of the following:
   a. A zone of acceptable native soil with the following characteristics exists between the bottom of the disposal works and the top of the subsurface limiting condition:
      i. The zone of soil is at least 4 feet thick, and
      ii. The zone of soil is sufficiently permeable to conduct wastewater released from the disposal works vertically downward and laterally without causing surfacing of the wastewater as documented by a hydraulic analysis submitted with the Notice of Intent to Discharge that is based on the dimensions of the absorption surfaces specified in R18-9-A312(B)(4)(b);
   b. The subsurface limiting condition is thin enough to allow placement of a disposal works into acceptable native soil beneath the subsurface limiting condition if the following criteria are met:
      i. The bottom of the subsurface limiting condition is not deeper than 10 feet below the land surface, and
      ii. The vertical separation distance from the bottom of the disposal works to the seasonal high water table complies with subsection (E)(1) or (2), as applicable; or
   c. If the disposal works is placed above the subsurface limiting condition and the depth to the subsurface limiting condition is less than 4 feet below the bottom of the disposal works, the design for the on-site wastewater treatment facility shall comply with all of the following:
      i. Employ one or more technologies described in R18-9-E303 through R18-9-E322 to achieve a reduced concentration of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml), delivered to acceptable native soil at the bottom of the disposal works, as follows:

Available Vertical Separation Distance from the Bottom of the Disposal Works to the Subsurface Limiting Condition (feet)	**Maximum Allowable Total Coliform Concentration, 95th Percentile, Delivered to Acceptable Native Soil by the Disposal Works (Log_{10} of coliform concentration in cfu per 100 milliliters)**
3.5	7
3	6
2.5	5
2	4
1.5	0*
1	0*
0.5	0*
0	0*

* Nominally free of coliform bacteria.

      ii. Include a hydraulic analysis with the Notice of Intent to Discharge, based on the location and dimensions of the absorption surfaces specified in R18-9-A312(B)(4)(b), showing that the soil is sufficiently permeable to conduct wastewater vertically downward and laterally without surfacing for the site conditions at the disposal works; and
      iii. If a disinfection device under R18-9-E320 is proposed but is not used with surface disposal of wastewater under R18-9-E321 or "Category A" drip irrigation disposal under R18-9-E322, provide a justification with the Notice of Intent to Discharge stating why the selected type of disposal works is favored over disposal under R18-9-E321 or R18-9-E322.

4. Vertical separation from a subsurface limiting condition described in R18-9-A310(D)(2)(e) that promotes accelerated downward movement of insufficiently treated wastewater. If a subsurface limiting condition described in R18-9-A310(D)(2)(e) exists at the location of the proposed disposal works, the applicant shall ensure that the design for the on-site wastewater treatment facility meets one of the following:
   a. A zone of naturally occurring soil with the following characteristics exists between the bottom of the disposal works and the top of the subsurface limiting condition:
      i. The zone of soil is at least 2 feet thick, and
      ii. The SAR of the soil is not less than 0.20 gallons per day per square foot nor more than 1.20 gallons per day per square foot; or
   b. The on-site wastewater treatment facility employs one or more technologies described in R18-9-E303 through R18-9-E322 that produces treated wastewater that meets a total coliform concentration of 1,000,000 ($Log_{10}6$) colony forming units per 100 milliliters, 95th percentile.

F. Materials and manufactured system components.

1. Materials. An applicant shall use aggregate if no specification for disposal works material is provided in this Article.
2. Manufactured components. If manufactured components are used, an applicant shall design, install, and operate the on-site wastewater treatment facility following the manufacturer's specifications. The applicant shall ensure that:
   a. Treatment and containment components, mechanical equipment, instrumentation, and controls have monitoring, inspection, access and cleanout ports or covers, as appropriate, for monitoring and service;
   b. Treatment and containment components, pipe, fittings, pumps, and related components and controls are durable, watertight, structurally sound, and capable of withstanding stress from installation and operational service; and
   c. Distribution lines for disposal works are constructed of perforated high density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other pipe material, if the pipe is suitable for wastewater disposal use and sufficient openings are available for distribution of the wastewater into the trench or bed area.
3. Electronic components. When electronic components are used, the applicant shall ensure that:
   a. The component connections are compliant with the electrical code encompassed in the local building codes applicable in the county in which the facility is installed, except as required for a pressure distribution system under R18-9-E304(D)(2)(e);
   b. Instructions and a wiring diagram are mounted on the inside of a control panel cover;
   c. The control panel is equipped with a multimode operation switch, red alarm light, buzzer, and reset button;
   d. The multimode operation switch operates in the automatic position for normal system operation; and
   e. An anomalous condition is indicated by a glowing alarm light and sounding buzzer. The continued glowing of the alarm light after pressing the reset button shall signal the need for maintenance or repair of the system at the earliest practical opportunity.
4. If a conflict exists between this Article and the manufacturer's specifications, the requirements of this Article apply. Except for the requirements in subsection (D) and (E), which always apply, if the conflict voids a manufacturer's warranty, the applicant may submit a request under subsection (G) justifying use of the manufacturer's specifications.

G. Alternative design, setback, installation, or operational features. When an applicant submits a Notice of Intent to Discharge, the applicant may request that the Department review and approve a feature of improved or alternative technology, design, setback, installation, or operation that differs from a general permit requirement in this Article. Designs incorporating alternative features already approved in a current listing on the "proprietary and other reviewed product list" pursuant to R18-9-A309(E) do not need additional approval under this subsection for only those specific alternative features already approved in the proprietary products listing.

1. The applicant shall make the request for an improved or alternative feature of technology, design, setback, installation, or operation on a form provided by the Department and include:
   a. A description of the requested change;
   b. A citation to the applicable feature or technology, design, setback, installation, or operational requirement for which the change is being requested; and
   c. Justification for the requested change, including any necessary supporting documentation.
2. The applicant shall submit the appropriate fee specified under 18 A.A.C. 14 for each requested change. For purposes of calculating the fee, a requested change that is applied multiple times in a similar manner throughout the facility is considered a single request if submitted for concurrent review.
3. The applicant shall provide sufficient information for the Department to determine that the change achieves equal or better performance compared with the general permit requirement, or addresses site or system conditions more satisfactorily than the requirements of this Article.
4. The Department shall review and may approve the request for change.
5. The Department shall deny the request for the change if the change will adversely affect other permittees or cause or contribute to a violation of an Aquifer Water Quality Standard.
6. The Department shall deny the request for the change if the change:
   a. Fails to achieve equal or better performance compared to the general permit requirement;
   b. Fails to address site or system conditions more satisfactorily than the general permit requirement;
   c. Is insufficiently justified based on the information provided in the submittal;
   d. Requires excessive review time, research, or specialized expertise by the Department to act on the request; or
   e. For any other justifiable cause.
7. The Department may approve a reduced setback for a facility authorized to discharge under one or more of the general permits in R18-9-E302 through R18-9-E323, either separately or in combination, if the applicant additionally demonstrates at least one of the following:
   a. The treatment performance is significantly better than that provided under R18-9-E302(B),
   b. The wastewater loading rate is reduced, or
   c. Surface or subsurface characteristics ensure that reduced setbacks are protective of human health or water quality.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (E)(1) (Supp. 01-1). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A313. Facility Installation, Operation, and Maintenance for On-site Wastewater Treatment Facilities

A. Facility installation. In addition to installation requirements in the general permit, the applicant shall ensure that the following tasks are performed, as applicable:

1. The facility is installed as described in design documents submitted with the Notice of Intent to Discharge;

2. Components are installed on a firm foundation that supports the components and operating loads;
3. The site is prepared to protect native soil beneath the soil absorption area and in adjacent areas from compaction, prevent smeared absorption surfaces, minimize disturbances from grubbing, and otherwise preclude damage to the disposal area that would impair performance;
4. Components are protected from damage at the construction site and installed in conformance with the manufacturer's instructions if consistent with this Article;
5. Treatment media are placed to achieve uniform density, prevent differential settling, produce a level inlet surface unless otherwise specified by the manufacturer, and avoid introduction of construction contaminants;
6. Backfill is placed to prevent damage to geotextile, liners, tanks, and other components;
7. Soil cover is shaped to shed rainfall away from the backfill areas and prevent ponding of runoff; and
8. Anti-buoyancy measures are implemented during construction if temporary saturated backfill conditions are anticipated during construction.

B. Operation and maintenance. In addition to operation and maintenance requirements in the general permit or specified in the operation and maintenance manual, the permittee shall ensure that the following tasks are performed, as applicable:

1. Pump accumulated residues, inspect and clean wastewater treatment and distribution components, and manage residues to protect human health and the environment;
2. Clean, backwash, or replace effluent filters according to the manufacturer's instructions, and manage residues to protect human health and the environment;
3. Inspect and clean the effluent baffle screen and pump tank, and properly dispose of cleaning residue;
4. Clean the dosing tank effluent screen, pump switches, and floats, and properly dispose of cleaning residue;
5. Flush lateral lines and return flush water to the pretreatment headworks;
6. Inspect, remove and replace, if necessary, and properly dispose of filter media;
7. Rod pressurized wastewater delivery lines and secondary distribution lines (for dosing systems), and return cleaning water to the pretreatment headworks;
8. Inspect and clean pump inlets and controls and return cleaning water to the pretreatment headworks;
9. Implement corrective measures if anomalous ponding, dryness, noise, odor, or differential settling is observed;
10. Inspect and monitor inspection and access ports, as applicable, to verify that operation is within expected limits for:
    a. Influent wastewater quality;
    b. The pressurized dosing system;
    c. The aggregate infiltration bed and mound system;
    d. Wastewater delivery and the engineered pad;
    e. The pressurized delivery system, filter, underdrain, and native soil absorption system;
    f. Saturation condition status in peat and other media; and
    g. Treatment system components;
11. Inspect tanks, liners, ports, seals, piping, and appurtenances for watertightness under all operational conditions;
12. Manage vegetation in areas that contain components subject to physical impairment or damage due to root invasion or animals;
13. Maintain drainage, berms, protective barriers, cover materials, and other features; and
14. Maintain the usefulness of the reserve area to allow for repair or replacement of the on-site wastewater treatment facility.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A314. Septic Tank Design, Manufacturing, and Installation for On-site Wastewater Treatment Facilities

A person shall not install a septic tank in an on-site wastewater treatment facility unless the tank meets the following requirements:

1. The tank is:
    a. Designed to produce a clarified effluent and provide adequate space for sludge and scum accumulations;
    b. Watertight and constructed of solid durable materials not subject to excessive corrosion or decay;
    c. Manufactured with at least two compartments unless two separate structures are placed in series. The tank is designed so that:
        i. The inlet compartment of any septic tank not placed in series is nominally 67 percent to 75 percent of the total required capacity of the tank,
        ii. Septic tanks placed in series are considered a unit and meet the same criteria as a single tank,
        iii. The liquid depth of the septic tank is at least 42 inches, and
        iv. A septic tank of 1000 gallon capacity is at least 8 feet long and the tank length of septic tanks of greater capacity is at least 2 times but not more than 3 times the width;
    d. Manufactured with at least two access openings to the tank interior, each at least 20 inches in diameter. The tank is designed so that:
        i. One access opening is located over the inlet end of the tank and one access opening is located over the outlet end;
        ii. Whenever a first compartment exceeds 12 feet in length, another access opening is provided over the baffle wall; and
        iii. Access openings and risers are constructed to ensure accessibility within 6 inches below finished grade;
    e. Manufactured so that the sewage inlet and wastewater outlet openings are not smaller than the connecting sewer pipe. The tank is designed so that:
        i. The vertical leg of round inlet and outlet fittings is at least 4 inches but not smaller than the connecting sewer pipe, and
        ii. A baffle fitting has the equivalent cross-sectional area of the connecting sewer pipe and not less than a 4 inch horizontal dimension if measured at the inlet and outlet pipe inverts;
    f. Manufactured so that the inlet and outlet pipe or baffle extends 4 inches above and at least 12 inches below the water surface when the tank is installed according to the manufacturer's instructions consistent with this Chapter. The invert of the inlet pipe is at least 2 inches above the invert of the outlet pipe;

g. Manufactured so that the inlet and outlet fittings or baffles and compartment partitions have a free vent area equal to the required cross-sectional area of the connected sewer pipe to provide free ventilation above the water surface from the disposal works or seepage pit through the septic tank, house sewer, and stack to the outer air;
h. Manufactured so that the open space extends at least 9 inches above the liquid level and the cover of the septic tank is at least 2 inches above the top of the inlet fitting vent opening;
i. Manufactured so that partitions or baffles between compartments are of solid durable material (wooden baffles are prohibited) and extend at least 4 inches above the liquid level. The open area of the baffle shall be between one and 2 times the open area of the inlet pipe or horizontal slot and located at the midpoint of the liquid level of the baffle. If a horizontal slot is used, the slot shall be no more than 6 inches in height;
j. Structurally designed to withstand all anticipated earth or other loads. The tank is designed so that:
   i. All septic tank covers are capable of supporting an earth load of 300 pounds per square foot; and
   ii. If the top of the tank is greater than 2 feet below finish grade, the septic tank and cover are capable of supporting an additional load of 150 pounds per square foot for each additional foot of cover;
k. Manufactured or installed so that the influent and effluent ends of the tank are clearly and permanently marked on the outside of the tank with the words "INLET" or "IN," and "OUTLET" or "OUT," above or to the right or left of the corresponding openings; and
l. Clearly and permanently marked with the manufacturer's name or registered trademark, or both, the month and year, or Julian date, of manufacture, the maximum recommended depth of earth cover in feet, and the design liquid capacity of the tank. The tank is manufactured to protect the markings from corrosion so that they remain permanent and readable for the operational life of the tank.

2. Materials used to construct or manufacture septic tanks.
   a. A septic tank cast-in-place at the site of use shall be protected from corrosion by coating the tank with a bituminous coating, by constructing the tank using a concrete mix that incorporates 15 percent to 18 percent fly ash, or by any other Department-approved means. The tank is designed so that:
      i. The coating extends at least 4 inches below the wastewater line and covers all of the internal area above that point; and
      ii. A septic tank cast-in-place complies with the "Building Code Requirements for Structural Concrete and Commentary ACI 318-02/318R-02 (2002)," and the "Code Requirements for Environmental Engineering Concrete Structures and Commentary, ACI 350/350R-01 (2001)," published by the American Concrete Institute. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington Street, Phoenix, AZ 85007 or may be obtained from American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333-9094.
   b. A steel septic tank shall have a minimum wall thickness of No. 12 U.S. gauge steel and be protected from corrosion, internally and externally, by a bituminous coating or other Department-approved means.
   c. A prefabricated concrete septic tank shall meet the "Standard Specification for Precast Concrete Septic Tanks, C1227-20," published by the American Society for Testing and Materials. This information is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington Street, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International West.
   d. A septic tank manufactured using fiberglass or thermoplastic shall meet the requirements set forth in "Prefabricated Septic Tanks – IAPMO/ANSI Z1000-2019," published by the International Association of Plumbing and Mechanical Officials. This information is incorporated by reference, does not include any later amendments or editions of the incorporated material, and may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington Street, Phoenix, AZ 85007 or obtained from International Association of Plumbing and Mechanical Officials, 4755 E. Philadelphia Street, Ontario, CA 917761.
3. Conformance with design, materials, and manufacturing requirements.
   a. If any conflict exists between this Article and the information incorporated by reference in subsection (2), the requirements of this Article apply.
   b. The Department may approve use of alternative construction materials under R18-9-A312(G). Tanks constructed of wood, block, or bare steel are prohibited.
   c. The Department may inspect septic tanks at the site of manufacturing to verify compliance with subsections (1) and (2).
   d. The septic tank sale documentation includes:
      i. A certificate attesting that the septic tank conforms with the design, materials, and manufacturing requirements in subsections (1) and (2); and
      ii. Instructions for handling and installing the septic tank.
4. The septic tank's daily design flow is determined as follows:
   a. For a single family dwelling:
      i. The design liquid capacity of the septic tank and the septic tank's daily design flow are determined based on the number of bedrooms and fixture count as follows:

Criteria for Septic Tank Size and Design Flow			
Number of Bedrooms	**Fixture Count**	**Minimum Design Liquid Capacity (gallons)**	**Design Flow (gal/day)**
1	7 or less	1000	150
	More than 7	1000	300
2	14 or less	1000	300
	More than 14	1000	450
3	21 or less	1000	450
	More than 21	1250	600
4	28 or less	1250	600
	More than 28	1500	750
5	35 or less	1500	750
	More than 35	2000	900
6	42 or less	2000	900
	More than 42	2500	1050
7	49 or less	2500	1050
	More than 49	3000	1200
8	56 or less	3000	1200
	More than 56	3000	1350

ii. Fixture count is determined as follows:

Residential Fixture Type	Fixture Units	Residential Fixture Type	Fixture Units
Bathtub	2	Sink, bar	1
Bidet	2	Sink, kitchen (including dishwasher)	2
Clothes washer	2	Sink, service	3
Dishwasher (Separate from kitchen)	2	Utility tub or sink	2
Lavatory, single	1	Water closet, 1.6 gallons per flush (gpf)	3
Lavatory, double in master bedroom	1	Water closet, >1.6 to 3.2 gpf	4
Shower, single stall	2	Water closet, greater than 3.2 gpf	6

b. For other than a single family dwelling, the design liquid capacity of a septic tank in gallons is 2.1 times the daily design flow into the tank as determined from Table 1, Unit Design Flows. If the wastewater strength exceeds that of typical sewage, additional tank volume is required.

c. A person may place two septic tanks in series to meet the septic tank design liquid capacity requirements if the capacity of the first tank is at least 67 percent of the total required tank capacity and the capacity of the second tank is at least 33 percent of the total required tank capacity.

5. The following requirements regarding new or replacement septic tank installation apply:
   a. Permanent surface markers for locating the septic tank access openings are provided for maintenance;
   b. A septic tank installed under concrete or pavement has the required access openings extended to grade;
   c. A septic tank effluent filter is installed on the septic tank. The filter shall:
      i. Prevent the passage of solids larger than 1/8 inch in diameter while under two feet of hydrostatic head; and
      ii. Be constructed of materials that are resistant to corrosion and erosion, sized to accommodate hydraulic and organic loading, and removable for cleaning and maintenance; and
   d. The septic tank is tested for watertightness after installation by the water test described in subsections (5)(d)(i) and (5)(d)(ii) and repaired or replaced, if necessary.
      i. The septic tank is filled with clean water, as specified in R18-9-A310(A), to the invert of the outlet and the water left standing in the tank for 24 hours and:
         (1) After 24 hours, the tank is refilled to the invert, if necessary;
         (2) The initial water level and time is recorded; and
         (3) After one hour, water level and time is recorded.
      ii. The tank passes the water test if the water level does not drop over the one-hour period. Any visible leak of flowing water is considered a failure. A damp or wet spot that is not flowing is not considered a failure.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November

12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A315. Interceptor Design, Manufacturing, and Installation for On-site Wastewater Treatment Facilities

A. Interceptor requirement. An applicant shall ensure that an interceptor as required by R18-9-A309(A)(7)(c) or necessary due to excessive amounts of grease, garbage, sand, or other wastes in the sewage is installed between the sewage source and the on-site wastewater treatment facility.

B. Interceptor design. An applicant shall ensure that:

1. An interceptor has not less than two compartments with fittings designed for grease retention and capable of removing excessive amounts of grease, garbage, sand, or other similar wastes. An interceptor may not accept human excreta or toilet wastewater. Applicable structural and materials requirements prescribed in R18-9-A314 apply;
2. Interceptors are located as close to the source as possible and are accessible for servicing. The applicant shall ensure that access openings for servicing are at grade level and gas-tight;
3. The interceptor size for grease and garbage from non-residential kitchens is calculated using by the following equation: Interceptor Size (in gallons) = M × F × T × S.
   a. "M" is the number of meals per peak hour;
   b. "F" is the applicable waste flow rate from Table 1, Unit Design Flows.
   c. "T" is the estimated retention time:
      i. Commercial kitchen waste, dishwasher or disposal: 2.5 hours; or
      ii. Single service kitchen with utensil wash disposal: 1.5 hours;
   d. "S" is the estimated storage factor:
      i. Fully equipped commercial kitchen, 8-hour operation: 1.0;
      ii. Fully equipped commercial kitchen, 16-hour operation: 2.0;
      iii. Fully equipped commercial kitchen, 24-hour operation: 3.0; or
      iv. Single service kitchen, 1.5;
4. The interceptor size for silt and grease from laundries and laundromats is calculated using the following equation: Interceptor Size (in gallons) = M × C × F × T × S.
   a. "M" is the number of machines;
   b. "C" is the machine cycles per hour (assume 2);
   c. "F" is the waste flow rate from Table 1, Unit Design Flows;
   d. "T" is the estimated retention time (assume 2); and
   e. "S" is the estimated storage factor (assume 1.5 that allows for rock filter).

C. The applicant may calculate the size of an interceptor using different factor values than those given in subsections (B)(3) and (4) based on the values justified by the applicant in the Notice of Intent to Discharge submitted to the Department for the on-site wastewater treatment facility.

D. The Department may require installation of a sampling box if the volume or characteristics of the waste will impair the performance of the on-site wastewater treatment facility.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-A316. Transfer of Ownership Inspection for On-site Wastewater Treatment Facilities

A. Conforming with this Section satisfies the Notice of Transfer requirements under R18-9-A304.

B. Within six months before the date of property transfer, the person who is transferring a property served by an on-site wastewater treatment facility shall retain an inspector to perform a transfer of ownership inspection of the on-site wastewater treatment facility who meets the following qualifications:

1. Possesses working knowledge of the type of facility and the inspection process;
2. Holds a certificate of training from a course recognized by the Department as sufficiently covering the information specified in this Section by July 1, 2006; and
3. Holds a license in one of the following categories:
   a. An Arizona-registered engineer;
   b. An Arizona-registered sanitarian;
   c. An owner of a vehicle with a human excreta collection and transport license issued under 18 A.A.C. 13, Article 11 or an employee of the owner of the vehicle;
   d. A contractor licensed by the Registrar of Contractors in one of the following categories:
      i. Residential license B-4 or C-41;
      ii. Commercial license A, A-12, or L-41; or
      iii. Dual license KA or K-41;
   e. A wastewater treatment plant operator certified under 18 A.A.C 5, Article 1; or
   f. A person qualifying under another category designated by the Department.

C. The inspector shall complete a Report of Inspection on a form approved by the Department, sign it, and provide it to the person transferring the property. The Report of Inspection shall:

1. Address the physical and operational condition of the on-site wastewater treatment facility and describe observed deficiencies and repairs completed, if any;
2. Indicate that each septic tank or other wastewater treatment container on the property was pumped or otherwise serviced to remove, to the maximum extent possible, solid, floating, and liquid waste accumulations, or that pumping or servicing was not performed for one of the following reasons:
   a. A Discharge Authorization for the on-site wastewater treatment facility was issued and the facility was put into service within 12 months before the transfer of ownership inspection,
   b. Pumping or servicing was not necessary at the time of the inspection based on the manufacturer's written operation and maintenance instructions, or
   c. No accumulation of floating or settled waste was present in the septic tank or wastewater treatment container; and
3. Indicate the date the inspection was performed.

D. Before the property is transferred, the person transferring the property shall provide to the person to whom the property is transferred:

1. The completed Report of Inspection; and
2. Documents in the person's possession relating to permitting, operation, and maintenance of the on-site wastewater treatment facility.

E. The person to whom the property is transferred shall complete a Notice of Transfer on a form approved by the Department and send the form with the applicable fee specified in 18 A.A.C. 14 within 15 calendar days after the property transfer to:
1. The Department for transfer of a property with an on-site wastewater treatment facility for which construction was completed before January 1, 2001; or
2. The health or environmental agency delegated by the Director to administer the on-site wastewater treatment facility program for transfer of a property with an on-site wastewater treatment facility constructed on or after January 1, 2001.

F. If the Department issued a Discharge Authorization for the on-site wastewater treatment facility but the facility was not put into service before the property transfer, an inspection of the facility is not required and the transferee shall complete the Notice of Transfer form as specified in subsection (E).

G. Effective date.
1. The owner of an on-site wastewater treatment facility operating under a Type 4 General Permit shall comply with this Section by November 12, 2005.
2. The owner of any on-site wastewater treatment facility other than a facility identified in subsection (G)(1) shall comply with this Section by July 1, 2006.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2002 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-A317. Nitrogen Management Area

A. The Director may designate a new Nitrogen Management Area to control groundwater pollution by sources of nitrogen regulated by Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and not covered under an individual permit, modify the boundaries or requirements of a Nitrogen Management Area, or rescind designation of a Nitrogen Management Area.
1. If existing conditions or trends in nitrogen loading to an aquifer will cause or contribute to an exceedance of the Aquifer Water Quality Standard for nitrate at a point or points of current or reasonably foreseeable use of the aquifer, the Director shall use the following criteria to determine whether to designate the area as a Nitrogen Management Area:
   a. Population of the area;
   b. The degree to which the area is unsewered;
   c. Gross areal nitrogen loading, calculated as the amount of nitrogen discharged into the subsurface by use of on-site wastewater treatment facilities, divided by the land area under consideration for designation as a Nitrogen Management Area;
   d. Population growth rate of area;
   e. Existing contamination of groundwater by nitrogen species;
   f. Existing and potential impact to groundwater by sources of nitrogen other than on-site wastewater treatment facilities;
   g. Characteristics of the vadose zone and aquifer;
   h. Location, number, and areal extent of existing and potential sources of nitrogen;
   i. Location and characteristics of existing and potential drinking water supplies; and
   j. Any other information relevant to determining the severity of actual or potential nitrogen impact on the aquifer.
2. The Director may modify the boundaries or requirements of a Nitrogen Management Area or rescind designation of a Nitrogen Management Area based on:
   a. A material change to one or more criterion specified in subsection (A)(1); or
   b. The adoption by a local agency of a master plan to substantially sewer the area as soon as possible, but with a completion deadline within 10 years, unless a completion deadline of more than 10 years is approved by the Director.

B. Preliminary designation, modification, or rescission.
1. The Director shall provide a report to the mayors and members of the Board of Supervisors of all towns, cities, and counties and the directors of all sanitary districts affected by the Department's proposed action to designate, modify, or rescind a Nitrogen Management Area as follows:
   a. If the Department proposes to designate a Nitrogen Management Area, the Department shall provide a report discussing each criterion specified in subsection (A)(1).
   b. If the Department proposes to modify the boundaries or requirements of a Nitrogen Management Area or rescind the designation of a Nitrogen Management Area, the Department shall provide a report discussing applicable criteria in subsections (A)(1) and (2).
2. The town, city, county, or sanitary district receiving the Director's report may provide written comments to the Department within 120 days to dispute the factual information presented in the report and supply any information supporting the comments.
3. The Director shall evaluate the comments and supporting information obtained under subsection (B)(2) and either designate, modify, or rescind the Nitrogen Management Area or withdraw the proposal.

C. Final designation.
1. If the Director designates or modifies the Nitrogen Management Area, the Department shall:
   a. Issue or modify the Nitrogen Management Area designation and any special provisions established for the area to control groundwater pollution by sources of nitrogen regulated by Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes but not covered under an individual permit. The Department shall provide notice to the mayors and members of the Board of Supervisors of all towns, cities, and counties and the directors of all sanitary districts affected by the determination;
   b. Maintain the designation and a map showing the boundaries of the Nitrogen Management Area at the Arizona Department of Environmental Quality, 1110 West Washington, Phoenix, Arizona 85007 and on the Department's web site at www.azdeq.gov; and
   c. Provide, upon request, a copy of the Nitrogen Management Area designation and a map of the area.
2. If the Director withdraws the preliminary Nitrogen Management Area designation or rescinds the Nitrogen Management Area designation, the Director shall issue a determination stating the decision and post it on the Department's web site at www.azdeq.gov.

D. Nitrogen Management Area requirements. Within a Nitrogen Management Area:
1. The Department shall issue a Construction Authorization, under R18-9-A301(D)(1)(c), for an on-site wastewater treatment facility only if the applicant proposes, in the Notice of Intent to Discharge, to employ one or more of the technologies allowed under R18-9-E302 through R18-9-E322 that achieves a discharge level containing not more than 15 mg/l of total nitrogen.
2. An agricultural operation shall use the best control measure necessary to reduce nitrogen discharge when implementing the best management practices developed under 18 A.A.C. 9, Article 4. The Director may require the owner or operator to reassess the performance of the impoundment liner systems constructed under R18-9-403 before November 12, 2005.
3. A person shall comply with any special provision established for the Nitrogen Management Area, as applicable, for the person's facility.

Historical Note
New Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

A. A 1.01 General Permit allows any discharge of wash water from a sand and gravel operation, placer mining operation, or other similar activity, including construction, foundation, and underground dewatering, if only physical processes are employed and only hazardous substances at naturally occurring concentrations in the sand, gravel, or other rock material are present in the discharge.

B. A 1.02 General Permit allows any discharge from hydrostatic tests of a drinking water distribution system and pipelines not previously used, if all the following conditions are met:
1. The quality of the water used for the test does not exceed an Aquifer Water Quality Standard or for non-drinking water pipelines, if reclaimed water is used, the reclaimed water meets Class A+ Reclaimed Water Quality Standards under A.A.C. R18-11-303 or Class B+ Reclaimed Water Quality Standards under A.A.C. R18-11-305;
2. The discharge is not to a water of the United States, unless the discharge is under an AZPDES permit; and
3. The test site is restored to its natural grade.

C. A 1.03 General Permit allows any discharge from hydrostatic tests of a pipeline, tank, or appurtenance previously used for transmission of fluid, other than those previously used for drinking water distribution systems, if all the following conditions are met:
1. All liquid discharge is contained in an impoundment lined with flexible geomembrane. The liquid is evaporated or removed from the impoundment and taken to a treatment works or landfill authorized to accept the material within:
   a. 60 days of the hydrostatic test if the liner is 10 mils, or
   b. 180 days of the hydrostatic test if the liner is 30 mils or greater;
2. The liner is placed over a layer, at least 3 inches thick, of well-sorted sand or finer grained material, or over an underliner that provides protection equal to or better than sand or finer grained material and the calculated seepage is less than 550 gallons per acre per day;
3. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity;
4. The test site is restored to its natural grade; and
5. If the test waters are removed using a method not specified in subsection (C)(1), including a discharge under an AZPDES permit, the test waters meet Aquifer Water Quality Standards and the specific method is approved by the Department before the discharge.

D. A 1.04 General Permit allows any discharge from a facility that, for water quality sampling, hydrologic parameter testing, well development, redevelopment, or potable water system maintenance and repair purposes, receives water, drilling fluids, or drill cuttings from a well if the discharge is to the same aquifer in approximately the same location from which the water supply was originally withdrawn, or the discharge is under an AZPDES permit.

E. A 1.05 General Permit allows a discharge to an injection well, surface impoundment, and leach line only if the discharge is filter backwash from a potable water treatment system, condensate from a refrigeration unit, overflows from an evaporative cooler, heat exchange system return water, or swimming pool filter backwash and the discharge is less than 1000 gallons per day. The 1.05 General Permit allows a discharge of those sources to a navigable water if the discharge is authorized by an AZPDES permit.

F. A 1.06 General Permit allows the burial of mining industry off-road motor vehicle waste tires at the mine site in a manner consistent with the cover requirements in R18-13-1203.

G. A 1.07 General Permit allows the operation of dockside facilities and watercraft if the following conditions are met:
1. Docks that service watercraft equipped with toilets provide sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths, or other plumbing fixtures at a dockside facility is discharged into waters of the state;
2. Docks that service watercraft have conveniently located toilet facilities for men and women;
3. No boat, houseboat, or other type of watercraft is equipped with a marine toilet constructed and operated to discharge sewage directly or indirectly into a water of the state, nor is any container of sewage placed, left, discharged, or caused to be placed, left, or discharged in or near any waters of the state by a person;
4. Watercraft with marine toilets constructed to allow sewage to be discharged directly into waters of the state are locked and sealed to prevent usage. Chemical or other type marine toilets with approved storage containers are permitted if dockside disposal facilities are provided; and
5. No bilge water or wastewater from sinks, showers, laundries, baths, or other plumbing fixtures on houseboats or other watercraft is discharged into waters of the state.

H. A 1.08 General Permit allows for any earth pit privy, fixed or transportable chemical toilet, incinerator toilet or privy, or pail or can-type privy if allowed by a county health or environmental department under A.R.S. Title 36 or a delegation agreement under A.R.S. § 49-107.

I. A 1.09 General Permit allows:
1. The operation of:
   a. A sewage treatment facility with flows less than 20,000 gallons per day and approved by the Department before January 1, 2001, and

b. An on-site wastewater treatment facility with flows less than 20,000 gallons per day operating before January 1, 2001;

2. The person who owns or operates a facility under subsections (I)(1)(a) or (b) to operate the facility if the following conditions are met:
   a. The discharge from the facility does not cause or contribute to a violation of a water quality standard;
   b. The owner or operator does not expand the facility to accommodate flows above the design flow or 20,000 gallons per day, whichever is less;
   c. The facility only treats typical sewage;
   d. The facility does not treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5);
   e. The discharge from the facility does not create any environmental nuisance condition listed in A.R.S. § 49-141; or
   f. The owner or operator does not alter the treatment or disposal characteristics of the original facility, except as allowed under R18-9-A309(A)(9)(a).

J. A 1.10 General Permit allows the operation of a sewage collection system installed before January 1, 2001 that serves downstream from the point where the daily design flow is 3000 gallons per day or that includes a manhole, force main, or lift station serving more than one dwelling regardless of flow, if:
1. The system complies with the performance standards in R18-9-E301(B),
2. No sewage is released from the sewage collection system to the land surface, and
3. The system is not operating under the 2.05 General Permit.

K. A 1.11 General Permit allows the operation of a sewage collection system that serves upstream from the point where the daily design flow is 3000 gallons per day to the building drains, or a single gravity sewer line conveying sewage from a building drain directly to an interceptor, lateral, or manhole, regardless of daily design flow, if all of the following are met:
1. The system does not cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4;
2. No sewage is released from the sewage collection system to the land surface;
3. No environmental nuisance condition listed in A.R.S. § 49-141 is created;
4. The system does not include a manhole, force main, or lift station serving more than one dwelling;
5. Applicable local administrative requirements for review and approval of design and construction are followed;
6. The performance standards specified in R18-9-E301(B) are met using:
   a. Local building and construction codes,
   b. Relevant design and construction standards specified in R18-9-E301, and
   c. Appropriate operation and maintenance;
7. The system flows directly into one of the following downstream facilities:
   a. An on-site wastewater treatment facility;
   b. A sewage treatment facility operating under an individual permit; or
   c. A sewage collection system operating under a 1.10, 2.05, or 4.01 General Permit; and
8. The system is not operating under a 2.05 General Permit.

L. A 1.12 General Permit allows the discharge of wastewater resulting from washing concrete from trucks, pumps, and ancillary equipment to an impoundment if the following conditions are met:
1. The person holds an AZPDES Construction General Permit authorizing the concrete washout activities;
2. The Stormwater Pollution Prevention Plan required by the Construction General Permit issued according to 18 A.A.C. 9, Article 9, Part C, for the construction activity addresses the concrete washout activities;
3. The vegetation at the soil base of the impoundment is cleared, grubbed, and compacted to uniform density not less than 95 percent. If the impoundment is located above grade, the berms or dikes are compacted to a uniform density not less than 95 percent;
4. If groundwater is less than 20 feet below land surface, the impoundment is lined with a synthetic liner at least 30 mils thick;
5. The impoundment is located at least 50 feet from any storm drain inlet, open drainage facility, or watercourse and 100 feet from any water supply well;
6. The impoundment is designed and operated to maintain adequate freeboard to prevent overflow or discharge of wastewater;
7. The concrete washout wastewater from any wash pad is routed to the impoundment;
8. The impoundment receives only concrete washout wastewater;
9. The annual average daily flow of wastewater to the impoundment is less than 3000 gallons per day; and
10. The following closure requirements are met.
    a. The facility is closed by removing and appropriately disposing of any liquids remaining in the impoundment,
    b. The area is graded to prevent ponding of water, and
    c. Closure activities are completed before filing of the Notice of Termination under the AZPDES Construction General Permit.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

A. A 2.01 General Permit allows for a drywell that drains an area where hazardous substances are used, stored, loaded, or treated.

B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:
1. The Class V injection well inventory number for the drywell or documentation that inventory information was submitted to the Department;
2. For a drywell constructed more than 90 days before submitting the Notice of Intent to Discharge to the Department, a certification signed, dated, and sealed by an Arizona-registered professional engineer or geologist that a site investigation has concluded that:
   a. Analytical results from sampling the drywell settling chamber sediment for pollutants reasonably expected to be present do not exceed either the resi-

dential soil remediation levels or the groundwater protection levels;
b. The settling chamber does not contain sediments that could be used to characterize and compare results to soil remediation levels and the chamber has not been cleaned out within the last six months;
c. Neither a soil remediation level nor groundwater protection level is exceeded in soil samples collected from a boring drilled within 5 feet of the drywell and sampled in 5-foot increments starting from 5 feet below ground surface and extending to 10 feet below the base of the drywell injection pipe; or
d. If coarse grained lithology prevents the collection of representative soil samples in a soil boring, a groundwater investigation demonstrates compliance with Aquifer Water Quality Standards in groundwater at the applicable point of compliance;

3. Design information to demonstrate that the requirements in subsection (C) are satisfied; and
4. A copy of the Best Management Practices Plan described in subsection (D)(5).

C. Design requirements. An applicant shall:
1. Locate the drywell no closer than 100 feet from a water supply well and 20 feet from an underground storage tank;
2. Clearly mark the drywell "Stormwater Only" on the surface grate or manhole cover;
3. Locate the bottom of the drywell hole at least 10 feet above groundwater. If during drilling and well installation the drywell borehole encounters saturated conditions, the applicant shall backfill the borehole with cement grout to at least 10 feet above the elevation of saturated conditions before constructing the drywell in the borehole;
4. Ensure that the drywell design or drainage area design includes a method to remove, intercept, or collect pollutants that may be present at the operation with the potential to reach the drywell. The applicant may include a flow control or pretreatment device, such as an interceptor, sump, or another device or structure designed to remove, intercept, or collect pollutants. The applicant may use flow control or pretreatment devices listed under R18-9-C304(D)(1) or (2) to satisfy the design requirements of this subsection;
5. Record the accurate latitude and longitude of the drywell using a Global Positioning System device or site survey; and
6. Develop and maintain a current site plan showing the location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns, the location of floor drains and French drains plumbed to the drywell, water supply wells, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas.

D. Operational and maintenance requirements.
1. A permittee shall operate the drywell only for the disposal of stormwater. The permittee shall not release industrial process waters or wastes in the drywell or drywell retention basin drainage area.
2. The permittee shall implement a Best Management Practices Plan for operation of the drywell and control of pollutants in the drywell drainage area.
3. The permittee shall keep the Best Management Practices Plan on-site or at the closest practical place of work and provide the plan to the Department upon request.
4. The permittee may substitute any Spill Prevention Containment and Control Plan, facility response plan, or an AZPDES Stormwater Pollution Prevention Plan that meets the requirements of this subsection for a Best Management Practices Plan. If the permittee submits a substitute for the Best Management Practices Plan, the permittee shall identify the conditions within the substitute plan that satisfy the requirements of subsection (D).
5. The Best Management Practices Plan shall include:
a. A site plan showing surface drainage patterns and the location of floor drains, water supply, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas. The site plan shall show surface grading details designed to prevent drainage and spills of hazardous substances from leaving the drainage area and entering the drywell;
b. A design plan showing details of drywell design and drainage design, including flow control or pretreatment devices, such as interceptors, sumps, and other devices and structures designed to remove, intercept, and collect any pollutant that may be present at the operation with the potential to reach the drywell;
c. Procedures to prevent and contain spills and minimize discharges to the drywell;
d. Operational practices that include routine inspection and maintenance of the drywell and associated pretreatment and flow-control devices, periodic inspection of waste storage facilities, and proper handling of hazardous substances to prevent discharges to the drywell. Routine inspection and maintenance shall include:
i. Replacing the adsorbent material in the skimmers, if installed, when the adsorbent capacity is reached;
ii. Maintaining valves and associated piping for a drywell injection and treatment system;
iii. Maintaining magnetic caps and mats, if installed;
iv. Removing sludge from the oil/water separator, if installed, and replacing the filtration or adsorption material to maintain treatment capacity;
v. Removing sediment from the catch basin inlet filters and retention basin to maintain required storage capacity; and
e. Procedures for periodic employee training on practices required by the Best Management Practices Plan specific to the drywell and prevention of unauthorized discharges.

6. The permittee shall implement waste management practices to prohibit and prevent discharges, other than those exempted in A.R.S. § 49-250(B)(23), in the drywell drainage area, including:
a. Maintaining an up-to-date inventory of generated wastes and waste products;
b. Disposing or recycling all wastes or solvents through a company licensed to handle the material;
c. Where possible, collecting and storing waste in waste receptacles located outside the drywell drainage area. If the permittee collects and stores the

waste within the drywell drainage area, the permittee shall collect and store the waste in properly designed receptacles; and

d. Using a licensed waste hauler to transport waste offsite to a permitted waste disposal facility.

E. Inspection. A permittee shall:

1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers and the flow-control and treatment systems, and remove sediment annually or when 25 percent of the effective capacity is filled, whichever comes first, to restore capacity and ensure that the drywell functions properly. The permittee shall characterize the sediments that are removed from the drywell after inspection and dispose of the sediments according to local, state, and federal requirements; and
2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that the treatment system is functioning properly, make repairs, and perform maintenance as needed to restore proper function.

F. Recordkeeping. A permittee shall maintain for at least 10 years, the following documents on-site or at the closest place of work and make the documents available to the Department upon request:

1. Documentation of drywell maintenance, inspections, employee training, and sampling activities;
2. A site plan showing the location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns and the location of floor drains or French drains that are plumbed to the drywell or are used to alter drainage patterns, the location of water supply wells, monitor wells, underground storage tanks, and places where hazardous substances are used, stored, or loaded;
3. A design plan showing details of drywell design and drainage design, including any flow control and pretreatment technologies;
4. An operations and maintenance manual that includes:
   a. Procedures to prevent and contain spills and minimize any discharge to the drywell and a list of actions and methods proposed to prevent and contain hazardous substance spills or leaks;
   b. Methods and procedures for inspection, operation, and maintenance activities;
   c. Procedures for spill response; and
   d. A description of the employee training program for drywell inspections, operations, maintenance, and waste management practices;
5. Drywell sediment waste characteristics and disposal manifest records for sediments removed during routine inspections and maintenance activities; and
6. Sampling plans, certified laboratory reports, and chain of custody forms for soil, sediment, and groundwater sampling associated with drywell site investigations.

G. Spills.

1. In the event of a spill, the permittee shall:
   a. Notify the Department within 24 hours of any spill of hazardous or toxic substance that enters the drywell inlet;
   b. Contain, clean up, and dispose of, according to local, state, and federal requirements, any spill or leak of a hazardous substance in the drywell drainage area and basin drainage area;
   c. If a pretreatment system is present, verify that treatment capacity has not been exceeded; and
   d. If the spill reaches the drywell injection pipe, drill a soil boring within 5 feet of the drywell inlet chamber and sample the soil in 5-foot increments from 5 feet below ground surface to a depth extending at least 10 feet below the base of the injection pipe to determine whether a soil remediation level or groundwater protection level has been exceeded in the subsurface. The permittee shall:
      i. Submit the results to the Department within 60 days of the date of the spill; and
      ii. Notify the Department if soil contamination at the facility, not related to the spill, is being addressed by an existing approved remedial action plan.
2. Based on the results of subsection (G)(1)(d), the Director may require the permittee to submit an application for clean closure or an individual Aquifer Protection Permit.

H. Closure and decommissioning requirements.

1. A permittee shall:
   a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;
   b. Remove sediments and any drainage component, such as standpipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;
   c. Remove the settling chamber;
   d. Backfill the settling chamber excavation to the land surface with clean silt, clay, or engineered material. Materials containing hazardous substances are prohibited from use in backfilling the drywell; and
   e. Mechanically compact the backfill.
2. Within 30 days of closure and decommissioning, the permittee shall submit a written verification to the Department that all material that contributed to a discharge has been removed and any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance has been eliminated to the greatest degree practical. The written verification shall specify:
   a. The reason for the closure;
   b. The Class V injection well inventory number;
   c. The general permit reference number;
   d. The materials and methods used to close the drywell;
   e. The name of the contractor who performed the closure;
   f. The completion date;
   g. Any sampling data;
   h. Sump construction details, if a sump was constructed to replace the abandoned drywell; and
   i. Any other information necessary to verify that closure has been achieved.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

A. A 2.02 General Permit allows for intermediate stockpiles not qualifying as inert material under A.R.S. § 49-201(22) at a mining site.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge under R18-9-A301(B), an applicant shall submit the construction and operation specifications used to satisfy the requirements in subsection (C)(1).

C. Design and operational requirements.
1. An applicant shall design, construct, and operate the stockpile so that it does not impound water. An applicant may rely on stormwater run-on controls or facility design features, such as drains, or both.
2. An applicant shall direct storm runoff contacting the stockpile to a mine pit or a facility covered by an individual or general permit.
3. A permittee shall maintain any engineered feature of the facility in good working condition.
4. A permittee shall visually inspect the facility at least quarterly and repair any defect as soon as practical.
5. A permittee shall not add hazardous substances to the stockpiled material.

D. Closure requirements. In addition to the closure requirements in R18-9-A306, the following apply:
1. If an intermediate stockpile covered under a 2.02 General Permit is permanently closed, a permittee shall remove any remaining material, to the greatest extent practical, and regrade the area to prevent impoundment of water.
2. The permittee shall submit a narrative description of closure measures to the Department within 30 days after closure.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

A. A 2.03 General Permit allows for a discharge caused by the performance of tracer studies.
1. The 2.03 General Permit does not authorize the use of any hazardous substance, radioactive material, or any substance identified in A.R.S. § 49-243(I) in a tracer study.
2. A permittee shall complete a single tracer test within two years of the Notice of Intent to Discharge.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A narrative description of the tracer test including the type and amount of tracer used;
2. A Material Safety Data Sheet for the tracer; and
3. Unless the injection or distribution is within the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), the following information:
   a. A narrative description of the impacts that may occur if a solution migrates outside the test area, including a list of downgradient users, if any;
   b. The anticipated effects and expected concentrations, if possible to calculate; and
   c. A description of the monitoring, including types of tests and frequency.

C. Design and operational requirements. A permittee shall:
1. Ensure that injection into a well inside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed the total depth of the influence of the hydrologic sink;
2. Ensure that injection into a well outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed rock fracture pressures during injection of the tracer;
3. Not add a substance to a well that is not compatible with the well's construction;
4. Ensure that a tracer is compatible with the construction materials at the impoundment if a tracer is placed or collected in an existing impoundment;
5. For at least two years, monitor quarterly a well that is hydraulically downgradient of the test site for the tracer if a tracer is used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) and less than 85 percent of the tracer is recovered. The permittee may adjust this period with the consent of the Department if the permittee shows that the hydraulic gradient causes the tracer to reach the monitoring point in a shorter or longer period of time;
6. Ensure that a tracer does not leave the site in concentrations distinguishable from background water quality; and
7. Monitor the amount of tracer used and recovered and submit a report summarizing the test and results to the Department within 30 calendar days of test completion.

D. Recordkeeping. A permittee shall retain the following information at the site where the facility is located for at least three years after test completion and make it available to the Department upon request.
1. Test protocols,
2. Material Safety Data Sheet information,
3. Recovery records, and
4. A copy of the report submitted to the Department under subsection (C)(7).

E. Closure requirements.
1. If a tracer was used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G), a permittee shall account for any tracer not recovered through attenuation, modeling, or monitoring.
2. The permittee shall achieve closure immediately following the test, or if the test area is within a pollutant management area defined in an individual permit, at the conclusion of operations.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-C304. 2.04 General Permit: Drywells that Drain Areas at Motor Fuel Dispensing Facilities Where Motor Fuels are Used, Stored, or Loaded

A. A 2.04 General Permit allows for a drywell that drains an area at a facility for dispensing motor fuel, as defined in A.A.C. R20-2-701(19), including a commercial gasoline station with an underground storage tank.

1. A drywell at a motor fuel dispensing facility using hazardous substances is eligible for coverage under the 2.04 General Permit.
2. A drywell at a vehicle maintenance facility owned or operated by a commercial enterprise or by a federal, state, county, or local government is not eligible for coverage under this general permit, unless the facility design ensures that only motor fuel dispensing areas will drain to the drywell. Areas where hazardous substances other than motor fuels are used, stored, or loaded, including service bays, are not covered under the 2.04 General Permit.
3. Definition. For purposes of this Section, "hazardous substances" means substances that are components of commercially packaged automotive supplies, such as motor oil, antifreeze, and routine cleaning supplies such as those used for cleaning windshields, but not degreasers, engine cleaners, or similar products.

B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:

1. The Class V injection well inventory number for the drywell or documentation that inventory information was submitted to the Department;
2. For a drywell constructed more than 90 days before submitting the Notice of Intent to Discharge to the Department, a certification signed, dated, and sealed by an Arizona-registered professional engineer or geologist that a site investigation concluded that:
   a. Analytical results from sampling sediment from the drywell settling chamber sediment for pollutants reasonably expected to be present do not exceed either the residential soil remediation levels or the groundwater protection levels;
   b. The settling chamber does not contain sediment that could be used to characterize and compare results to soil remediation levels and the chamber has not been cleaned out within the last six months;
   c. Neither a soil remediation level nor groundwater protection level is exceeded in soil samples collected from a boring drilled within 5 feet of the drywell and sampled in 5 foot increments starting at a depth of 5 feet below ground surface and extending to a depth of 10 feet below the base of the drywell injection pipe; or
   d. If coarse grained lithology prevents the collection of soil samples in a soil boring, a groundwater investigation demonstrates compliance with Aquifer Water Quality Standards in groundwater at the applicable point of compliance.
3. Design information to demonstrate that the requirements in subsection (C) are satisfied.

C. Design requirements.

1. An applicant shall:
   a. Include a flow control or pretreatment device identified in subsections (D)(1) or (2), or both, that removes, intercepts, or collects spilled motor fuel or hazardous substances before stormwater enters the drywell injection pipe;
   b. Calculate the volume of runoff generated in the design storm event and anticipate the maximum potential contaminant release quantity to design the treatment and holding capacity of the drywell;
   c. Follow local codes and regulations to meet retention periods for removing standing water;
   d. Locate the drywell at least 100 feet from a water supply well and 20 feet from an underground storage tank;
   e. Locate the bottom of the drywell injection pipe at least 10 feet above groundwater. If during drilling and well installation the drywell borehole encounters saturated conditions, the applicant shall backfill the borehole with cement grout to a level at least 10 feet above the elevation at which saturated conditions were encountered in the borehole before constructing the drywell in the borehole;
   f. Record the accurate latitude and longitude of the drywell using a Global Positioning System device or site survey and record the location on the site plans;
   g. Clearly mark the drywell "Stormwater Only" on the surface grate or manhole cover;
   h. Develop and maintain a current site plan showing the location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns and the location of floor drains and French drains that are plumbed to the drywell or are used to alter drainage patterns, water supply wells, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas; and
   i. Prepare design plans showing details of drywell design and drainage design, including one or a combination of pre-approved technologies described in subsections (D)(1) and (2) designed to remove, intercept, and collect any pollutant that may be present at the operation with the potential to reach the drywell.
2. For an existing drywell, an applicant that cannot meet the design requirements in subsections (C)(1)(d) and (e) shall provide the Department with the date of drywell construction, the depth of the drywell borehole and injection pipe, the distance from the drywell to the nearest water supply well and from the drywell to the underground storage tank, and the depth to the groundwater from the bottom of the drywell injection pipe.

D. Flow control and pretreatment. A permittee shall ensure that motor fuels and other hazardous substances are not discharged to the subsurface. A permittee may use any of the following flow control or pretreatment technologies:

1. Flow control. The permittee shall ensure that motor fuel and hazardous substance spills are removed before allowing stormwater to enter the drywell.
   a. Normally closed manual or automatic valve. The permittee shall leave a normally closed valve in a closed position except when stormwater is allowed to enter the drywell;
   b. Raised drywell inlet. The permittee shall:
      i. Raise the drywell inlet at least six inches above the bottom of the retention basin or other storage structure, or install a six-inch asphalt or concrete raised barrier encircling the drywell inlet to provide a non-draining storage capacity within the retention basin or storage structure for complete containment of a spill; and
      ii. Ensure that the storage capacity is at least 110 percent of the volume of the design storm event required by the local jurisdiction and the estimated volume of a potential motor fuel spill based on the facility's past incident reports or

incident reports for other facilities that are similar in design;

c. Magnetic mat or cap. The permittee shall ensure that the drywell inlet is sealed with a mat or cap at all times, except after rainfall or a storm event when the mat or cap is temporarily removed to allow stormwater to enter the drywell; and that the mat or cap is always used with a retention basin or other type of storage;

d. Primary sump, interceptor, or settling chamber. The permittee may use a primary sump, interceptor, or settling chamber only in combination with another flow control or pre-treatment technology.

i. The permittee shall remove motor fuel or hazardous substances from the sump, interceptor, or chamber before allowing stormwater to enter the drywell.

ii. The permittee shall install a settling chamber or sump and allow the suspended solids to settle before stormwater flows into a drywell; install the drywell injection pipe in a separate chamber and connect the sump, interceptor, or chamber to the drywell inlet by piping and valving to allow the stormwater to enter the drywell.

iii. The permittee may install fuel hydrocarbon detection sensors in the sump, interceptor, or settling chamber that use flow control to prevent fuel from discharging into the drywell;

2. Pretreatment. The permittee shall prevent the bypass of motor fuels and hazardous substances from the pretreatment system to the drywell during periods of high flow.

a. Catch basin inlet filter. The permittee shall:

i. Install a catch basin inlet filter to fit inside a catchment drain to prevent motor fuels and hazardous substances from entering the drywell,

ii. Ensure that a motor fuel spill or a spill during a high rainfall does not bypass the system and directly release to the drywell injection pipe, and

iii. Combine the catch basin inlet filter with a flow control technology to prevent contaminated stormwater from entering the drywell injection pipe;

b. Combined settling chamber and an oil/water separator.

i. The permittee shall install a system that incorporates a catch basin inlet, a settling chamber, and an oil/water separator.

ii. The permittee may incorporate a self-sealing mechanism, such as fuel hydrocarbon detection sensors that activate a valve to cut off flow to the drywell inlet.

c. Combined settling chamber and oil/water separator, and filter/adsorption. The permittee shall:

i. Allow for adequate collection and treatment capacity for solid and liquid separation; and

ii. Allow a minimum treated outflow from the system to the drywell inlet of 20 gallons per minute. If a higher outflow rate is anticipated, the applicant shall design a larger collection system with storage capacity.

d. Passive skimmer.

i. If a passive skimmer is used, the permittee shall install sufficient hydrocarbon adsorbent materials, such as pads and socks, or suspend the materials on top of the static water level in a sump or other catchment to absorb the entire volume of expected or potential spill.

ii. The permittee may use a passive skimmer only in combination with another flow control or pre-treatment technology.

E. Operation and maintenance. A permittee shall:

1. Operate the drywell only for the subsurface disposal of stormwater;
2. Remove or treat any motor fuel or hazardous substance spills;
3. Replace the adsorbent material in skimmers, if installed; when the adsorbent capacity is reached;
4. Maintain valves and associated piping;
5. Maintain magnetic caps and mats, if installed;
6. Remove sludge from the oil/water separator and replace the filtration or adsorption materials to maintain treatment capacity;
7. Remove sediment from the catch basin inlet filters and retention basins to maintain required storage capacity;
8. Remove accumulated sediment from the settling chamber annually or when 25 percent of the effective settling capacity is filled, whichever occurs first; and
9. Provide new employee training within one month of hire and annual employee training on how to maintain and operate flow control and pretreatment technology used in the drywell.

F. Inspection. A permittee shall:

1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers and in the flow control and treatment systems to ensure that the drywell is functioning properly; and
2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that it is functioning properly, make repairs, and perform maintenance as needed to restore proper function.

G. Recordkeeping. A permittee shall maintain, for at least 10 years, the following documents on-site or at the closest place of work and make the documents available to the Department upon request:

1. Documentation of drywell maintenance, inspections, employee training, and sampling activities;
2. A site plan showing the location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns and the location of floor drains or French drains that are plumbed to the drywell or are used to alter drainage patterns, water supply wells, monitor wells, underground storage tanks, and places where motor fuel and hazardous substances are used, stored, or loaded;
3. A design plan showing details of drywell design and drainage design, including one or a combination of the pre-approved flow control and pretreatment technologies;
4. An operations and maintenance manual that includes:
   a. Procedures to prevent and contain spills and minimize any discharge to the drywell and a list of actions and specific methods proposed for motor fuel and hazardous substance spills or leaks;
   b. Methods and procedures for inspection, operation, and maintenance activities;
   c. Procedures for spill response; and

d. A description of the employee training program for drywell inspections, operations, and maintenance;

5. Drywell sediment waste characterization and disposal manifest records for sediments removed during routine inspections and maintenance activities; and

6. Sampling plans, certified laboratory reports, and chain of custody forms for soil, sediment, and groundwater sampling associated with drywell site investigations.

H. Spills.

1. In the event of a spill, a permittee shall:
   a. Notify the Department within 24 hours of any spill of motor fuel or hazardous or toxic substances that enters into the drywell inlet;
   b. Contain, clean up, and dispose of, according to local, state, and federal requirements, any spill or leak of motor fuel or hazardous substance in the drywell drainage area and basin drainage area;
   c. If a pretreatment system is present, verify that treatment capacity has not been exceeded; and
   d. If the spill reaches the injection pipe, drill a soil boring within 5 feet of the drywell inlet chamber and sample in 5-foot increments from 5 feet below ground surface to a depth extending at least 10 feet below the base of the injection pipe to determine whether a soil remediation level or groundwater protection level has been exceeded in the subsurface. The permittee shall:
      i. Submit the results to the Department within 60 days of the date of the spill; and
      ii. Notify the Department if soil contamination at the facility, not related to the spill, is being addressed by an existing approved remedial action plan.
2. The Director may, based on the results of subsection (H)(1)(d), require the permittee to submit an application for clean closure or an individual Aquifer Protection Permit.

I. Closure and decommissioning requirements.

1. A permittee shall:
   a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;
   b. Remove sediments and any drainage component, such as standpipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;
   c. Remove the settling chamber;
   d. Backfill the settling chamber excavation to the land surface with clean silt, clay, or engineered material. A permittee shall not use materials containing hazardous substances in backfilling the drywell; and
   e. Mechanically compact the backfill.
2. Within 30 days of closure and decommissioning, the permittee shall submit a written verification to the Department that all material that contributed to a discharge has been removed and any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance has been eliminated to the greatest degree practical. The written verification shall specify:
   a. The reason for the closure;
   b. The Class V injection well inventory number or;
   c. The general permit reference number;
   d. The materials and methods used to close the drywell;
   e. The name of the contractor who performed the closure;
   f. The completion date;
   g. Any sampling data;
   h. Sump construction details, if a sump was constructed to replace the abandoned drywell; and
   i. Any other information necessary to verify that closure has been achieved.

Historical Note

New Section made by final rulemaking at 8 A.A.R. 4096, effective September 15, 2002 (Supp. 02-3). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-C305. 2.05 General Permit: Capacity, Management, Operation, and Maintenance of a Sewage Collection System

A. Definition. For purposes of this Section, "imminent and substantial threat to public health or the environment" means when:

1. The volume of a release is more than 2000 gallons; or
2. The volume of a release is more than 50 gallons but less than 2000 gallons and any one of the following apply:
   a. The release entered onto a recognized public area and members of the public were present during the release or before the release was mitigated;
   b. The release occurred on a public or private street and pedestrians were at risk of being splashed by vehicles during the release or before the release was mitigated;
   c. The release entered a perennial stream, an intermittent stream during a time of flow, a waterbody other than an ephemeral stream, a normally dry detention or sedimentation basin, or a drywell;
   d. The release occurred within an occupied building due to a condition in the permitted sewage collection system; or
   e. The release occurred within 100 feet of a school or a public or private drinking water supply well.

B. A 2.05 General Permit allows a permittee to manage, operate, and maintain a sewage collection system under the terms of a CMOM Plan that complies with subsection (D). The Department considers a sewage collection system operating in compliance with an AZPDES permit that incorporates provisions for capacity, management, operation, and maintenance of the system to comply with the provisions of the 2.05 General Permit regardless of whether a Notice of Intent to Discharge for the system was submitted to the Department.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:

1. The name and ownership of any downstream sewage collection system and sewage treatment facility that receives sewage from the applicant's sewage collection system;
2. A map of the service area for which general permit coverage is sought, showing streets and sewage service boundaries for the sewage collection system;
3. A statement indicating that the CMOM Plan is in effect and the principal officer or ranking elected official of the sewage collection system has approved the plan; and
4. A statement indicating whether a local ordinance requires an on-site wastewater treatment facility to hookup to the sewage collection system.

D. CMOM Plan.
1. A permittee shall continuously implement a CMOM Plan for the sewage collection system under the permittee's ownership, management, or operational control. The CMOM Plan shall include information to comply with subsection (E)(1) and instructions on:
   a. How to properly manage, operate, and maintain all parts of the sewage collection system that are owned or managed by the permittee or under the permittee's operational control, to meet the performance requirements in R18-9-E301(B);
   b. How to maintain sufficient capacity to convey the base flows and peak wet weather flow of a 10-year, 24-hour storm event for all parts of the collection system owned or managed by the permittee or under the permittee's operational control;
   c. All reasonable and prudent steps to minimize infiltration to the sewage collection system;
   d. All reasonable and prudent steps to stop all releases from the collection system owned or managed by the permittee or under the permittee's operational control; and
   e. The procedure for reporting releases described in subsection (F).
2. The permittee shall maintain and update the CMOM Plan for the duration of this general permit and make it available for Department and public review.
3. If the Department requests the CMOM Plan and upon review finds that the CMOM Plan is deficient, the Department shall:
   a. Notify the permittee in writing of the specific deficiency and the reason for the deficiency, and
   b. Establish a deadline of at least 60 days to allow the permittee to correct the deficiency and submit the amended provision to the Department for approval.

E. Sewage release response determination. If the sewage collection system releases sewage, the Director shall consider any of the following factors in determining compliance:
1. Sufficiency of the CMOM Plan.
   a. The level of detail provided by the CMOM Plan is appropriate for the size, complexity, and age of the system;
   b. The level of detail provided by the CMOM Plan is appropriate considering geographic, climatic, and hydrological factors that may influence the sewage collection system;
   c. The CMOM Plan provides schedules for the periodic preventative maintenance of the sewage collection system, including cleaning of all reaches of the sewage collection system below a specified pipe diameter.
      i. The CMOM Plan may allow inspection of sewer lines by Closed Circuit Television (CCTV) and postponement of cleaning to the next scheduled cleaning cycle if the CCTV inspection indicated that cleaning of a reach of the sewer is not needed.
      ii. The CMOM Plan may specify inspection and cleaning schedules that differ according to pipe diameter or other characteristics of the sewer;
   d. The CMOM Plan identifies components of the sewage collection system that have insufficient capacity to convey, when properly maintained, the peak wet weather flow of a 10-year, 24-hour storm event. For those identified components, a capital improvement plan exists for achieving sufficient wet weather flow capacity within ten years of the effective date of permit coverage;
   e. The CMOM Plan includes an overflow emergency response plan appropriate to the size, complexity, and age of the sewage collection system considering geographic, climatic, and hydrological factors that may influence the system;
   f. The CMOM Plan establishes a procedure to investigate and enforce against any commercial or industrial entity whose flows to the sewage collection system have caused or contributed to a release;
   g. The CMOM Plan adequately addresses management of flows from upstream sewage collection systems not under the ownership, management, or operational control of the permittee; or
   h. Any other factor necessary to determine if the CMOM Plan is sufficient;
2. Compliance with the CMOM Plan.
   a. The permittee's response to releases as established in the overflow emergency response plan, including whether:
      i. Maintenance staff responds to and arrive at the release within the time period specified in the plan;
      ii. Maintenance staff follow all written procedures to remove the cause of the release;
      iii. Maintenance staff contain, recover, clean up, disinfect, and otherwise mitigate the release of sewage; and
      iv. Required notifications to the Department, public health agencies, drinking water suppliers, and the public are provided;
   b. The permittee's activities and timeliness in:
      i. Implementing specified periodic preventative maintenance measures;
      ii. Implementing the capital improvement plan; and
      iii. Investigating and enforcing against an upstream sewage collection system, not under the ownership and operational control of the permittee, if those systems are impediments to the proper management of flows in the permittee's sewage collection system; or
   c. Any other factor necessary to determine CMOM Plan compliance;
3. Compliance with the reporting requirements in subsection (F) and the public notice requirements in subsection (G); or
4. The release substantially endangers public health or the environment.

F. Reporting requirements.
1. Sewage releases.
   a. A permittee shall report to the Department, by telephone, facsimile, or on the applicable notification form on the Department's Internet web site, any release that is an imminent and substantial threat to public health or the environment as soon as practical, but no later than 24 hours of becoming aware of the release.
   b. A permittee shall submit a report to the Department within five business days after becoming aware of a release that is an imminent and substantial threat to

public health or the environment. The report shall include:
i. The location of the release;
ii. The sewage collection system component from which the release occurred;
iii. The date and time the release began, was stopped, and when mitigation efforts were completed;
iv. The estimated number of persons exposed to the release, the estimated volume of sewage released, the reason the release is considered an imminent and substantial threat to public health or the environment if the volume is 2000 gallons or less, and where the release flowed;
v. The efforts made by the permittee to stop, contain, and clean up the released material;
vi. The amount and type of disinfectant applied to mitigate any associated public health or environmental risk; and
vii. The cause of the release or effort made to determine the cause and any effort made to help prevent a future reoccurrence.

2. Annual report. The permittee shall:
a. Submit an annual report to the Department postmarked no later than March 1. The report shall:
i. Tabulate all releases of more than 50 gallons from the permitted sewage collection system;
ii. Provide the date of any release that is an imminent and substantial threat to public health or the environment; and
iii. For other reportable releases under subsection (F)(2)(a)(i), provide the information in subsection (F)(1)(b);
b. Provide an amended map of the service area boundaries if, during the calendar year, any area was removed from the service area or if any area was added to the service area that the permittee wishes to include under the 2.05 General Permit and associated CMOM Plan.

G. Public notice. The permittee shall:
1. Post a notice, in a format approved by the Department, at any location where there were more than three reportable releases under subsection (F)(2)(a) from the sewage collection system during any 12-month period,
2. Include within the notice a warning that identified the releases or potential releases at the location and potential health hazards from any release,
3. Post the notice at a place where the public is likely to come in contact with the release, and
4. Maintain the postings until no releases from the location are reported for at least 12 months from the last release and the permittee followed all actions specified in the CMOM Plan to prevent releases at that location during the period.

Historical Note

New Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-C306. 2.06 General Permit: Fish Hatchery Discharge to a Perennial Surface Water

A. A 2.06 General Permit allows a fish hatchery to discharge to a perennial surface water if Aquifer Water Quality Standards are met at the point of discharge and the fish hatchery is operating under a valid AZPDES permit.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall provide:
1. The applicable AZPDES permit number;
2. A description of the facility; and
3. A laboratory report characterizing the wastewater discharge, including the analytical results for all numeric Aquifer Water Quality Standards under R18-11-406.

C. Design and operational requirements. An applicant shall:
1. Collect a representative sample of the discharge to demonstrate compliance with all numeric Aquifer Water Quality Standards and make the results available to the Department upon request, and
2. Maintain a record of the average and daily flow rates and make it available to the Department upon request.

Historical Note

New Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

A. A 3.01 General Permit allows a lined surface impoundment and a lined secondary containment structure. A permittee shall:
1. Ensure that inflow to the lined surface impoundment or lined secondary containment structure does not contain organic pollutants identified in A.R.S. § 49-243(I);
2. Ensure that inflow to the lined surface impoundment or lined secondary containment structure is from one or more of the following sources:
a. Evaporative cooler overflow, condensate from a refrigeration unit, or swimming pool filter backwash;
b. Wastewater that does not contain sewage, temporarily stored for short periods of time due to process upsets or rainfall events, provided the wastewater is promptly removed from the facility as required under subsection (D)(5). Facilities that continually contain wastewater as a normal function of facility operations are not covered under this general permit;
c. Stormwater runoff that is not permitted under A.R.S. § 49-245.01 because the facility does not receive solely stormwater or because the runoff is regulated but not considered stormwater under the Clean Water Act;
d. Emergency fire event water;
e. Wastewater from air pollution control devices at asphalt plants if the wastewater is routed through a sedimentation trap or sump and an oil/water separator before discharge;
f. Non-contact cooling tower blowdown and non-contact cooling water, except discharges from electric generating stations with more than 100 megawatts generating capacity;
g. Boiler blowdown;
h. Wastewater derived from a potable water treatment system, including clarification sludge, filtration backwash, lime and lime-softening sludge, ion exchange backwash, and reverse osmosis spent waste;
i. Wastewater from food washing;
j. Heat exchanger return water;
k. Wastewater from industrial laundries;

l. Hydrostatic test water from a pipeline, tank, or appurtenance previously used for transmission of fluid;
m. Wastewater treated through an oil/water separator before discharge; and
n. Cooling water or wastewater from food processing.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A listing and description of all sources of inflow;
2. A representative chemical analysis of each expected source of inflow. If a sample is not available before facility construction, a permittee shall provide the chemical analysis of each inflow to the Department within 60 days of each inflow to the facility;
3. A narrative description of how the conditions of this general permit are satisfied. The narrative shall include a Quality Assurance/Quality Control program for liner installation, impoundment maintenance and repair, and impoundment operational procedures; and
4. A contingency plan that specifies actions proposed in case of an accidental release from the facility, overtopping of the impoundment, breach of the berm, or unauthorized inflows into the impoundment or containment structure.

C. Design and installation requirements. An applicant shall:
1. Design and construct surface water controls to:
   a. Ensure that the impoundment or secondary containment structure maintains, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event. The facility shall maintain at least 2 feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment and meteorologic and other site-specific factors; and
   b. Direct any surface water run-on from the 100-year 24-hour storm event around the facility if not intended for capture by facility;
2. Ensure that the facility design accommodates any significant geologic hazard, addressing static and seismic stability. The applicant shall document any design adjustments made for this reason in the Notice of Intent to Discharge;
3. Ensure that site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading, and embankment and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound; and
4. Comply with the following impoundment lining requirements:
   a. If a synthetic liner is used, ensure that the liner is at least a 30-mil geomembrane liner or a 60-mil liner if High Density Polyethylene, or an alternative, that the liner's calculated seepage rate is less than 550 gallons per acre per day, and:
      i. Anchor the liner by securing it in an engineered anchor trench;
      ii. Ensure that the liner is ultraviolet resistant if it is regularly exposed to sunlight; and
      iii. Ensure that the liner is constructed of a material that is chemically compatible with the wastewater or impounded solution and is not affected by corrosion or degradation;
   b. If a soil liner is used:
      i. Ensure that it resists swelling, shrinkage, and cracking and that the liner's calculated seepage rate is less than 550 gallons per acre per day;
      ii. Ensure that the soil is at least 1-foot thick and compacted to a uniform density of 95 percent to meet the "Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft^3), D698-00ae1," (2000) published by the American Society for Testing and Materials. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; and
      iii. Upon installation, protect the soil liner to prevent desiccation; and
   c. For new facilities, develop and implement a construction Quality Assurance/Quality Control program that addresses site and subgrade preparation, inspection procedures, field testing, laboratory testing, and final inspection after construction of the liner to ensure functional integrity.

D. Operational requirements. A permittee shall:
1. Maintain sufficient freeboard to manage the 100-year, 24-hour storm event including at least 2 feet of freeboard under normal operating conditions. Management of the 100-year, 24-hour storm event may be through design, pumping, or a combination of both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity of the liner and the design capacity of the impoundment;
3. Perform and document a visual inspection for damage to the liner and for accumulation of residual material at least monthly. The operator shall conduct an inspection within 72 hours after the facility receives a significant volume of stormwater inflow;
4. Repair damage to the liner by following the Quality Assurance/Quality Control Plan required under subsection (B)(3); and
5. Remove all inflow from the impoundment as soon as practical, but no later than 60 days after a temporary event, for facilities designed to contain inflow only for temporary events, such as process upsets.

E. Recordkeeping. A permittee shall maintain at the site, the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
3. Capacity design criteria;
4. A list of standard operating procedures;
5. The construction Quality Assurance/Quality Control program documentation; and
6. Records of any inflow into the impoundment other than those permitted by this Section.

F. Reporting requirements.

1. If the liner leaks, as evidenced by a drop in water level not attributable to evaporation, or if the berm breaches or an impoundment is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4).

G. Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:

1. Remove liquids and any solid residue on the liner and dispose appropriately;
2. Inspect the liner for evidence of holes, tears, or defective seams that could have leaked;
3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall define the lateral and vertical extent of contamination and, within 60 days of the exceedance, notify the Department and submit an action plan for achieving clean closure for the Department's approval before implementing the plan;
4. If there is no evidence of holes, tears, or defective seams that could have leaked:
   a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
   c. Grade the facility to prevent the impoundment of water; and
5. Notify the Department within 60 days following closure that the action plan was implemented and the closure is complete.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

A. A 3.02 General Permit allows filtration backwash and discharges obtained from sedimentation and coagulation in the water treatment process from facilities that treat water for industrial process or potable uses. The permittee shall ensure that:

1. Liquid fraction. The discharge meets:
   a. All numeric Aquifer Water Quality Standards for inorganic chemicals, organic chemicals, and pesticides established in A.A.C. R18-11-406(B) through (D);
   b. The discharge meets one of the following criteria for microbiological contaminants:
      i. Either the concentration of fecal coliform organisms is not more than 2/100 ml or the concentration of *E. coli* bacteria is not more than 1/100 ml, or
      ii. Either the concentration of fecal coliform organisms is less than 200/100 ml or the concentration of *E. coli* bacteria is less than 126/100 ml if the average daily flow processed by the water treatment facility is less than 250,000 gallons; and
2. Solid Fraction. The solid material in the discharge qualifies as inert material, as defined in A.R.S. § 49-201(22).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:

1. A characterization of the discharge, including a representative chemical and biological analysis of expected discharges and all source waters; and
2. The design capacity of any impoundment covered by this general permit.

C. Impoundment design and siting requirements. An applicant shall:

1. Ensure that the depth to the static groundwater table is greater than 20 feet;
2. Not locate the area of discharge immediately above karstic or fractured bedrock, unless the discharge meets the microbial limits specified in subsection (A)(1)(b)(i);
3. Maintain a minimum horizontal setback of 100 feet between the facility and any water supply well;
4. Design and construct an impoundment to maintain, using design volume or mechanical systems, normal operating volumes and any inflow from the 100-year, 24-hour storm event. The applicant shall:
   a. Divert any surface water run-on from the 100-year, 24-hour storm event around the facility if not intended for capture by facility design; and
   b. Design the facility to maintain 2 feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering meteorological factors, the size of the impoundment, and other site-specific factors; or
   c. Discharge to surface water under the conditions of an AZPDES permit; and
5. Manage off-site disposal of sludge according to A.R.S. Title 49, Chapter 4.

D. Operational requirements.

1. Inorganic chemical, organic chemical, and pesticide monitoring.
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A).
   b. If the concentration of any pollutant exceeds the numeric Aquifer Water Quality Standard, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency for that pollutant to quarterly.
   c. If, in the quarterly sampling, the condition in subsection (D)(1)(b) continues for two consecutive quarters, the permittee shall submit an application for an individual permit.
2. Microbiological contaminant monitoring.
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(1)(b).
   b. If the concentration of any pollutant exceeds the limits established in subsection (A)(1)(b), the permittee

shall submit a report to the Department with a proposal for mitigation and increase monitoring frequency for that pollutant to monthly.

c. If, in the monthly sampling, the condition in subsection (D)(2)(b) continues for three consecutive months, the permittee shall submit an application for an individual permit.

E. Recordkeeping. A permittee shall maintain at the site, the following information, if applicable for the disposal method, for at least 10 years, and make it available to the Department upon request:

1. Construction drawings and as-built plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
3. Water quality data collected under subsection (D);
4. Standard operating procedures; and
5. Records of any discharge other than those identified under subsection (B).

F. Reporting requirements. The permittee shall:

1. Report unauthorized flows into the impoundment to the Department within five days of discovery, and
2. Submit the report required in subsections (D)(1)(b) or (2)(b) within 30 days of receiving the analytical results.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

A. A 3.03 General Permit allows a facility to discharge water from washing vehicle exteriors and vehicle equipment. The 3.03 General Permit does not authorize:

1. Discharge water that typically results from the washing of vehicle engines unless the discharge is to a lined surface impoundment;
2. Direct discharges of sanitary sewage, vehicle lubricating oils, antifreeze, gasoline, paints, varnishes, solvents, pesticides, or fertilizers;
3. Discharges resulting from washing the interior of vessels used to transport fuel products or chemicals, or washing equipment contaminated with fuel products or chemicals; or
4. Discharges resulting from washing the interior of vehicles used to transport mining concentrates that originate from the same mine site, unless the discharge is to a lined surface impoundment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a narrative description of the facility and a design of the disposal system and wash operations.

C. Design, installation, and testing requirements. An applicant shall:

1. Design and construct the wash pad:
   a. To drain and route wash water to a sump or similar sediment-settling structure and an oil/water separator or a comparable pretreatment technology;
   b. Of concrete or material chemically compatible with the wash water and its constituents; and
   c. To support the maximum weight of the vehicle or equipment being washed with an appropriate safety factor;
2. Not use unlined ditches or natural channels to convey wash water;
3. Ensure that a surface impoundment meets the requirements in R18-9-D301(C)(1) through (3). The applicant shall ensure that berms or dikes at the impoundment can withstand wave action erosion and are compacted to a uniform density not less than 95 percent;
4. Ensure that a surface impoundment required for wash water described in subsection (A)(1) meets the design and installation requirements in R18-9-D301(C);
5. If wash water is received by an unlined surface impoundment or engineered subsurface disposal system, the applicant shall:
   a. Ensure that the annual daily average flow is less than 3000 gallons per day;
   b. Maintain a minimum horizontal setback of 100 feet between the impoundment or subsurface disposal system and any water supply well;
   c. Ensure that the bottom of the surface impoundment or subsurface disposal system is at least 50 feet above the static groundwater level and the intervening material does not consist of karstic or fractured bedrock;
   d. Ensure that the wash water receives primary treatment before discharge through, at a minimum, a sump or similar structure for settling sediments or solids and an oil/water separator or a comparable pretreatment technology designed to reduce oil and grease in the wastewater to 15 mg/l or less;
   e. Withdraw the separated oil from the oil/water separator using equipment such as adjustable skimmers, automatic pump-out systems, or level sensing systems to signal manual pump-out; and
   f. If a subsurface disposal system is used, design the system to prevent surfacing of the wash water.

D. Operational requirements. The permittee shall:

1. Inspect the oil/water separator before operation to ensure that there are no leaks and that the oil/water separator is in operable condition;
2. Inspect the entire facility at least quarterly. The inspection shall, at a minimum, consist of a visual examination of the wash pad, the sump or similar structure, the oil/water separator, and all surface impoundments;
3. Visually inspect each surface impoundment at least monthly, to ensure the volume of wash water is maintained within the design capacity and freeboard limitation;
4. Repair damage to the integrity of the wash pad or impoundment liner as soon as practical;
5. Maintain the oil/water separator to achieve the operational performance of the separator;
6. Remove accumulated sediments in all surface impoundments to maintain design capacity; and
7. Use best management practices to minimize the introduction of chemicals not typically associated with the wash operations. Only biodegradable surfactant or soaps are allowed. The permittee shall not use products that contain chemicals in concentrations likely to cause a violation of an Aquifer Water Quality Standard at the applicable point of compliance.

E. Monitoring requirements.

1. If wash water is discharged to an unlined surface impoundment or other area for subsurface disposal, the permittee shall monitor the wash water quarterly at the point of discharge for pH and for the presence of C_{10} through C_{32} hydrocarbons using a Department of Health Services certified method.
2. If pH is not between 6.0 and 9.0 or the concentration of C_{10} through C_{32} hydrocarbons exceeds 50 mg/l, the permittee shall, within 30 days of the monitorings, submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency to monthly.
3. If the condition in subsection (E)(2) persists for three consecutive months, the permittee shall submit, within 90 days, an application for an individual permit.

F. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure; and
3. The Material Safety Data Sheets for the chemicals used in the wash operations and any required monitoring results.

G. Closure requirements. A permittee shall comply with the closure requirements specified in R18-9-D301(G) if a liner has been used. If no liner is used the permittee shall remove and appropriately dispose of any liquids and grade the facility to prevent impoundment of water.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-D304. 3.04 General Permit: Non-Stormwater Impoundments at Mining Sites

A. A 3.04 General Permit allows discharges to lined surface impoundments, lined secondary containment structures, and associated lined conveyance systems at mining sites.
1. The following discharges are allowed under the 3.04 General Permit:
   a. Seepage from tailing impoundments, unleached rock piles, or process areas;
   b. Process solution temporarily stored for short periods of time due to process upsets or rainfall, provided the solution is promptly removed from the facility as required under subsection (D);
   c. Stormwater runoff not permitted under A.R.S. § 49-245.01 because the facility does not receive solely stormwater or because the runoff is regulated but not considered stormwater under the Clean Water Act; and
   d. Wash water specific to sand and gravel operations not covered by R18-9-B301(A).
2. Facilities that continually contain process solution as a normal function of facility operations are not eligible for coverage under the 3.04 General Permit. If a normal process solution contains a pollutant regulated under A.R.S. § 49-243(I) the 3.04 General Permit does not apply if the pollutant will compromise the integrity of the liner.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A description of the sources of inflow to the facility. An applicant shall include a representative chemical analysis of expected sources of inflow to the facility unless a sample is not available, before facility construction, in which case the applicant shall provide a chemical analysis of solution present in the facility to the Department within 90 days after the solution first enters the facility;
2. Documentation demonstrating that the facility design and operation under subsections (C) and (D) have been reviewed by a mining engineer or an Arizona-registered professional engineer before submission to the Department; and
3. A contingency plan that specifies actions proposed in case of an accidental release from the facility, overtopping of the impoundment, breach of the berm, or unauthorized inflows into the impoundment or containment structure.

C. Design, construction, and installation requirements. An applicant shall:
1. Design and construct the impoundment or secondary containment structure as specified under R18-9-D301(C)(1);
2. Ensure that conveyance systems are capable of handling the peak flow from the 100-year storm;
3. Construct the liner as specified in R18-9-D301(C)(4)(a);
4. Develop and implement a Quality Assurance/Quality Control program that meets or exceeds the liner manufacturer's guidelines. The program shall address site and subgrade preparation, inspection procedures, field testing, laboratory testing, repair of seams during installation, and final inspection of the completed liner for functional integrity;
5. If the facility is located in the 100-year flood plain, design the facility so it is protected from damage or flooding as a result of a 100-year, 24-hour storm event;
6. Design and manage the facility so groundwater does not come into contact with the liner;
7. Ensure that the facility design addresses any significant geologic hazard relating to static and seismic stability. The applicant shall document any design adjustments made for this reason in the Notice of Intent to Discharge;
8. Ensure that the site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading, and embankment and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
9. Ensure that the liner is anchored by being secured in an engineered anchor trench. If regularly exposed to sunlight, the applicant shall ensure that the liner is ultraviolet resistant; and
10. Use compacted clay subgrade in areas with shallow groundwater conditions.

D. Operational requirements. The permittee shall:
1. Maintain the freeboard required in subsection (C)(1) through design, pumping, or both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity of the liner and the design capacity of the impoundment;
3. Perform and document a visual inspection for cracks, tears, perforations and residual build-up at least monthly. The operator shall conduct and document an inspection after the facility receives significant volumes of stormwater inflow;
4. Report cracks, tears, and perforations in the liner to the Department, and repair them as soon as practical, but no

later than 60 days under normal operating conditions, after discovery of the crack, tear, or perforation;
5. For facilities that temporarily contain a process solution due to process upsets, remove the process solution from the facility as soon as practical, but no later than 60 days after cessation of the upset; and
6. For facilities that temporarily contain a process solution due to rainfall, remove the process solution from the facility as soon as practical.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results and facility closure;
3. Capacity design criteria;
4. A list of standard operating procedures;
5. The Quality Assurance/Quality Control program required under subsection (C)(4); and
6. Records of any unauthorized flows into the impoundment.

F. Reporting requirements.
1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3).

G. Closure requirements.
1. The permittee shall notify the Department of the intent to close the facility permanently.
2. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
   a. Remove liquids and any solid residue on the liner and dispose appropriately;
   b. Inspect the liner for evidence of holes, tears, or defective seams that could have leaked;
   c. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall, within 60 days notify the Department and submit an action plan for the Department's approval before implementing the plan;
   d. If there is no evidence of holes, tears, or defective seams that could have leaked:
      i. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
      ii. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
      iii. Grade the facility to prevent the impoundment of water; and
3. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-D305. 3.05 General Permit: Disposal Wetlands

A. A 3.05 General Permit allows discharges of reclaimed water into constructed or natural wetlands, including waters of the United States, waters of the state, and riparian areas, for disposal. This general permit does not apply if the purpose of the wetlands is to provide treatment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the name and individual permit number of the facility providing the reclaimed water.

C. Design requirements. An applicant shall:
1. Ensure that the reclaimed water released into the wetland meets numeric and narrative Aquifer Water Quality Standards for all parameters except for coliform bacteria and is Class A+ reclaimed water. A+ reclaimed water is wastewater that has undergone secondary treatment established under R18-9-B204(B)(1), filtration, and meets a total nitrogen concentration under R18-9-B204(B)(3) and fecal coliform limits under R18-9-B204(B)(4);
2. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;
3. Post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER. DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol; and
4. Ensure that wetland siting is consistent with local zoning and land use requirements.

D. Operational requirements.
1. A permittee shall manage the wetland to minimize vector problems.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the wetland footprint, point of inflow, stormwater drainage, and placement of vegetation;
   b. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
   c. Management of visitation and use of the wetlands by the public;
   d. A management plan for vector control;
   e. A plan or criteria for enhancing or supplementing of wetland vegetation; and
   f. Management of shallow groundwater conditions on existing on-site wastewater treatment facilities.
3. The permittee shall perform quarterly inspections to review bank integrity, erosion evidence, the condition of signage and vegetation, and correct any problem noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall, by January 30, provide the Department in writing with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

A. A 3.06 General Permit allows the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a closed facility.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a design, including information on the quality of the influent, the treatment process to be used, the expected quality of the wastewater, and the nutrients and other constituents that will indicate wetland performance.

C. Design, construction, and installation. An applicant shall:
1. Ensure that:
   a. Water released into the treatment wetland is compatible with construction materials and vegetation;
   b. Water released from the treatment wetland:
      i. Meets numeric Aquifer Water Quality Standards,
      ii. Has a pH between 6.0 and 9.0, and
      iii. Has a sulfate concentration less than 1000 mg/l; and
   c. Water released from the treatment wetland complies with and is released under an individual permit and an AZPDES Permit, if required;
2. Construct the treatment wetland with a liner, using a low-hydraulic conductivity synthetic liner, site-specific liner, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
   a. Ensure that, if a synthetic liner is used, such as geomembrane, the liner is underlain by at least 6 inches of prepared and compacted subgrade;
   b. Anchor the liner along the perimeter of the treatment wetland; and
   c. Manage the plants in the treatment wetland to prevent species with root penetration that impairs liner performance;
3. Design the treatment wetland for optimum:
   a. Sizing appropriate for the anticipated treatment,
   b. Cell configuration,
   c. Vegetative species composition, and
   d. Berm configuration;
4. Construct and locate the treatment wetland so that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event; and
   b. Operates properly during a 25-year, 24-hour storm event;
5. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table; and
6. If public access to the treatment wetland is anticipated or encouraged, post signs at points of access and every 250 feet along the perimeter of the treatment wetland stating, “CAUTION. THESE WETLANDS CONTAIN MINE DRAINAGE WATER. DO NOT DRINK.” The permittee shall ensure that the signs are in English and Spanish, or in English with inclusion of the international “do not drink” symbol.

D. Operational requirements.
1. The permittee shall monitor the water leaving the treatment wetlands at least quarterly for the standards specified in subsection (C)(1)(b). Monitoring shall include nutrients or other constituents used as indicators of treatment wetland performance.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the treatment wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the treatment wetland footprint, point of inflow, stormwater drainage, and placement of vegetation;
   b. A contingency plan to address problems, including treatment performance, wash-out and vegetation die-off, and a plan to apply for an individual permit if the treatment wetland is unable to achieve the treatment standards in subsection (C)(1)(b) on a continued basis;
   c. Management of flows into and through the treatment wetland to minimize erosion and damage to vegetation;
   d. A description of the measures for restricting access to the treatment wetlands by the public;
   e. A management plan for vector control; and
   f. A plan or criteria for enhancing or supplementing treatment wetland vegetation.
3. The permittee shall perform quarterly inspections to review the bank and liner integrity, erosion evidence, and the condition of signage and vegetation, and correct any problems noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements.
1. If preliminary laboratory results indicate that the quality of the water leaving the treatment wetlands does not meet the standards specified in subsection (C)(1)(b), the permittee may request that the laboratory re-analyze the sample before reporting the results to the Department. The permittee shall:
   a. Conduct verification sampling within 15 days of receiving final laboratory results,
   b. Conduct verification sampling only for parameters that are present in concentrations greater than the standards specified in subsection (C)(1)(b), and
   c. Notify the Department in writing within five days of receiving final laboratory results.

2. If the final laboratory result confirms that the quality of the water leaving the treatment wetlands does not meet the standards in subsection (C)(1)(b), the permittee shall implement the contingency plan required by subsection (D)(2)(b) and notify the Department that the plan is being implemented.
3. The permittee shall, by January 30, provide the Department in writing with an annual assessment of the biological condition of the treatment wetland, including the volume of inflow to the treatment wetland in the past year.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

A. A 3.07 General Permit allows constructed wetlands that receive with the intent to treat, discharges of reclaimed water that meet the secondary treatment level requirements specified in R18-9-B204(B)(1).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. The name and individual permit number of any facility that provides the reclaimed water to the treatment wetland;
2. The name and individual permit number of any facility that receives water released from the treatment wetland;
3. The design of the treatment wetland construction and management project, including information on the quality of the influent, the treatment process, and the expected quality of the wastewater;
4. A Best Management Practices Plan that includes:
   a. A site plan showing the treatment wetland footprint, point of inflow, stormwater drainage, and placement of vegetation;
   b. A contingency plan to address any problem, including treatment performance, wash-out, and vegetation die-off;
   c. A management plan for flows into and through the treatment wetland to minimize erosion and damage to vegetation;
   d. A description of the measures for restricting access to the treatment wetlands by the public;
   e. A management plan for vector control; and
   f. A plan or criteria for enhancing or supplementing treatment wetland vegetation.

C. Design requirements. An applicant shall:
1. Release water from the treatment wetland under an individual permit and an AZPDES permit, if required. The applicant shall release water from the treatment wetland only to a direct reuse site if the site is permitted to receive reclaimed water of the quality generated under the individual permit specified in subsection (B)(1);
2. Construct and locate the treatment wetland so that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event; and
   b. Operates properly during a 25-year, 24-hour storm event;
3. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table;
4. Maintain a minimum horizontal separation of 100 feet between a water supply well and the maximum wetted area of the treatment wetland;
5. Maintain the setbacks specified in R18-9-B201(I) for no noise, odor, or aesthetic controls between the property boundary at the site and the maximum wetted area of the treatment wetland;
6. Fence the treatment wetland area to prevent unauthorized access;
7. Post signs at points of access stating "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER, DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol;
8. Construct the treatment wetland with a liner using low hydraulic conductivity liner, site-specific liner, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
   a. Ensure that if a synthetic liner is used, such as geomembrane, the liner is underlain by at least 6 inches of prepared and compacted subgrade;
   b. Anchor the liner along the perimeter of the treatment wetland; and
   c. Manage the plants in the treatment wetland to prevent species with root penetration that impairs liner performance;
9. Calculate the size and depth of the treatment wetland so that the rate of flow allows adequate treatment detention time. The applicant shall design the treatment wetland with at least two parallel treatment cells to allow for efficient system operation and maintenance;
10. Ensure that the treatment wetland vegetation includes cattails, bulrush, common reed, or other species of plants with high pollutant treatment potential to achieve the intended water quality identified in subsection (B)(3); and
11. Ensure that construction and operation of the treatment wetlands is consistent with local zoning and land use requirements.

D. Operational requirements. The permittee shall:
1. Implement the Best Management Practices Plan approved under subsection (B);
2. Monitor wastewater leaving the treatment wetland to ensure that discharge water quality meets the expected wastewater quality specified in subsection (B)(3). The permittee shall ensure that analyses of wastewater samples are conducted by a laboratory certified by the Department of Health Services, following the Department's Quality Assurance/Quality Control requirements;
3. Follow the prescribed measures as required in the contingency plan under subsection (B)(4)(b) and submit a written report to the Department within five days if verification sampling demonstrates that an alert level or discharge limit is exceeded;
4. Inspect the treatment wetlands at least quarterly for bank and liner integrity, erosion evidence, and condition of signage and vegetation, and correct any problem discovered; and
5. Ensure that the treatment wetland is operated by a certified operator under 18 A.A.C. 5, Article 1.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall, by January 30, provide the Department in writing with an annual assessment of the biological condition of the treatment wetland including the volume of inflow to the treatment wetland in the past year.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

A. A 4.01 General Permit allows for construction and operation of a new sewage collection system or expansion of an existing sewage collection system involving new construction as follows:
1. A sewage collection system or portion of a sewage collection system that serves downstream from the point where the daily design flow is 3000 gallons per day based on Table 1, Unit Design Flows, except a gravity sewer line conveying sewage from a single building drain directly to an interceptor, collector sewer, lateral, or manhole regardless of daily design flow;
2. A sewage collection system that includes a manhole; or
3. A sewage collection system that includes a force main or lift station serving more than one dwelling.

B. Performance. An applicant shall design, construct, and operate a sewage collection system so that the sewage collection system:
1. Provides adequate wastewater flow capacity for the planned service area;
2. Minimizes sedimentation, blockage, and erosion through maintenance of proper flow velocities throughout the system;
3. Prevents releases of sewage to the land surface through appropriate sizing, capacities, and inflow and infiltration prevention measures throughout the system;
4. Protects water quality through minimization of exfiltration losses from the system;
5. Provides for adequate inspection, maintenance, testing, visibility, and accessibility;
6. Maintains system structural integrity; and
7. Minimizes septic conditions in the sewage collection system.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information:
1. A statement on a form approved by the Director, signed by the owner or operator of the sewage treatment facility that treats or processes the sewage from the proposed sewage collection system.
   a. The statement shall affirm that the additional volume of wastewater delivered to the facility by the proposed sewage collection system will not cause any flow or effluent quality limits of the individual permit for the facility to be exceeded.
   b. If the facility is classified as a groundwater protection permit facility under A.R.S. § 49-241.01(C), or if no flow or effluent limits are applicable, the statement shall affirm that the design flow of the facility will not be exceeded;
2. If the proposed sewage collection system delivers wastewater to a downstream sewage collection system under different ownership or control, a statement on a form approved by the Director, signed by the owner or operator of the downstream sewage collection system, affirming that the downstream system can maintain the performance required by subsection (B) when receiving the increased flows;
3. A general site plan showing the boundaries and key aspects of the project;
4. Construction quality drawings that provide overall details of the site and the engineered works comprising the project including:
   a. The plans and profiles for all sewer lines, manholes, force mains, depressed sewers, and lift stations with sufficient detail to allow Department verification of design and performance characteristics;
   b. Relevant cross sections showing construction details and elevations of key components of the sewage collection system to allow Department verification of design and performance characteristics, including the slope of each gravity sewer segment stated as a percentage; and
   c. Drainage features and controls, and erosion protection as applicable, for the components of the project; and
   d. Horizontal and vertical location of utilities within the area affected by the sewer line construction;
5. Documentation of design flows for significant components of the sewage collection system and the basis for calculating the design flows;
6. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. The applicant may submit the drawings in a Department-approved electronic format; and
7. Design documents, including plans, specifications, drawings, reports, and calculations that are signed, dated, and sealed by an Arizona-registered professional engineer. The designer shall use good engineering judgment by following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance.

D. Design requirements.
1. General Provisions. An applicant shall design and construct a new sewage collection system or an expansion of an existing sewage collection system involving new construction, according to the requirements of this general permit. An applicant shall:
   a. Base design flows for components of the system on unit flows specified in Table 1, Unit Design Flows.
   b. Design gravity sewer lines and all other sewage collection system components, including, manholes, force mains, lift stations, depressed sewers, and appurtenant devices and structures to accommodate maximum sewage flows as follows:
      i. Any point in a sewer main when flowing full can accommodate a peak wet weather flow calculated by multiplying the sum of the upstream sources of flow from Table 1, Unit Design Flows by a dry weather peaking factor based on upstream population, as tabulated below, and

adding a wet weather infiltration and inflow rate based on either a percentage of peak dry weather flow or a gallons per acre rate of flow;

Upstream Population	Dry Weather Peaking Factor
100	3.62
200	3.14
300	2.90
400	2.74
500	2.64
600	2.56
700	2.50
800	2.46
900	2.42
1000	2.38
1001 to 10,000	$PF = (6.330 \times p^{-0.231}) + 1.094$
10,001 to 100,000	$PF = (6.177 \times p^{-0.233}) + 1.128$
More than 100,000	$PF = (4.500 \times p^{-0.174}) + 0.945$
PF = Dry Weather Peaking Factor p = Upstream Population	

ii. For a lift station serving less than 600 single family dwelling units (d.u.), use either of the following methods to size the pumps for peak dry weather flow in gallons per minute and add an allowance for wet weather flow and infiltration:

(1) Peak dry weather flow = $17\ d.u.^{0.42}$, or

(2) Peak dry weather flow = $11.2\ (population)^{0.42}$

iii. If justified by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low-flow fixtures, hydrographs of actual flows, or other factors;

c. Use the "Uniform Standard Specifications for Public Works Construction" (revisions through 2004) and the "Uniform Standard Details for Public Works Construction" (revisions through 2004) published by the Maricopa Association of Governments, and the "Standard Specifications for Public Improvements," (2003 Edition), and "Standard Details for Public Improvements," (2003 Edition), published jointly by Pima County Wastewater Management and the City of Tucson, as the applicable design and construction criteria, unless the Department approves alternative design standards or specifications. An applicant in a county other than Maricopa and Pima shall use design and construction criteria from either the Maricopa Association of Governments or the Pima County Wastewater Management and the City of Tucson for the facility unless alternative criteria are designated by the Department.

i. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material.

ii. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or on the web at http://www.mag.maricopa.gov/archive/Newpages/on-line.htm; or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207, or on the web at http://www.pima.gov/wwm/stddet;

d. Ensure that sewage collection system components are separated from drinking water distribution system components as specified in 18 A.A.C. 5, Article 5;

e. Ensure that sewage collection system components are separated from reclaimed water system components as specified in 18 A.A.C. 9, Article 6; and

f. Request review and approval of an alternative to a design feature specified in this Section by following the requirements in R18-9-A312(G).

2. Gravity sewer lines. An applicant shall:

a. Ensure that any sewer line that runs between manholes, if not straight, is of constant horizontal curvature with a radius of curvature not less than 200 feet;

b. Cover each sewer line with at least 3 feet of earth cover meeting the requirements of subsection (D)(2)(h). The applicant shall:

i. Include at least one note specifying this requirement in construction plans;

ii. If site-specific limitations prevent 3 feet of earth cover, provide the maximum cover attainable, construct the sewer line of ductile iron pipe or other design of equivalent or greater tensile and compressive strength, and note the change on the construction plans; and

iii. Ensure that the design of the pipe and joints can withstand crushing or shearing from any expected static and live load to protect the structural integrity of the pipe. Construction plans shall note locations requiring these measures;

c. If sewer lines cross or are constructed in floodways;

i. Place the lines at least 2 feet below the level of the 100-year storm scour depth and calculated 100-year bed degradation and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection.

ii. If it is not possible to maintain the 2 feet of clearance specified in subsection (D)(2)(c)(i), using the process described in R18-9-A312(G), provide a design that ensures that the sewer line will withstand any lateral and vertical load for the scour and bed degradation conditions specified in subsection (D)(2)(c)(i);

iii. Ensure that sewer lines constructed in a floodway extend at least 10 feet beyond the boundary of the 100-year storm scouring;

iv. If a sewer line is constructed in a floodway and is longer than the applicable maximum manhole spacing distance in subsection (D)(3)(a), using the process described in R18-9-A312(G), provide a design that ensures the performance standards in subsection (B) are met; and

v. Note locations requiring these measures on the construction plans;

d. Ensure that each sewer line is 8 inches in diameter or larger except the first 400 feet of a dead end sewer

line with no potential for extension may be 6 inches in diameter if the design flow criteria specified in subsections (D)(1)(a) and (D)(1)(b) are met and the sewer line is installed with a slope sufficient to achieve a velocity of at least 3 feet per second when flowing full. If the line is extended, the applicant seeking the extension shall replace the entire length with larger pipe to accommodate the new design flow unless the applicant demonstrates with engineering calculations that using the existing 6-inch pipe will accommodate the design flow;

e. Design sewer lines with at least the minimum slope calculated from Manning's Formula using a coefficient of roughness of 0.013 and a sewage velocity of 2 feet per second when flowing full.
   i. An applicant may request a smaller minimum slope under R18-9-A312(G) if the smaller slope is justified by a quarterly program of inspections, flushings, and cleanings.
   ii. If a smaller minimum slope is requested, the applicant shall not specify a slope that is less than 50 percent of that calculated from Manning's formula using a coefficient of roughness of 0.013 and a sewage velocity of 2 feet per second.
   iii. The ratio of flow depth in the pipe to the diameter of the pipe shall not exceed 0.75 in peak dry weather flow conditions;

f. Design sewer lines to avoid a slope that creates a sewage velocity greater than 10 feet per second. The applicant shall construct any sewer line carrying a flow with a normal velocity of greater than 10 feet per second using ductile iron pipe or pipe with equivalent erosion resistance, and structurally reinforce the receiving manhole or sewer main;

g. Design and install sewer lines, connections, and fittings with materials that meet or exceed manufacturer's specifications consistent with this Chapter to:
   i. Limit inflows, infiltration, and exfiltration;
   ii. Resist corrosion in the ambient electrochemical environment;
   iii. Withstand anticipated static and live loads; and
   iv. Provide internal erosion protection;

h. Indicate trenching and bedding details applicable for each pipe material and size in the design plans. Unless the Department approved alternative design standards or specifications under subsection (D)(1)(c), the applicant shall place and bed the sewer lines in trenches following the specifications in "Trench Excavation, Backfilling, and Compaction" (Section 601) revised 2004, published by the Maricopa Association of Governments; and "Rigid Pipe Bedding for Sanitary Sewers" (WWM 104) revised July 2002, and "Flexible Pipe Bedding for Sanitary Sewers" (WWM 105) revised July 2002, published by Pima County Wastewater Management. This material is part of the material incorporated by reference in subsection (D)(1)(b).

i. Perform a deflection test of the total length of all sewer lines made of flexible materials to ensure that the installation meets or exceeds the manufacturer's recommendations and record the results;

j. Test each segment of the sewer line for leakage using the applicable method below and record the results:
   i. "Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, F1417-92(1998)," published by the American Society for Testing and Materials;
   ii. "Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method, C924-02 (2002)," published by the American Society for Testing and Materials;
   iii. "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines, C828-03 (2003)," published by the American Society for Testing and Materials;
   iv. "Standard Test Method for Hydrostatic Infiltration Testing of Vitrified Clay Pipe Lines, C1091-03a (2003)," published by the American Society for Testing Materials;
   v. "Standard Practice for Infiltration ion and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines, C969-02 (2002)," published by the American Society for Testing Material; or
   vi. "Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications, D2321-00 (2000)," published by the American Society for Testing Materials; or
   vii. The material listed in subsections (D)(2)(j)(i) through (vi) is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;

k. Test the total length of the sewer line for uniform slope by lamp lighting, remote camera or similar method approved by the Department, and record the results; and

l. Minimize the planting within the disturbed area of new sewage collection system construction of plant species having roots that are likely to reach and damage the sewer or impair the operation of the sewer or visual and vehicular access to any manhole.

3. Manholes.
   a. An applicant shall install manholes at all grade changes, size changes, alignment changes, sewer intersections, and at any location necessary to comply with the following spacing requirements:

Sewer Pipe Diameter (inches)	Maximum Manhole Spacing (feet)
Less than 8	400
8 to less than 18	500
18 to less than 36	600
36 to less than 60	800
60 or greater	1300

b. The Department shall allow greater manhole spacing if the applicant follows the procedure provided in R18-9-A312(G) and provides documentation showing the operator possesses or has available specialized sewer cleaning equipment suitable for the increased spacing.
c. The applicant shall ensure that manhole design is consistent with "Pre-cast Concrete Sewer Manhole" #420-1, revised January 1, 2004 and #420-2, revised January 1, 2001, "Offset Manhole for 8" – 30" Pipe" #421 (1998), and "Sewer Manhole and Cover Frame Adjustment" #422, revised January 1, 2001, published by the Maricopa Association of Governments; and "Manholes and Appurtenant Items" (WWM 201 through WWM 211, except WWM 204, 205, and 206), revised July 2002, published by Pima County Wastewater Management. This material is part of the material incorporated by reference in subsection (D)(1)(b).
d. The applicant shall not locate manholes in areas subject to more than incidental runoff from rain falling in the immediate vicinity unless the manhole cover assembly is designed to restrict or eliminate stormwater inflow.
e. The applicant shall test each manhole using one of the following test protocols:
    i. Watertightness testing by filling the manhole with water. The applicant shall ensure that the drop in water level following presoaking does not exceed 0.0034 of total manhole volume per hour;
    ii. Negative air pressure testing using the "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test, C1244-02e1 (2002)," published by the American Society for Testing and Materials. This material is incorporated by reference, does not include any later amendments or editions of the incorporated material and may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007, or obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or
    iii. Holiday testing of a lined manhole constructed with uncoated rebar using the "High-Voltage Electrical Inspection of Pipeline Coatings, RP0274-2004 (2004)," published by the National Association of Corrosion Engineers (NACE International). This material is incorporated by reference as modified below, does not include any later amendments or editions of the incorporated material and may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or obtained from NACE International, 1440 South Creek Drive, Houston, Texas 77084-4906. The following substitutions apply:
        (1) Where the word "metal" is used in the standard, use the word "surface" instead; and
        (2) Where the words "pipe" or "pipeline" are used, use the word "manhole" instead.
f. The applicant shall perform manhole testing under subsection (D)(3)(e) after installation of the manhole cone or top riser to verify watertightness integrity of the manhole from the top of the cone or riser down.
    i. Upon satisfactory test results, the applicant shall install the manhole ring and any spacers, complete the joints, and seal the manhole to a watertight condition.
    ii. If the applicant can install the manhole cone or top riser, spacers, and ring to final grade without disturbance or adjustment by later construction, the applicant may perform the testing from the top of the manhole ring on down.
g. The applicant shall locate a manhole to provide adequate visibility and vehicular maintenance accessibility following construction.

4. Force mains. An applicant may install a force main if it meets the following design, installation, and testing requirements. The applicant shall:
    a. Design force mains to maintain a minimum flow velocity of 3 feet per second and a maximum flow velocity of 7 feet per second. The applicant may design for sustained periods of flow above 7 feet per second, if the applicant justifies the design using the process specified in R18-9-A312(G);
    b. Ensure that force mains have the appropriate valves and controls required to prevent drainback to the lift station. If drainback is necessary during cold weather to prevent freezing, the control system may allow manual or automatic drainback;
    c. Incorporate air release valves or other appropriate components in force mains at all high points along the line to eliminate air accumulation. If engineering calculations provided by the applicant demonstrate that air will not accumulate in a given high point under typical flow conditions, the Department shall waive the requirement for an air release valve;
    d. Design restrained joints or thrust blocks on force mains to accommodate water hammer, surge control, and to prevent excessive movement of the force main. Submitted construction plans shall show restrained joint or thrust block locations and details;
    e. If a force main is proposed to discharge directly to a sewage treatment facility without entering a flow equalization basin, include in the Notice of Intent to Discharge a statement from the owner or operator of the sewage treatment facility that the design is acceptable;
    f. Design a force main to withstand a pressure of 50 pounds per square inch or more above the design working pressure for two hours and test upon completion to ensure no leakage;
    g. Supply flow to a force main using a lift station that meets the requirements of subsection (D)(5); and
    h. Ensure that force mains are designed to control odor.
5. Lift stations. An applicant shall:
    a. Secure a lift station to prevent tampering and affix on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least one warning sign that includes the 24-hour emergency phone number of the owner or operator of the collection system;

b. Protect lift stations from physical damage from a 100-year flood event. An applicant shall not construct a lift station in a floodway;
c. Lift station wet well design.
i. Ensure that the minimum wet well volume in gallons is 1/4 of the product of the minimum pump cycle time, in minutes, and the total pump capacity, in gallons per minute;
ii. Protect the wet well against corrosion to provide at least a 20-year operational life;
iii. Ensure that wet well volume does not allow the sewage retention time to exceed 30 minutes unless the sewage is aerated, chemicals are added to prevent or eliminate hydrogen sulfide formation, or adequate ventilation is provided. Notwithstanding these measures, the applicant shall not allow the septic condition of the sewage to adversely affect downstream collection systems or sewage treatment facility performance;
iv. Ensure that excessively high or low levels of sewage in the wet well trigger an audible or visible alarm at the wet well site and at the system control center;
v. Ensure that a wet well designed to accommodate more than 5000 gallons per day has a horizontal cross-sectional area of at least 20 square feet; and
vi. Ensure that lift stations are designed to prevent odor from emanating beyond the lift station site;
d. Equip a lift station wet well with at least two pumps. The applicant shall ensure that:
i. The pumps are capable of passing a 2.5-inch sphere or are grinder pumps;
ii. The lift station is capable of operating at design flow with any one pump out of service; and
iii. Piping, valves, and controls are arranged to allow independent operation of each pump;
e. Not use suction pumps if the sewage lift is more than 15 feet. The applicant shall ensure that other types of pumps are self-priming and that pump water brake horsepower is at least 0.00025 times the product of the required discharge, in gallons per minute, and the required total dynamic head, in feet; and
f. For lift stations receiving an average flow of more than 10,000 gallons per day, include a standby power source and redundant wastewater level controls in the lift station design that will provide immediate service and remain available for 24 hours per day if the main power source or controls fail.

6. Depressed sewers. An applicant shall:
a. Size the depressed sewer to attain a minimum velocity of 3 feet per second through all barrels of the depressed sewer when the flow equals or exceeds the design daily peak dry weather flow,
b. Design the depressed sewer to convey the sewage flow through at least two parallel pipes at least 6 inches in diameter,
c. Include an inlet and outlet structure at each end of the inverted sewer,
d. Design the depressed sewer so that the barrels are brought progressively into service as flow increases to its design value, and
e. Design the depressed sewer to minimize release of odors to the atmosphere.

E. Additional Discharge Authorization requirements. An applicant shall:
1. Supply a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that provides the following:
a. Confirmation that the project was completed in compliance with the requirements of this Chapter, as described in the plans and specifications corresponding to the Construction Authorization issued by the Director, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion;
b. As-built plans, if required, that are properly identified and numbered; and
c. Satisfactory field test results from deflection, leakage, and uniform slope testing;
2. Provide any other relevant information required by the Department to determine that the facility conforms to the terms of the 4.01 General Permit; and
3. Provide a signed certification on a form approved by the Department that:
a. Confirms that an operation and maintenance manual exists for the sewage collection system;
b. Confirms that the operation and maintenance manual addresses components of operation and maintenance specified on the certification form;
c. Provides the 24-hour emergency number of the owner or operator of the sewage collection system; and
d. Provides an address where the operation and maintenance manual is maintained and confirms that the manual is available for inspection at that address by the Department on request.

F. Operation and maintenance requirements. The permittee shall:
1. Operate the new sewage collection system or expansion of an existing sewage collection system involving new construction using the operation and maintenance manual certified by the owner or operator in subsection (E)(3), to meet the performance standards specified in subsection (B), unless the permittee is operating the sewage collection system under a CMOM Plan under the general permit established in R18-9-C305;
2. Ensure that the sewage collection system is operated according to the operator certification requirements in 18 A.A.C. 5, Article 1; and
3. For safety during operation and maintenance of lift station and other confined space components of the sewage collection system, follow all applicable state and federal confined space entry requirements.

G. Recordkeeping. A person owning or operating a facility permitted under this Section shall maintain the documents listed in subsection (E) for the life of the facility and make them available to the Department upon request.

H. Repairs.
1. A Notice of Intent to Discharge is not required for sewage collection system repairs. Repairs include work performed in response to deterioration or damage of existing structures, devices, and appurtenances with the intent to maintain or restore the system to its original design flow and operational characteristics. Repairs do not include changes in vertical or horizontal alignment.

2. Components used in the repair shall meet the design, installation, and operational requirements of this Section.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E302. 4.02 General Permit: Septic Tank with Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day Design Flow

A. A 4.02 General Permit allows for the construction and operation of a system with less than 3000 gallons per day design flow consisting of a septic tank dispensing wastewater to an approved means of disposal described in this Section. Only gravity flow of wastewater from the septic tank to the disposal works is authorized by this general permit.
1. The standard septic tank and disposal works design specified in the 4.02 General Permit serves sites where no site limitations are identified by the site investigation conducted under R18-9-A310.
2. If site conditions allow, this general permit authorizes the discharge of wastewater from a septic tank meeting the requirements of R18-9-A314 to one of the following disposal works:
   a. Trench,
   b. Bed,
   c. Chamber technology, or
   d. Seepage pit.

B. Performance. An applicant shall design a system consisting of a septic tank and one of the disposal works listed in subsection (A)(2) so that treated wastewater released to the native soil meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Design and installation requirements.
1. General provisions. In addition to the applicable requirements in R18-9-A312, the applicant shall:
   a. Ensure that the septic tank meets the requirements specified in R18-9-A314;
   b. Before placing aggregate or disposal pipe in a prepared excavation, remove all smeared or compacted surfaces from trenches by raking to a depth of 1 inch and removing loose material. The applicant shall:
      i. Place aggregate in the trench to the depth and grade specified in subsection (C)(2);
      ii. Place the drain pipe on aggregate and cover it with aggregate to the minimum depth specified in subsection (C)(2); and
      iii. Cover the aggregate with landscape filter material, geotextile, or similar porous material to prevent filling of voids with earth backfill;
   c. Use a grade board stake placed in the trench to the depth of the aggregate if the disposal pipe is constructed of drain tile or flexible pipe that will not maintain alignment without continuous support;
   d. Disposal pipe. If two or more disposal pipes are installed, install a distribution box approved by the Department of sufficient size to receive all lateral lines and flows at the head of each disposal works and:
      i. Ensure that the inverts of all outlets are level and the invert of the inlet is at least 1 inch above the outlets;
      ii. Design distribution boxes to ensure equal flow and install the boxes on a stable level surface such as a concrete slab or native or compacted soil; and
      iii. Protect concrete distribution boxes from corrosion by coating them with an appropriate bituminous coating, constructing the boxes with concrete that has a 15 to 18 percent fly ash content, or by using other equivalent means;
   e. Construct all lateral pipes running from a distribution box to the disposal works with watertight joints and ensure that multiple disposal laterals, wherever practical, are of uniform length;
   f. Lay pipe connections between the septic tank and a distribution box on natural ground or compact fill and construct the pipe connections with watertight joints;
   g. Construct steps within distribution line trenches or beds, if necessary, to maintain a level disposal pipe on sloping ground. The applicant shall construct the lines between each horizontal section with watertight joints and install them on natural or unfilled ground; and
   h. Ensure that a disposal works consisting of trenches, beds, chamber technology, or seepage pits is not paved over or covered by concrete or any material that can reduce or inhibit possible evaporation of wastewater through the soil to the land surface or oxygen transport to the soil absorption surfaces.
2. Trenches.
   a. The applicant shall calculate the trench absorption area as the total of the trench bottom area and the sum of both trench sidewall areas to a maximum depth of 48 inches below the bottom of the disposal pipe.
   b. The applicant shall ensure that trench bottoms and disposal pipe are level. The applicant shall calculate trench sizing from the soil absorption rate specified under R18-9-A312(D) and the design flow established in R18-9-A312(B).
   c. The following design criteria for trenches apply:

Trenches	Minimum	Maximum
1. Number of trenches	1 (2 are recommended)	No Maximum
2. Length of trench[1]	----	100 feet
3. Bottom width of trench	12 inches	36 inches
4. Trench absorption area (sq. ft. of absorption area per linear foot of trench)	No Minimum	11 sq. ft.
5. Depth of cover over aggregate surrounding disposal pipe	9 inches	24 inches[2]

6. Thickness of aggregate material over disposal pipe	2 inches	2 inches
7. Thickness of aggregate material under disposal pipe	12 inches	No Maximum
8. Slope of disposal pipe	Level	Level
9. Disposal pipe diameter	3 inches	4 inches
10. Spacing of trenches (measured between nearest sidewalls)	2 times effective depth[3] or five feet, whichever is greater	No Maximum

Notes:
[1] If unequal trench lengths are used, proportional distribution of wastewater is required.
[2] For more than 24 inches, Standard Dimensional Ratio 35 or equivalent strength pipe is required.
[3] The effective depth is the distance between the bottom of the disposal pipe and the bottom of the trench bed.

d. The applicant may substitute clean, durable, crushed, and washed recycled concrete for aggregate if noted in design documents and the trench absorption area calculation excludes the trench bottom.

3. Beds. An applicant shall:
   a. If a bed is installed, use the soil absorption rate specified in R18-9-A312(D) for "SAR, Bed. The applicant may, in computing the bed bottom absorption area, include the bed bottom and the perimeter sidewall area not more than 36 inches below the disposal pipe;
   b. Comply with the following design criteria for beds:

Gravity Beds	**Minimum**	**Maximum**
1. Number of disposal pipes	2	No Maximum
2. Length of bed	No Minimum	100 feet
3. Distance between disposal pipes	4 feet	6 feet
4. Spacing of beds measured between nearest sidewalls	2 times effective depth[1] or 5 feet, whichever is greater	No Maximum
5. Width of bed	10 feet	12 feet
6. Distance from disposal pipe to sidewall	3 feet	3 feet
7. Depth of cover over disposal pipe	9 inches	14 inches
8. Thickness of aggregate material under disposal pipe	12 inches	No Maximum
9. Thickness of aggregate material over disposal pipe	2 inches	2 inches
10. Slope of disposal pipe	Level	Level
11. Disposal pipe diameter	3 inches	4 inches

Note:
[1] The effective depth is the distance between the bottom of the disposal pipe and the bottom of the bed.

4. Chamber technology. An applicant shall:
   a. Calculate an effective chamber absorption area to size the disposal works area and determine the number of chambers needed. The effective absorption area of each chamber is calculated as follows:
      $A = (1.8 \times B \times L) + (2 \times V \times L)$
      i. "A" is the effective absorption area of each chamber,
      ii. "B" is the exterior width of the bottom of the chamber,
      iii. "V" is the vertical height of the louvered sidewall of the chamber, and
      iv. "L" is the length of the chamber;
   b. Calculate the disposal works size and number of chambers from the effective absorption area of each chamber and the soil absorption rates specified in R18-9-A312(D);
   c. Ensure that the sidewall of the chamber provides at least 35 percent open area for sidewall credit and that the design and construction minimizes the movement of fines into the chamber area. The applicant shall not use filter fabric or geotextile against the sidewall openings.

5. Seepage pits. If allowed by R18-9-A311(B)(1), the applicant shall:
   a. Design a seepage pit to comply with R18-9-A312(E)(1) for minimum vertical separation distance;
   b. Ensure that multiple seepage pit installations are served through a distribution box approved by the Department or connected in series with a watertight connection laid on undisturbed or compacted soil. The applicant shall ensure that the outlet from the pit has a sanitary tee with the vertical leg extending at least 12 inches below the inlet;
   c. Ensure that each seepage pit is circular and has an excavated diameter of 4 to 6 feet. If multiple seepage pits are installed, ensure that the minimum spacing between seepage pit sidewalls is 12 feet or three times the diameter of the seepage pit, whichever is greater. The applicant may use the alternative design procedure specified in R18-9-A312(G) for a proposed seepage pit more than 6 feet in diameter;
   d. For a gravel filled seepage pit, backfill the entire pit with aggregate. The applicant shall ensure that each pit has a breather conductor pipe that consists of a perforated pipe at least 4 inches in diameter, placed vertically within the backfill of the pit. The pipe shall extend from the bottom of the pit to within 12 inches below ground level;
   e. For a lined, hollow seepage pit, lay a concrete liner or a liner of a different protective material in the pit on a firm foundation and fill excavation voids behind the liner with at least 9 inches of aggregate;

f. For the cover of a lined seepage pit, use an approved one or two piece reinforced concrete slab with a minimum compressive strength of 2500 pounds per square inch. The applicant shall ensure that the cover:
   i. Is at least 5 inches thick and designed to support an earth load of at least 400 pounds per square foot;
   ii. Has a 12-inch square or diameter minimum access hole with a plug or cap that is coated on the underside with an protective bituminous seal, constructed of concrete with 15 percent to 18 percent fly ash content, or made of other nonpermeable protective material; and
   iii. Has a 4 inch or larger inspection pipe placed vertically not more than 6 inches below ground level;
g. Ensure that the top of the seepage pit cover is 4 to 18 inches below the surface of the ground;
h. Install a vented inlet fitting in every seepage pit to prevent flows into the seepage pit from damaging the sidewall. An applicant may use a 1/4 bend fitting placed through an opening in the top of the slab cover if a one or two piece concrete slab cover inlet is used;
i. Bore seepage pits five feet deeper than the proposed pit depth to verify underlying soil characteristics and backfill the five feet of overdrill with low permeability drill cuttings or other suitable material;
j. Backfill seepage pits that terminate in gravelly, coarse sand zones five feet above the beginning of the zone with low permeability drill cuttings or other suitable material;
k. Determine the minimum sidewall area for a seepage pit from the design flow and the soil absorption rate derived from the testing procedure described in R18-9-A310(G). The effective absorption surface for a seepage pit is the sidewall area only. The sidewall area is calculated using the following formula:
   $A = 3.14 \times D \times H$
   i. "A" is the minimum sidewall area in square feet needed for the design flow and soil absorption rate for the installation,
   ii. "D" is the diameter of the proposed seepage pit in feet,
   iii. "H" is the vertical height in feet in the seepage pit through which wastewater infiltrates native soil. The applicant shall ensure that H is at least 10 feet for any seepage pit.

D. Operation and maintenance. The permittee shall follow the applicable operation and maintenance requirements in R18-9-A313.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Design Flow

A. A 4.03 General Permit allows for the use of a composting toilet with less than 3000 gallons per day design flow.
1. Definition. For purposes of this Section, "composting toilet" means a manufactured turnkey or kit form treatment technology that receives human waste from a waterless toilet directly into an aerobic composting chamber where dehydration and biological activity reduce the waste volume and the content of nutrients and harmful microorganisms to an appropriate level for later disposal at the site or by other means.
2. An applicant may use a composting toilet if:
   a. Limited water availability prevents use of other types of on-site wastewater treatment facilities,
   b. Environmental constraints prevent the discharge of wastewater or nutrients to a sensitive area,
   c. Inadequate space prevents use of other systems,
   d. Severe site limitations exist that make other forms of treatment or disposal unacceptable, or
   e. The applicant desires maximum water conservation.
3. A permittee may use a composting toilet only if:
   a. Wastewater is managed as provided in this Section and, if gray water is separated and reused, the gray water reuse complies with18 A.A.C. 9, Article 7; and
   b. Soil conditions support subsurface disposal of all wastewater sources.

B. Restrictions.
1. A permittee shall ensure that no more than 50 persons per day use the composting toilet.
2. A composting toilet shall only receive human excrement unless the manufacturer's specifications allow the deposit of kitchen or other wastes into the toilet.

C. Performance. An applicant shall ensure that:
1. The composting toilet provides containment to prevent the discharge of toilet contents to the native soil except leachate, which may drain to the wastewater disposal works described in subsection (F);
2. The composting toilet limits access by vectors to the contained waste; and
3. Wastewater is disposed into the subsurface to prevent any wastewater from surfacing.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit the following information:
1. Composting toilet.
   a. The name and address of the composting toilet system manufacturer;
   b. A copy of the manufacturer's warranty, and the specifications for installation operation, and maintenance;
   c. The product model number;
   d. Composting rate, capacity, and waste accumulation volume calculations;
   e. Documentation of listing by a national listing organization indicating that the composting toilet meets the stated manufacturer's specifications for loading, treatment performance, and operation, unless the composting toilet is listed under R18-9-A309(E) or is a component of a reference design approved by the Department;
   f. The method of vector control;
   g. The planned method and frequency for disposing the composted human excrement residue; and
   h. The planned method for disposing of the drainage from the composting unit; and
2. Wastewater.

a. The number of bedrooms in the dwelling or persons served on a daily basis, as applicable, and the corresponding design flow of the disposal works for the wastewater;
b. The results from soil evaluation or percolation testing that adequately characterize the soils into which the wastewater will be dispersed and the locations of soil evaluation and percolation testing on the site plan; and
c. The design for the disposal works in subsection (F), including the location of the interceptor, the location and configuration of the trench or bed used for wastewater dispersal, the location of connecting wastewater pipelines, and the location of the reserve area.

E. Design requirements for a composting toilet. An applicant shall ensure that:
1. The composting chamber is watertight, constructed of solid durable materials not subject to excessive corrosion or decay, and is constructed to exclude access by vectors;
2. The composting chamber has airtight seals to prevent odor or toxic gas from escaping into the building. The system may be vented to the outside;
3. The capacity of the chamber and rate of composting are calculated based on:
   a. The lowest monthly average chamber temperature; or
   b. The yearly average chamber temperature, if the composting toilet is designed to compost on a yearly cycle or longer; and
4. The composting system provides adequate storage of all waste produced during the months when the average temperature is below 55°F, unless a temperature control device is installed to increase the composting rate and reduce waste volume.

F. Design requirements for the disposal works.
1. Interceptor. An applicant shall ensure that the design complies with the following:
   a. An interceptor may not accept human excreta or toilet wastewater;
   b. Wastewater passes into an interceptor before it is conducted to the subsurface for dispersal;
   c. The interceptor is designed to remove grease, oil, fibers, and solids to ensure long-term performance of the trench or bed used for subsurface dispersal;
   d. The interceptor is covered to restrict access and eliminate habitat for mosquitoes and other vectors; and
   e. Minimum interceptor size is based on design flow.
      i. For a dwelling, the following apply:

No. of Bedrooms	Design Flow (gallons per day)	Minimum Interceptor Size (gallons)	
		Kitchen Wastewater Only (All gray water sources are collected and reused)	Combined Non-Toilet Wastewater (Gray water is not separated and reused)
1 (7 fixture units or less)	90	42	200
1-2 (greater than 7 fixture units)	180	84	400
3	270	125	600
4	330	150	700
5	380	175	800
6	420	200	900
7	460	225	1000

      ii. For other than a dwelling, minimum interceptor size in gallons is 2.1 times the design flow from Table 1, Unit Design Flows.
2. Dispersal of wastewater. An applicant shall ensure that the design complies with the following:
   a. A trench or bed is used to disperse the wastewater into the subsurface;
   b. Sizing of the trench or bed is based on the design flow as determined in subsection (F)(1)(e), including all black and gray water, and an SAR determined under R18-9-A312(D);
   c. The minimum vertical separation from the bottom of the trench or bed to a limiting subsurface condition is at least 5 feet; and
   d. Other aspects of trench or bed design follow R18-9-E302, as applicable.
3. Setback distances. Setback distances are no less than 1/4 of the setback distances specified in R18-9-A312(C), but not less than 5 feet, except the setback distance from wells is 100 feet.

G. Operation and maintenance requirements. A permittee shall:
1. Composting toilet.
   a. Provide adequate mixing, ventilation, temperature control, moisture, and bulk to reduce fire hazard and prevent anaerobic conditions;
   b. Follow manufacturer's specifications for addition of any organic bulking agent to control liquid drainage, promote aeration, or provide additional carbon;
   c. Follow the manufacturer's specifications for operation and maintenance regarding movement of material within the composting chamber;
   d. If batch system containers are mounted on a carousel, place a new container in the toilet area if the previous one is full;
   e. Ensure that only human waste, paper approved for septic tank use, and the amount of bulking material required for proper maintenance is introduced to the composting chamber. The permittee shall remove all other materials or trash. If allowed by the manufacturer's specifications the permittee may add, other nonliquid compostable food preparation residues to the toilet;
   f. Ensure that any liquid end product is:
      i. Sprayed back onto the composting waste material;
      ii. Removed by a person who licensed a vehicle under 18 A.A.C. 13, Article 11; or
      iii. Is drained to the interceptor described in subsection (F);
   g. Remove and dispose of composted waste as necessary, using a person who licensed a vehicle under 18 A.A.C. 13, Article 11 if the waste is not placed in a disposal area for burial or used on-site as mulch;
   h. Before ending use for an extended period take measures to ensure that moisture is maintained to sustain bacterial activity and free liquids in the chamber do not freeze; and
   i. After an extended period of non-use, empty the composting chamber of solid end product and

inspect all mechanical components to verify that the mechanical components are operating as designed;

2. Wastewater Disposal Works.
   a. Ensure that the interceptor is maintained regularly according to manufacturer's instructions to prevent grease and solid wastes from impairing performance of the trench or bed used for dispersal of wastewater, and
   b. Protect the area of the trench or bed from soil compaction or other activity that will impair dispersal performance.

H. Reference design.
1. An applicant may use a composting toilet that achieves the performance requirements in subsection (C) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.04 General Permit allows for the use of a pressurized distribution of wastewater system with a design flow less than 3000 gallons per day that treats wastewater to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a "pressure distribution system" means a tank, pump, controls, and piping that conducts wastewater under pressure in controlled amounts and intervals to a bed or trench or other means of distribution authorized by a general permit for an on-site wastewater treatment facility.
2. An applicant may use a pressure distribution system if a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions, or if needed to optimally distribute wastewater.

B. Performance. An applicant shall ensure that a pressure distribution system:
1. Disperses wastewater so that:
   a. Loading rates are optimized for the intended purpose, and
   b. The wastewater is delivered under pressure and evenly distributed within the disposal works, and
2. Prevents ponding on the land surface.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. A copy of operation, maintenance, and warranty materials for the principal components; and
2. A copy of dosing specifications, including pump curves, dispersing component details, and float control settings.

D. Design requirements.
1. Pumps. An applicant shall ensure that pumps used in the on-site wastewater treatment facility:
   a. Are rated for wastewater service by the manufacturer and certified by Underwriters Laboratories;
   b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site; and
   c. Incorporate a quick disconnect using compression-type unions for pressure connections. The applicant shall ensure that:
      i. Quick-disconnects are accessible in the pressure piping, and
      ii. A pump has adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank or process chamber.
2. Switches, controls, alarms, timers, and electrical components. An applicant shall ensure that:
   a. Switches and controls accommodate the minimum and maximum dose capacities of the distribution network design. The applicant shall not use pressure diaphragm level control switches;
   b. Fail-safe controls that can be tested in the field are used to prevent discharge of inadequately treated wastewater. The applicant shall include counters or flow meters if critical to control functions, such as timed dosing;
   c. Control panels and alarms:
      i. Are either mounted in an exterior location visible from the structure served, mounted in a conspicuous location on the side of the structure served, or mounted in a conspicuous location adjacent to the structure served,
      ii. Provide manual pump switch and alarm test features, and
      iii. Include written instructions covering standard operation and alarm events;
   d. Audible and visible alarms are used for all critical control functions, such as pump failures, treatment failures, and excess flows. The applicant shall ensure that:
      i. The visual portion of the signal is conspicuous from a distance 50 feet from the system and its appurtenances;
      ii. The audible portion of the signal is between 70 and 75 db at 5 feet and is discernible from a distance of 50 feet from the system and its appurtenances;
      iii. Alarms, test features, and controls are on a non-dedicated electrical circuit separate from the dedicated circuit for the pump with constant visual confirmation that the circuit is electrically active; and
      iv. The alarm is clearly audible and visible inside the structure served;
   e. All electrical wiring complies with the National Electrical Code, 2005 Edition, published by the National Fire Protection Association. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101. The applicant shall ensure that:

i. Connections are made using National Electrical Manufacturers Association (NEMA) 4x junction boxes certified by Underwriters Laboratories; and

ii. All controls are in NEMA 3r, 4, or 4x enclosures for outdoor use.

3. Dosing tanks and wastewater distribution components.
   a. An applicant shall:
      i. Design dosing tanks to withstand anticipated internal and external loads under full and empty conditions, and design concrete tanks to meet the "Standard Specification for Precast Concrete Water and Wastewater Structures, C913-02 (2002)," published by the American Society for Testing and Materials. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
      ii. Design dosing tanks to be easily accessible and have secured covers;
      iii. Install risers to provide access to the inlet and outlet of the tank and to service internal components;
      iv. Ensure that the volume of the dosing tank accommodates bottom depth below maximum drawdown, maximum design dose, including any drainback, volume to high water alarm, and a reserve volume above the high water alarm level that is not less than the daily design flow volume. If the tank is time dosed, the applicant shall ensure that the combined surge capacity and reserve volume above the high water alarm is not less than the daily design flow volume;
      v. Ensure that dosing tanks are watertight and anti-buoyant;
      vi. Design the wastewater distribution components to withstand system pumping pressures;
      vii. Design the wastewater distribution system to allow air to purge from the system;
      viii. Design pressure piping to minimize freezing during cold weather;
      ix. Ensure that the end of each wastewater distribution line is accessible for maintenance;
      x. Ensure that orifices emit the design discharge rate uniformly throughout the wastewater distribution system; and
      xi. Design orifices using orifice shields to provide proper distribution of wastewater to the receiving medium.
   b. An applicant may use a septic tank second compartment or a second septic tank in series as a dosing tank if all dosing tank requirements of this Section are met and a screened vault is used instead of the septic tank effluent filter.
4. Design SAR. If the site conditions of the property for the on-site wastewater treatment facility do not require pressure distribution, but an applicant chooses to use pressure distribution, the applicant shall use a design SAR for the absorption surfaces in the disposal works that is not more than 1.10 times the adjusted SAR determined in R18-9-A312(D).

E. Additional Discharge Authorization requirements. An applicant shall obtain copies of instructions for the critical controls of the system from the person who installed the pressure distribution system. The applicant shall submit one copy of the instructions with the information required in subsection (C).

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313(B), a permittee shall ensure that:
1. The operation and maintenance manual for the on-site wastewater treatment facility that supplies the wastewater to the pressure distribution system specifies inspection and maintenance needed for the following items:
   a. Sludge level in the bottom of the treatment and dosing tanks,
   b. Watertightness,
   c. Condition of electrical and mechanical components, and
   d. Piping and other components functioning within design limits;
2. All critical control functions are specified in the operation and maintenance manual for testing to demonstrate compliance with design specifications, including:
   a. Alarms, test features, and controls;
   b. Float switch level settings;
   c. Dose rate, volume, and frequency, if applicable;
   d. Distal pressure or squirt height, if applicable; and
   e. Voltage test on pumps, motors, and controls, as applicable;
3. The finished grade is observed and maintained for proper surface drainage. The applicant shall observe the levelness of the tank for differential settling. If there is settling, the applicant shall grade the facility to maintain surface drainage.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.05 General Permit allows for the use of a gravelless trench with less than 3000 gallons per day design flow receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a "gravelless trench" means a disposal technology characterized by installation of a proprietary pipe and geocomposite or other substitute media into native soil instead of the distribution pipe and aggregate fill used in a trench allowed in R18-9-E302.
2. A permittee may use a gravelless trench if suitable gravel or volcanic rock aggregate is unavailable, excessively expensive, or if adverse site conditions make movement of gravel difficult, damaging, or time consuming.

B. Performance. An applicant shall design a gravelless trench so that treated wastewater released to the native soil meets the following criteria:

1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit the following:
1. The soil absorption area that would be required if a conventional disposal trench filled with aggregate was used at the site,
2. The configuration and size of the proposed gravelless disposal works, and
3. The manufacturer's installation instructions and warranty of performance for absorbing wastewater into the native soil.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall:
1. Ensure that the top of the gravelless disposal pipe or similar disposal mechanism is at least 6 inches below the surface of the native soil and 12 to 36 inches below finished grade if approved fill is placed on top of the installation;
2. Calculate the infiltration surface as follows:
   a. For 8-inch diameter pipe, 2 square feet of absorption area is allowed per linear foot;
   b. For 10-inch diameter pipe, 3 square feet of absorption area is allowed per linear foot;
   c. For bundles of two pipes of the same diameter, the absorption area is calculated as 1.67 times the absorption area of one pipe; and
   d. For bundles of three pipes of the same diameter, the absorption area is calculated as 2.00 times the absorption area of one pipe;
3. Use a pressure distribution system meeting the requirements of R18-9-E304 in medium sand, coarse sand, and coarser soils; and
4. Construct the drainfield of material that will not decay, deteriorate, or leach chemicals or byproducts if exposed to sewage or the subsurface soil environment.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall:
1. Install the gravelless pipe material according to manufacturer's instructions if the instructions are consistent with this Chapter,
2. Ensure that the installed disposal system can withstand the physical disturbance of backfilling and the load of any soil cover above natural grade placed over the installation, and
3. Shape any backfill and soil cover in the area of installation to prevent settlement and ponding of rainfall for the life of the disposal works.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall inspect the finished grade in the vicinity of the gravelless disposal works for maintenance of proper drainage and protection from damaging loads.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.06 General Permit allows for the use of a natural seal evapotranspiration bed with less than 3000 gallons per day design flow receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a "natural seal evapotranspiration bed" means a disposal technology characterized by a bed of sand or other media with an internal wastewater distribution system, contained on the bottom and sidewalls by an engineered liner consisting of natural soil and clay materials.
2. An applicant may use a natural seal evapotranspiration bed if site conditions restrict soil infiltration or require reduction of the volume of wastewater discharged to the native soil underlying the natural seal liner.

B. Restrictions. Unless a person provides design documentation to show that a natural seal evapotranspiration bed will properly function, the person shall not install this technology if:
1. Average minimum temperature in any month is 20° F or less,
2. Over 1/3 of the average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.

C. Performance. An applicant shall ensure that a natural seal evapotranspiration bed:
1. Minimizes discharge to the native soil through the natural seal liner,
2. Maximizes wastewater disposed to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D_{50} of 0.1 millimeter (50 percent by weight of grains equal to or smaller than 0.1 millimeter) is used; and
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design requirements. An applicant shall:
1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and shall calculate the bed design based on the capillary rise of the bed media, following the "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured Soils by Porous-Plate Apparatus, D2325-68 (2000)," incorporated by reference in R18-9-E307(E), and the anticipated maximum frost depth;
2. Ensure the media is sand or other durable material;
3. Base design area calculations on a water mass balance for the winter months and the design seepage rate;
4. Ensure that the natural seal liner is a durable, low-hydraulic conductivity liner and is accompanied by the liner performance specification and calculations for bottom and sidewall seepage rate;
5. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of 2 inches and ensure that:
   a. If topsoil is used as a surfacing layer for growth of landscape plants:

i. The topsoil is a fertile, friable soil obtained from well-drained arable land;
ii. The topsoil is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth;
iii. The pH of the topsoil is between 5.5 and 8.0;
iv. The plasticity index of the topsoil is between 3 and 15; and
v. The topsoil contains approximately 1-1/2 percent organic matter, by dry weight, either natural or added;

b. If landscaping material other than topsoil is used as a surfacing layer, the material meets the following gradation:

Sieve Size	Percent Passing
1”	100
1/2”	95-100
No. 4	90-100
No. 10	70-100
No. 200	15-70

6. Use shallow-rooted, non-invasive, salt- and drought-tolerant evergreens if vegetation is planted on the evapotranspiration bed;
7. Install at least two observation ports to determine the level of the liquid surface of wastewater within the evapotranspiration bed;
8. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance; and
9. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the natural seal evapotranspiration bed liner to the seasonal high water table is at least 12 inches.

F. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The liner covers the bottom and all sidewalls of the bed and is installed on a stable base according to the manufacturer’s installation specifications;
2. If the inlet pipe passes through the liner, the joint is tightly sealed to minimize leakage during the operational life of the facility;
3. The liner is leak tested under the supervision of an Arizona-registered professional engineer to confirm the design leakage rate; and
4. A 2- to 4-inch layer of 1/2- to 1-inch gravel or crushed stone is placed around the distribution pipes within the bed. The applicant shall ensure that the filter cloth is placed on top of the gravel or crushed stone to prevent sand from settling into the gravel or crushed stone.

G. Additional Discharge Authorization requirements. An applicant shall submit the satisfactory results of the leakage test required under subsection (F)(3) to the Department before the Department issues the Discharge Authorization.

H. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall:
1. Not allow irrigation of an evapotranspiration bed, and
2. Protect the bed from vehicle loads and other damaging activities.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.07 General Permit allows for the use of a lined evapotranspiration bed receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a “lined evapotranspiration bed” means a disposal technology characterized by a bed of sand or other media with an internal wastewater distribution system contained on the bottom and sidewalls by an impervious synthetic liner.
2. An applicant may use a lined evapotranspiration bed if site conditions restrict soil infiltration or require reduction or elimination of the volume of wastewater or nitrogen load discharged to the native soil.
3. Provision of a reserve area is not required for a lined evapotranspiration bed.

B. Restrictions. Unless a person provides design documentation to show that a lined evapotranspiration bed will properly function, the person shall not install this technology if:
1. Average minimum temperature in any month is 20° F or less,
2. Over 1/3 of average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.

C. Performance. An applicant shall ensure that a lined evapotranspiration bed:
1. Prevents discharge to the native soil by a synthetic liner,
2. Attains full disposal of wastewater to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D_{50} of 0.1 millimeter (50 percent by weight of grains equal to or smaller than 0.1 millimeter in size) is used; and
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall:
1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and calculate the bed design on the basis of the capillary rise of the bed media, according to the “Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured Soils by Porous-Plate Apparatus, D2325-68 (2003),” published by the American Society for Testing and Materials and the anticipated maximum frost depth. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
2. Ensure the media is sand or other durable material;

3. Base design area calculations on a water mass balance for the winter months;
4. Ensure that the evapotranspiration bed liner is a durable, low hydraulic conductivity synthetic liner that has a calculated bottom area and sidewall seepage rate of less than 550 gallons per acre per day;
5. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of 2 inches. The applicant shall ensure that:
   a. If topsoil is used as a surfacing layer for growth of landscape plants:
      i. The topsoil is a fertile, friable soil obtained from well-drained arable land;
      ii. The topsoil is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth;
      iii. The pH of the topsoil is between 5.5 and 8.0;
      iv. The plasticity index of the topsoil is between 3 and 15; and
      v. The topsoil contains approximately 1 1/2 percent organic matter, by dry weight, either natural or added;
   b. If another landscaping material is used as a surfacing layer, the material meets the following gradation:

Sieve Size	Percent Passing
1”	100
1/2”	95-100
No. 4	90-100
No. 10	70-100
No. 200	15-70

6. Use shallow-rooted, non-invasive, salt and drought tolerant evergreens if vegetation is planted on the evapotranspiration bed;
7. Install at least two observation ports to allow determination of the depth to the liquid surface of wastewater within the evapotranspiration bed;
8. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance; and
9. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the evapotranspiration bed liner to the surface of the seasonal high water table or impervious layer or formation is at least 12 inches.

F. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. All liner seams are factory fabricated or field welded according to manufacturer’s specifications. The applicant shall ensure that:
2. The liner covers the bottom and all sidewalls of the bed and is cushioned on the top and bottom with layers of sand at least 2 inches thick or other puncture-protective material;
3. If the inlet pipe passes through the liner, the joint is tightly sealed to minimize leakage during the operational life of the facility;
4. The liner is leak tested under the supervision of an Arizona-registered professional engineer; and
5. A 2- to 4-inch layer of one-half to 1-inch gravel or crushed stone is placed around the distribution pipes within the bed. The applicant shall place filter cloth on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional Discharge Authorization requirements. An applicant shall submit the liner test results sealed by an Arizona-registered professional engineer to the Department for issuance of the Discharge Authorization.

H. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall:
1. Not allow irrigation of an evapotranspiration bed; and
2. Protect the bed from vehicle loads and other damaging activities.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Design Flow

A. A 4.08 General Permit allows for the use of a Wisconsin mound with a design flow of less than 3000 gallons per day receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a “Wisconsin mound” means a disposal technology characterized by:
   a. An above-grade bed system that blends with the land surface into which is dispensed pressure dosed wastewater from a septic tank or other upstream treatment device,
   b. Dispersal of wastewater under unsaturated flow conditions through the engineered media system contained in the mound, and
   c. Wastewater treated by passage through the mound before percolation into the native soil below the mound.
2. An applicant may use a Wisconsin mound if:
   a. The native soil has excessively high or low permeability,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. A reduction in minimum vertical separation is desired.

B. Performance. An applicant shall design a Wisconsin mound so that treated wastewater released to the native soil meets the following criteria:
1. Performance Category A.
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level of 1000 (Log_{10} 3.0) colony forming units per 100 milliliters, 95th percentile; or
2. Performance Category B.
   a. TSS of 30 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Specifications for the internal wastewater distribution system media proposed for use in the Wisconsin mound;
2. Two scaled or dimensioned cross sections of the mound (one of the shortest basal area footprint dimension and one of the lengthwise dimension); and
3. Design calculations following the "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual," published by the University of Wisconsin – Madison, January 1990 Edition (the Wisconsin Mound Manual). This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the University of Wisconsin – Madison, SSWMP, 1525 Observatory Drive, Room 345, Madison, WI 53706.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. Pressure dosed wastewater is delivered into the Wisconsin mound through a pressurized line and secondary distribution lines into an engineered aggregate infiltration bed, or equivalent system, in conformance with R18-9-E304 and the Wisconsin Mound Manual. The applicant shall ensure that the aggregate is washed;
2. Wastewater is applied to the inlet surface of the mound media at not more than 1.0 gallon per day per square foot of mound bed inlet surface if the mound bed media conforms with the "Standard Specification for Concrete Aggregates, C33-03 (2003)," published by the American Society for Testing and Materials and the Wisconsin Mound Manual, except if cinder sand is used that is the appropriate grade with not more than 5 percent passing a #200 screen. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. The applicant shall:
   a. For cinder sand, ensure that the rate is not more than 0.8 gallons per day per square foot of mound bed inlet surface; and
   b. Wash the media used for the mound bed;
3. The aggregate infiltration bed and mound bed is capped by coarser textured soil, such as sand, sandy loam, or silt loam. An applicant shall not use silty clay, clay loam, or clays;
4. The cap material is covered by topsoil, following the procedure in the Wisconsin Mound Manual, and the topsoil is capable of supporting vegetation, is not clay, and is graded to drain;
5. The top and bottom surfaces of the aggregate infiltration bed are level and do not exceed 10 feet in width and that:
   a. The minimum depth of the aggregate infiltration bed is 9 inches, or
   b. Synthetic filter fabric permeable to water and air and capable of supporting the cap and topsoil load is placed on the top surface of the aggregate infiltration bed;
6. The minimum depth of mound bed media is:
   a. Performance Category A, 24 inches; or
   b. Performance Category B, 12 inches;
7. The maximum allowable side slope of the mound bed, cap material, and topsoil is not more than one vertical to three horizontal;
8. Ports for inspection and monitoring are provided to verify performance, including verification of unsaturated flow within the aggregate infiltration bed. The applicant shall:
   a. Install a vertical PVC pipe and cap with a minimum diameter of 4 inches as an inspection port at the end of the disposal line, and
   b. Install the pipe with a physical restraint to maintain pipe position;
9. The main pressurized line and secondary distribution lines for the aggregate infiltration bed are equipped at appropriate locations with cleanouts to grade;
10. The following requirements and the setbacks specified in R18-9-A312(C) are observed:
    a. Increase setbacks for the following downslope features at least 30 feet from the toe of the mound system:
       i. Property line,
       ii. Driveway,
       iii. Building,
       iv. Ditch or interceptor drain, or
       v. Any other feature that impedes water movement away from the mound; and
    b. Ensure that no upslope natural feature or improvement channels surface water or groundwater to the mound area;
11. The portion of the basal area of native soil below the mound conforms to the Wisconsin Mound Manual. The applicant shall:
    a. Calculate the absorption of wastewater into the native soil for only the effective basal area;
    b. Apply the soil absorption rate specified in R18-9-A312(D). The applicant may increase allowable loading rate to the mound bed inlet surface up to 1.6 times if the wastewater dispersed to the mound is pretreated to reduce the sum of TSS and BOD_5 to 60 mg/l or less. The applicant may increase the soil absorption rate to not more than 0.20 gallons per day per square foot of basal area if the following slowly permeable soils underlie the mound:
       i. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure; or
       ii. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure;
12. The slope of the native soil at the basal area does not exceed 25 percent, and a slope stability analysis is performed whenever the basal area or site slope within 50 horizontal feet from the mound system footprint exceeds 15 percent.

E. Installation. An applicant shall:

1. Prepare native soil for construction of a Wisconsin mound system. The applicant shall:
   a. Mow vegetation and cut down trees in the vicinity of the basal area site to within 2 inches of the surface;
   b. Leave in place boulders and tree stumps and other herbaceous material that would excessively alter the soil structure if removed after mowing and cutting;

c. Plow native soil serving as the basal area footprint along the contours to 7- to 8- inch depth;
d. Not substitute rototilling for plowing; and
e. Begin mound construction immediately after plowing;

2. Place each layer of the bed system to prevent differential settling and promote uniform density; and
3. Use the Wisconsin Mound Manual to guide any other detail of installation. The applicant may vary installation procedures and criteria depending on mound design but shall use installation procedures and criteria that are at least equivalent to those in the Wisconsin Mound Manual.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313(B), the permittee shall:

1. If an existing mound system shows evidence of overload or hydraulic failure, conduct the following sequence of evaluations:
   a. Verify the actual loading and performance of the pretreatment system.
   b. Verify the watertightness of the pretreatment and dosing tanks;
   c. Determine the dosing rates and dosing intervals to the aggregate infiltration bed and compare it with the original design to evaluate the presence or absence of saturated conditions in the aggregate infiltration bed;
   d. If the above steps in subsections (F)(1)(a) through (c) do not indicate an anomalous condition, evaluate the site and recalculation of the disposal capability to determine if mound lengthening is feasible;
   e. Determine if site modifications are possible including changing surface drainage patterns at upgrade locations and lowering the groundwater level by installing interceptor drains to reduce native soil saturation at shallow levels; and
   f. Determine if the basal area can be increased, consistent with R18-9-A309(A)(9)(b)(iv);
2. Prepare servicing and waste disposal procedures and task schedules necessary for clearing the main pressurized wastewater line and secondary distribution lines, septic tank effluent filter, pump intake, and controls.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.09 General Permit allows for the use of an engineered pad system receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).

1. Definition. For purposes of this Section, an "engineered pad system" means a treatment and disposal technology characterized by:
   a. The delivery of pretreated wastewater by gravity or pressure distribution to the engineered pad and sand bed assembly, followed by dispersal of the wastewater into the native soil; and
   b. Wastewater movement through the engineered pad and sand bed assembly by gravity under unsaturated flow conditions to provide additional passive biological treatment.
2. The applicant may use an engineered pad system if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. The available area is limited for installing a disposal works authorized by R18-9-E302.

B. Performance. An applicant shall ensure that:

1. The engineered pad system is designed so that the treated wastewater released to the native soil meets the following criteria:
   a. TSS of 50 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 50 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile; or
2. The engineered pad system is designed to meet any other performance, loading rate, and configuration criteria specified in the reviewed product list maintained by the Department as required under R18-9-A309(E).

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit design materials and construction specifications for the engineered pad system.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. Gravity and pressurized wastewater delivery is from a septic tank or intermediate watertight chamber equipped with a pump and controls. The applicant shall ensure that:
   a. Delivered wastewater is distributed onto the top of the engineered pad system and achieves even distribution by good engineering practice, and
   b. The dosing rate for pressurized wastewater delivery is at least four doses per day and no more than 24 doses per day;
2. The sand bed consists of mineral sand washed to conform to the "Standard Specification for Concrete Aggregates, C33-03 (2003)," which is incorporated by reference in R18-9-E308(D)(2), unless the performance testing and design specifications of the engineered pad manufacturer justify a substitute specification. The applicant shall ensure that:
   a. The sand bed design provides for the placement of at least 6 inches of sand bed material below and along the perimeter of each pad, and
   b. The contact surface between the bottom of the sand bed and the native soil is level;
3. The spacing between adjacent two-pad-wide rows is at least two times the distance between the bottom of the distribution pipe and the bottom of the sand bed or 5 feet, whichever is greater;
4. The wastewater distribution system installed on the top of the engineered pad system is covered with a breathable geotextile material and the breathable geotextile material is covered with at least 10 inches of backfill.
   a. The applicant shall ensure that rocks and cobbles are removed from backfill cover and grade the backfill for drainage.

b. The applicant may place the engineered pad system above grade, partially bury it, or fully bury it depending on site and service circumstances;

5. The engineered pad system is constructed with durable materials and capable of withstanding stress from installation and operational service; and
6. At least two inspection ports are installed in the engineered pad system to confirm unsaturated wastewater treatment conditions at diagnostic locations.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall place sand media to obtain a uniform density of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), an applicant shall inspect the backfill cover for physical damage or erosion and promptly repair the cover, if necessary.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (B)(2) (Supp. 01-1). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.10 General Permit allows for the use of an intermittent sand filter receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).

1. Definition. For purposes of this Section, an "intermittent sand filter" means a treatment technology characterized by:
   a. The pressurized delivery of pretreated wastewater to an engineered sand bed in a containment vessel equipped with an underdrain system or designed as a bottomless filter;
   b. Delivered wastewater dispersed throughout the sand media by periodic doses from the delivery pump to maintain unsaturated flow conditions in the bed; and
   c. Wastewater that is treated during passage through the media, collected by a bed underdrain chamber, and removed by pump or gravity to the disposal works, or wastewater that percolates downward directly into the native soil as part of a bottomless filter design.
2. An applicant may use an intermittent sand filter if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. The applicant desires a reduction in setback distances or minimum vertical separation.

B. Performance. An applicant shall ensure that:

1. An intermittent sand filter with underdrain system is designed so that it produces treated wastewater that meets the following criteria:
   a. TSS of 10 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 10 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 40 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level or 1000 (Log_{10} 3) colony forming units per 100 milliliters, 95th percentile; or
2. An intermittent sand filter with a bottomless filter is designed so that it produces treated wastewater released to the native soil that meets the following criteria:
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
   d. Total coliform level of 100,000 (Log_{10} 5 colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the media proposed for use in the intermittent sand filter.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. Pressurized wastewater delivery is from the septic tank or separate watertight chamber with a pump sized and controlled to deliver the pretreated wastewater to the top of the intermittent sand filter. The applicant shall ensure that the dosing rate is at least 4 doses per day and not more than 24 doses per day;
2. The pressurized wastewater delivery system provides even distribution in the sand filter through good engineering practice. The applicant shall:
   a. Specify all necessary controls, pipes, valves, orifices, filter cover materials, gravel, or other distribution media, and monitoring and servicing components in the design documents; and
   b. Ensure that the cover and topsoil is 6 to 12 inches in depth and graded to drain;
3. The sand filter containment vessel is watertight, structurally sound, durable, and capable of withstanding stress from installation and operational service. The applicant may place the intermittent sand filter above grade, partially buried, or fully buried depending on site and service circumstances;
4. Media used in the intermittent sand filter is mineral sand and that the media is washed and conforms to "Standard Specification for Concrete Aggregates, C33-03," which is incorporated by reference in R18-9-E308(D)(2);
5. The sand media depth is a minimum of 24 inches with the top and bottom surfaces level and the maximum wastewater loading rate is 1.0 gallons per day per square foot of inlet surface at the rated daily design flow;
6. The underdrain system:
   a. Is within the containment vessel;
   b. Supports the filter media and all overlying loads from the unsupported construction above the top surface of the sand media;
   c. Has sufficient void volume above the normal high level of the intermittent sand filter effluent to prevent saturation of the bottom of the sand media by a 24-hour power outage or pump malfunction; and
   d. Includes necessary monitoring, inspection, and servicing features;
7. Inspection ports are installed in the distribution media and in the underdrain;
8. The bottomless filter is designed similar to the underdrain system, except that the sand media is positioned on top of the native soil absorption surface. The applicant shall ensure that companion modifications are made that eliminate the containment vessel bottom and underdrain and

relocate the underdrain inspection port to ensure reliable indication of the presence or absence of water saturation in the sand media;

9. The native soil absorption system is designed to ensure that the linear loading rate does not exceed site disposal capability; and
10. The bottomless sand filter discharge rate per unit area to the native soil does not exceed the adjusted soil absorption rate for the quality of wastewater specified in subsection (B)(2).

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall place the containment vessel, underdrain system, filter media, and pressurized wastewater distribution system in an excavation with adequate foundation and each layer installed to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter within the sand media.

F. Operation and maintenance requirements. The applicant shall follow the applicable requirements in R18-9-A313(B).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E311. 4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.11 General Permit allows for the use of a peat filter receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).

1. Definition. For purposes of this Section, a "peat filter" means a disposal technology characterized by:
   a. The dosed delivery of treated wastewater to the peat bed, which can be a manufactured module or a disposal bed excavated in native soil and filled with compacted peat;
   b. Wastewater passing through the peat that is further treated by removal of positively charged molecules, filtering, and biological activity before entry into native soil; and
   c. If the peat filter system is constructed as a disposal bed filled with compacted peat, wastewater that is absorbed into native soil at the bottom and sides of the bed.
2. An applicant may configure a modular system if a portion of the wastewater that has passed through the peat filter is recirculated back to the pump chamber.
3. An applicant may use a peat filter system if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock,
   c. A reduction in setback distances or minimum vertical separation is desired, or
   d. Cold weather inhibits performance of other treatment or disposal technologies.

B. Performance. An applicant shall ensure that a peat filter is designed so that it produces treated wastewater that meets the following criteria:

1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Specifications for the peat media proposed for use in the peat filter or provided in the peat module, including:
   a. Porosity;
   b. Degree of humification;
   c. pH;
   d. Particle size distribution;
   e. Moisture content;
   f. A statement of whether the peat is air dried, and whether the peat is from sphagnum moss or bog cotton; and
   g. A description of the degree of decomposition;
2. Specifications for installing the peat media; and
3. If a peat module is used:
   a. The name and address of the manufacturer,
   b. The model number, and
   c. A copy of the manufacturer's warranty.

D. Design requirements.

1. If a pump tank is used to dose the peat module or bed, an applicant shall:
   a. Ensure that the pump tank is sized to contain the dose volume and a reserve volume above the high water alarm that will contain the volume of daily design flow; and
   b. Use a control panel with a programmable timer to dose at the applicable loading rate.
2. Peat module system. In addition to the applicable requirements in R18-9-A312, the applicant shall:
   a. Size the gravel bed supporting the peat filter modules to allow it to act as a disposal works and ensure that the bed is level, long, and narrow, and installed on contour to optimize lateral movement away from the disposal area;
   b. For modules designed to allow wastewater flow through the peat filter and base material into underlying native soil, size the base on which the modules rest to accommodate the soil absorption rate of the native soil;
   c. Place fill over the module so that it conforms to the manufacturer's specification. If the fill is planted, the applicant shall use only grass or shallow rooted plants; and
   d. Ensure that the peat media depth is at least 24 inches, the peat is installed with the top and bottom surfaces level, and the maximum wastewater loading rate is 5.5 gallons per day per square foot of inlet surface at the rated daily design flow, unless the Department approves a different wastewater loading rate under R18-9-A309(E).
3. Peat filter bed system. In addition to the applicable requirements in R18-9-A312, the applicant shall ensure that:
   a. The bed is filled with peat derived from sphagnum moss and compacted according to the installation specification;
   b. The maximum wastewater loading rate is 1 gallon per day per square foot of inlet surface at the rated daily design flow;
   c. At least 24 inches of installed peat underlies the distribution piping and 10 to 14 inches of installed peat overlies the piping;

d. The cover material over the peat filter bed is slightly mounded to promote runoff of rainfall. The applicant shall not place additional fill over the peat; and

e. The peat is air dried, with a porosity greater than 90 percent, and a particle size distribution of 92 to 100 percent passing a No. 4 sieve and less than 8 percent passing a No. 30 sieve.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), the applicant shall:

1. Peat module system.
   a. Compact the bottom of all excavations for the filter modules, pump, aerator, and other components to provide adequate foundation, slope the bottom toward the discharge to minimize ponding, and ensure that the bottom is flat, and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
   b. Place the peat filter modules on a level, 6-inch deep gravel bed;
   c. Place backfill around the modules and grade the backfill to divert surface water away from the modules;
   d. Not place objects on or move objects over the system area that might damage the module containers or restrict airflow to the modules;
   e. Cover gaps between modules to prevent damage to the system;
   f. Fit each system with at least one sampling port that allows collection of wastewater at the exit from the final treatment module;
   g. Provide the modules and other components with anti-buoyancy devices to ensure stability in the event of flooding or high water table conditions; and
   h. Provide a mechanism for draining the filter module inlet line; or
2. Peat filter bed system.
   a. Scarify the bottom and sides of the leaching bed excavation to remove any smeared surfaces, and:
      i. Unless directed by an installation specification consistent with this Chapter, place peat media in the excavation in 6-inch lifts; and
      ii. Compact each lift before the next lift is added. The applicant shall take care to avoid compaction of the underlying native soil;
   b. Lay distribution pipe in trenches cut in the compacted peat, and
      i. Ensure that at least 3 inches of aggregate underlie the pipe to reduce clogging of holes or scouring of the peat surrounding the pipe, and
      ii. Place peat on top of and around the sides of the pipes.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall inspect the finished grade over the peat filter for proper drainage, protection from damaging loads, and root invasion of the wastewater distribution system and perform maintenance as needed.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.12 General Permit allows for the use of a textile filter receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).

1. Definition. For purposes of this Section, a "textile filter" means a disposal technology characterized by:
   a. The flow of wastewater into a packed bed filter in a containment structure or structures. The packed bed filter uses a textile filter medium with high porosity and surface area; and
   b. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action.
2. An applicant may use a textile filter in conjunction with a two-compartment septic tank or a two-tank system if the second compartment or tank is used as a recirculation and blending tank. The applicant shall divert a portion of the wastewater flow from the textile filter back into the second tank for further treatment.
3. An applicant may use a textile filter if:
   a. Nitrogen reduction is desired,
   b. The native soil is excessively permeable,
   c. There is little native soil overlying fractured or excessively permeable rock, or
   d. A reduction in setback distances or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that a textile filter is designed so that it produces treated wastewater that meets the following criteria:

1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(4); and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. The name and address of the filter manufacturer;
2. The filter model number;
3. A copy of the manufacturer's filter warranty;
4. If the system is for nitrogen reduction to 15 milligrams per liter, five-month arithmetic mean, specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data;
5. The manufacturer's operation and maintenance recommendations to achieve a 20-year operational life; and
6. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer's warranty.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. The textile medium has a porosity of greater than 80 percent;
2. The wastewater is delivered to the textile filter by gravity flow or a pump;
3. If a pump is used to dose the textile filter, the pump and appurtenances meet following criteria:

a. The textile media loading rate and wastewater recirculation rate are based on calculations that conform with performance data listed in the reviewed product list maintained by the Department as required under R18-9-A309(E),
b. The tank and recirculation components are sized to contain the dose volume and a reserve volume above the high water level alarm that will contain the volume of daily design flow, and
c. A control panel with a programmable timer is used to dose the textile media at the applicable loading rate and wastewater recirculation rate.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall:
1. Before placing the filter modules, slope the bottom of the excavation for the modules toward the discharge point to minimize ponding;
2. Ensure that the bottom of all excavations for the filter modules, pump, aerator, or other components is level and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
3. Provide the modules and other components with antibuoyancy devices to ensure they remain in place in the event of high water table conditions; and
4. Provide a mechanism for draining the filter module inlet line.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall not flush corrosives or other materials known to damage the textile material into any drain that transmits wastewater to the on-site wastewater treatment facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E313. 4.13 General Permit: Denitrifying System Using Separated Wastewater Streams, Less Than 3000 Gallons Per Day Design Flow

A. A 4.13 General Permit allows for the use of a separated wastewater streams, denitrifying system for a dwelling.
1. Definition. For purposes of this Section a "denitrifying system using wastewater streams" means a gravity flow treatment and disposal system for a dwelling that requires separate plumbing drains for conducting dishwasher, kitchen sink, and toilet flush water to wastewater treatment tank "A" and all other wastewater to a wastewater treatment tank "B."
   a. Treated wastewater from tanks "A" and "B" is delivered to an engineered composite disposal bed system that includes an upper distribution pipe to deliver treated wastewater from tank "A" to a columnar celled, sand-filled bed.
   b. The wastewater drains downward into a sand bed, then into a pea gravel bed with an internal distribution pipe system that delivers the treated wastewater from tank "B."
   c. The entire composite bed is constructed within an excavation about 6 feet deep.
   d. The system operates under gravity flow from tanks "A" and "B."
   e. An engineered sampling assembly is installed at the midpoint of the disposal line run and at the base of the composite bed during construction to monitor system performance.
2. An applicant may use a separated wastewater streams, denitrifying system where total nitrogen reduction is required under this Article before release to the native soil.

B. Performance. An applicant shall ensure that a separated wastewater streams, denitrifying system is designed so that the treated wastewater released to the native soil meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B).

D. Design, installation, operation, and maintenance requirements. The applicant shall comply with the applicable design, installation, operation, and maintenance requirements in R18-9-A312, R18-9-A313(A), and R18-9-A313(B).

E. Reference design.
1. An applicant may use a separated wastewater streams, denitrifying system achieving the performance requirements specified in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E314. 4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Design Flow

A. A 4.14 General Permit allows for the use of a sewage vault that receives sewage.
1. An applicant may use a sewage vault if a severe site or operational constraint prevents installation of a conventional septic tank and disposal works or any other on-site wastewater treatment facility allowed under this Article; or
2. An applicant may install a sewage vault as a temporary measure if connection to a sewer or installation of another on-site wastewater treatment facility occurs within two years of the connection or installation.

B. Performance. An applicant shall:
1. Not allow a discharge from a sewage vault to the native soil or land surface, and
2. Pump and dispose of vault contents at a sewage treatment facility or other sewage disposal mechanism allowed by law.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), except that a site investigation under R18-9-A309(B)(1) is not required if the reason for using a sewage vault is an operational constraint that exists irrespec-

tive of the results of a site investigation conducted under R18-9-A310(B).

D. Design requirements. In addition to the requirements in R18-9-A312, an applicant shall:
1. Install a sewage vault with a capacity that is at least 10 times the daily design flow determined by R18-9-A314(4)(a)(i),
2. Use design elements to prevent the buoyancy of the vault if installed in an area where a high groundwater table may impinge on the vault,
3. Test the sewage vault for leakage using the procedure under R18-9-A314(5)(d). The tank passes the water test if the water level does not drop over a 24-hour period,
4. Install an alarm or signal on the vault to indicate when 85 percent of the vault capacity is reached, and
5. Contract with a person who licensed a vehicle under 18 A.A.C. 13, Article 11 to pump out the vault on a schedule specified within the contract to ensure that the vault is pumped before full.

E. Installation, operation, and maintenance requirements. The applicant shall comply with the applicable installation, operation, and maintenance requirements in R18-9-A313(A) and (B).

F. Reference design.
1. An applicant may use a sewage vault that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

R18-9-E315. 4.15 General Permit: Aerobic System Less Than 3000 Gallons Per Day Design Flow

A. A 4.15 General Permit allows for the construction and use of an aerobic system that uses aeration for treatment.
1. Definition. For purposes of this Section, an "aerobic system" means a treatment unit consisting of components that:
   a. Mechanically introduce oxygen to wastewater,
   b. Typically provide clarification of the wastewater after aeration, and
   c. Convey the treated wastewater by pressure or gravity distribution to the disposal works.
2. An applicant may use an aerobic system if:
   a. Enhanced biological processing is needed to treat wastewater with high organic content,
   b. A soil or site condition is not adequate for installation of a standard septic tank and disposal works under R18-9-E302,
   c. A highly treated wastewater amenable to disinfection is needed, or
   d. Nitrogen removal from the wastewater is needed and removal performance of the system is documented according to subsection (C)(6).

B. Performance.
1. An applicant shall ensure that the aerobic system is designed so that the treated wastewater released to the native soil meets the following criteria:
   a. TSS of 30 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(6); and
   d. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.
2. An applicant may use an aerobic system that meets the following less stringent performance criteria if the aerobic technology is listed by the Department under R18-9-A309(E) and the Department bases its review and listing on the technology being less costly and simpler to operate when compared to other aerobic technologies:
   a. TSS of 60 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 60 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five month arithmetic mean per liter, if documented under subsection (C)(6); and
   d. Total coliform level of 1,000,000 (Log_{10} 7) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the aerobic system manufacturer;
2. The model number of the aerobic system;
3. Evidence of performance specified in subsection (B)(1) or (B)(2), as applicable;
4. A list of pretreatment components needed to meet performance requirements;
5. A copy of the manufacturer's warranty and operation and maintenance recommendations to achieve performance over a 20-year operational life; and
6. If the aerobic system will be used for nitrogen removal from the wastewater, either:
   a. Evidence of a valid product listing under R18-9-E309(E) indicating nitrogen removal performance, or
   b. Specifications and third party test data corroborating nitrogen reduction to the intended level.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. The wastewater is delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump;
2. An interceptor or other pretreatment device is incorporated if necessary to meet the performance criteria specified in subsection (B)(1) or (2), or if recommended by the manufacturer for pretreatment if a garbage disposal appliance is used;
3. A clarifier is provided after aeration for any treatment technology that achieves performance that is equal to or better than the performance criteria specified in subsection (B)(1); and
4. Ports for inspection and monitoring are provided to verify performance.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The installation of the aerobic treatment components conforms to manufacturer's specifications that do not conflict with Articles 1 and 3 of this Chapter and to the design documents specified in the Construction Authorization issued under R18-9-A301(D)(1)(c); and
2. Excavation and foundation work, and backfill placement is performed to prevent differential settling and adverse drainage conditions.

F. Operation and maintenance requirements. The permittee shall:
1. Follow the applicable requirements in R18-9-A313(B), and
2. Ensure that filters are cleaned and replaced as necessary.

G. Reference design.
1. An applicant may use an aerobic system that achieves the applicable performance requirements by following a reference design on file with the Department.
2. An applicant using a reference design shall submit, with the Notice of Intent to Discharge, supplemental information specific to the proposed installation on a form approved by the Department.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E316. 4.16 General Permit: Nitrate-Reactive Media Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.16 General Permit allows for the construction and use of a nitrate-reactive media filter receiving pretreated wastewater.
1. Definition. "Nitrate-reactive media filter" means a treatment technology characterized by:
   a. The application of pretreated, nitrified wastewater to a packed bed filter in a containment structure. A packed bed filter consists of nitrate-reactive media that receives pretreated wastewater under appropriate design and operational conditions, and
   b. The ability of the nitrate-reactive filter to further treat the nitrified wastewater by removing total nitrogen by chemical and physical processes.
2. An applicant shall use a nitrate-reactive media filter with a treatment or disposal works to pretreat and dispose of the wastewater.
3. An applicant may use a nitrate-reactive media filter if nitrogen reduction is required under this Article.

B. Restrictions. The applicant shall not use any product to supply pretreated wastewater to the nitrate-reactive media filter unless:
1. The product meets the pretreatment requirements for the filter based on product performance information in the product listing, and
2. The product is listed by the Department as a reviewed product under R18-9-A309(E).

C. Performance. An applicant shall ensure that a nitrate-reactive media filter is designed so that it produces treated wastewater that does not exceed the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 10 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the filter manufacturer;
2. The filter model number;
3. The manufacturer's requirements for pretreated wastewater supplied to the nitrate-reactive media filter;
4. The manufacturer's specifications for design, installation, and operation for the nitrate-reactive media filter system and appurtenances;
5. The manufacturer's warranty for the nitrate-reactive media filter system and appurtenances;
6. The manufacturer's operation and maintenance recommendations to achieve a 20-year operational life for the nitrate-reactive media filter system and appurtenances; and
7. The manufacturer name and model number for all appurtenances that significantly contribute to achieving the performance required in subsection (C).

E. Design requirements. In addition to the applicable design requirements specified in R18-9-A312, an applicant shall ensure that:
1. The nitrate-reactive media filter and appurtenances conform with manufacturer's specifications,
2. The loading rate of pretreated wastewater to the nitrate-reactive media inlet surface meets the manufacturer's specification and does not exceed 5.00 gallons per day per square foot of media inlet surface area, and
3. The bed packed with nitrate reactive media is at least 24 inches thick.

F. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The nitrate-reactive media filter and appurtenances are installed according to manufacturer's specifications to achieve proper wastewater treatment, hydraulic performance, and operational life; and
2. Anti-buoyancy devices are installed when high water table or extreme soil saturation conditions are likely during operational life of the facility.

G. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B) and the manufacturer's specifications for the nitrite-reactive media filter, the permittee shall not dispose of corrosives or other materials that are known to damage the nitrate-reactive media filter system into the on-site wastewater treatment facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Section repealed; new Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (Supp. 05-3).

R18-9-E317. 4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.17 General Permit allows for the use of a cap fill cover over a conventional trench disposal works receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a "cap system" means a disposal technology characterized by:
   a. A soil cap, consisting of engineered fill placed over a trench that is not as deep as a trench allowed by R18-9-E302; and
   b. A design that compensates for reduced trench depth by maintaining and enhancing the infiltration of

wastewater into native soil through the trench sidewalls.

2. An applicant may use a cap system if:
   a. There is little native soil overlying fractured or excessively permeable rock, or
   b. A high water table does not allow the minimum vertical separation to be met by a system authorized by R18-9-E302.

B. Performance. An applicant shall ensure that the design soil absorption rate and vertical separation complies with this Chapter for a trench, based on the following performance, unless additional pretreatment is provided:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the proposed cap fill material.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. The soil texture from the natural grade to the depth of the layer or the water table that limits the soil for unsaturated wastewater flow is no finer than silty clay loam;
2. Cap fill material used is free of debris, stones, frozen clods, or ice, and is the same as or one soil group finer than that of the disposal site material, except that the applicant shall not use fill material finer than clay loam as an additive;
3. Trench construction.
   a. The trench bottom is at least 12 inches below the bottom of the disposal pipe and not more than 24 inches below the natural grade, and the trench bottom and disposal pipe are level;
   b. The aggregate cover over the disposal pipe is 2 inches thick and the top of the aggregate cover is level and not more than 9 inches above the natural grade;
   c. The cap fill cover above the top of the aggregate cover is at least 9 inches but not more than 18 inches thick. The applicant shall ensure that:
      i. The cap surface is protected to prevent erosion and sloped to route surface drainage around the ends of the trench; and
      ii. If the top of the aggregate is at or below the original ground surface, the cap surface has side slopes not more than one vertical to three horizontal; or
      iii. If the top of the aggregate is above the original ground surface, the horizontal extent of the finished fill edges is at least 10 feet beyond the nearest trench sidewall or endwall;
   d. The criteria for trench length, bottom width and spacing, and disposal pipe size is the same as that for the trench system prescribed in R18-9-E302;
   e. Permeable geotextile fabric is placed on the aggregate top, trench end, and sidewalls extending above natural grade;
   f. The native soil within the disposal site and the adjacent downgradient area to a 50-foot horizontal distance does not exceed a 12 percent slope if the top of the aggregate cover extends above the natural grade at any location along the trench length. The applicant shall ensure that the slope within the disposal site and the adjacent downgradient area to a 50-foot horizontal distance does not exceed 20 percent if the top of the aggregate cover does not extend above the natural grade;
   g. The fill material is compacted to a density of 90 percent of the native soil if the invert elevation of the disposal pipe is at or above the natural grade at any location along the trench length;
   h. At least one observation port is installed to the bottom of each cap fill trench;
   i. The effective absorption area for each trench is the sum of the trench bottom area and the sidewall area. The height of the sidewall used for calculating the sidewall area is the vertical distance between the trench bottom and the lowest point of the natural land surface along the trench length; and
   j. If the applicant uses correction factors for soil absorption rate under R18-9-A312(D)(3) and minimum vertical separation under R18-9-A312(E), additional wastewater pretreatment is provided.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall prepare the disposal site when high soil moisture is not present and equipment operations do not create platy soil conditions. The applicant shall:
1. Plow or scarify the fill area to disrupt the vegetative mat while avoiding smearing,
2. Construct trenches as specified in subsection (D)(3),
3. Scarify the site and apply part of the cap fill to the fill area and blend the fill with the scarified native soil within the contact layers, and
4. Follow the construction design specified in the Construction Authorization issued under R18-9-A301(D)(1)(c).

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall inspect and repair the cap fill and other surface features as needed to ensure proper disposal function, proper drainage of surface water, and prevention of damaging loads on the cap.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E318. 4.18 General Permit: Constructed Wetland, Less Than 3000 Gallons Per Day Design Flow

A. A 4.18 General Permit allows for the use of a constructed wetland receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. “Constructed wetland” means a treatment technology characterized by a lined excavation, filled with a medium for growing plants and planted with marsh vegetation. The treated wastewater flows horizontally through the medium in contact with the aquatic plants.
   a. As the wastewater flows through the wetland system, additional treatment is provided by filtering, settling, volatilization, and evapotranspiration.
   b. The wetland system allows microorganisms to break down organic material and plants to take up nutrients and other pollutants.

c. The wastewater treated by a wetland system is discharged to a subsurface soil disposal system.

2. An applicant may use a constructed wetland if further wastewater treatment is needed before disposal.

B. Performance. An applicant shall ensure that a constructed wetland is designed so that it produces treated wastewater that meets the following criteria:

1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 45 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B).

D. Design, installation, operation, and maintenance requirements. The permittee shall comply with the applicable design, installation, operation, and maintenance requirements in R18-9-A312, R18-9-A313(A), and R18-9-A313(B).

E. Reference design.

1. An applicant may use a constructed wetland that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E319. 4.19 General Permit: Sand-Lined Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.19 General Permit allows for the use of a sand-lined trench receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).

1. Definition. For purposes of this Section, a "sand-lined trench" means a disposal technology characterized by:
   a. Engineered placement of sand or equivalently graded glass in trenches excavated in native soil,
   b. Wastewater dispersed throughout the media by pressure distribution technology as specified in R18-9-E304 using a timer-controlled pump in periodic uniform doses that maintain unsaturated flow conditions, and
   c. Wastewater treated during travel through the media and absorbed into the native soil at the bottom of the trench.
2. An applicant may use a sand-lined trench if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. Reduction in setback distances, or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that a sand-lined trench is designed so that treated wastewater released to the native soil meets the following criteria:

1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the proposed media in the trench.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. The media used in the trench is mineral sand, crushed glass, or cinder sand and that:
   a. The media conforms to "Standard Specifications for Concrete Aggregates, C33-03," which is incorporated by reference in R18-9-E308(D)(2), "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing, C117-04 (2004)," published by the American Society for Testing and Materials, or an equivalent method approved by the Department. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; and
   b. Sieve analysis complies with the "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing, C11704," which is incorporated by reference in subsection (D)(1)(a), or an equivalent method approved by the Department;
2. Trenches.
   a. Distribution pipes are capped on the end;
   b. The spacing between trenches is at least two times the distance between the bottom of the distribution pipe and the bottom of the trench or 5 feet, whichever is greater;
   c. The inlet filter media surface, wastewater distribution pipe, and bottom of the trench are level and the maximum effluent loading rate is not more than 1.0 gallon per day per square foot of sand media inlet surface;
   d. The depth of sand below the gravel layer containing the distribution system is at least 24 inches;
   e. The gravel layer containing the distribution system is 5 to 12 inches thick, at least 36 inches wide, and level;
   f. Permeable geotextile fabric is placed at the base of and along the sides of the gravel layer, as necessary. The applicant shall ensure that:
      i. Geotextile fabric is placed on top of the gravel layer, and
      ii. Any cover soil placed on top of the geotextile fabric is capable of maintaining vegetative growth while allowing passage of air;
   g. At least one observation port is installed to the bottom of each sand lined trench;
   h. If the trench is installed in excessively permeable soil or rock, at least 1 foot of loamy sand is placed in the trench below the filter media. The minimum vertical separation distance is measured from the bottom of the loamy sand; and

i. The trench design is based on the design flow, native soil absorption area at the trench bottom, minimum vertical separation below the trench bottom, design effluent infiltration rate at the top of the sand fill, and the adjusted soil absorption rate for the final effluent quality; and

3. The dosing system consists of a timer-controlled pump, electrical components, and distribution network and that:
   a. Orifice spacing on the distribution piping does not exceed 4 square feet of media infiltrative surface area per orifice, and
   b. The dosing rate is at least four doses per day and not more than 24 doses per day.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that the filter media is placed in the trench to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall ensure that:
1. The septic tank filter and pump tank are inspected and cleaned;
2. The dosing tank pump screen, pump switches, and floats are cleaned yearly and any residue is disposed of lawfully; and
3. Lateral lines are flushed and the liquid waste discharged into the treatment system headworks.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E320. 4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow

A. A 4.20 General Permit allows for the use of a disinfection device to reduce the level of harmful organisms in wastewater, provided the wastewater is pretreated to equal or better than the performance criteria in R18-9-E315(B)(1)(a). An applicant may use a disinfection device if:
1. The disinfection device kills the microorganisms by exposing the wastewater to heat, ultraviolet radiation, or a chemical disinfectant.
2. Some means of disinfection is required before discharge.
3. A reduction in harmful microorganisms, as represented by the total coliform level, is needed for surface or near surface disposal of the wastewater or reduction of the minimum vertical separation distance specified in R18-9-A312(E) is desired.

B. Restrictions.
1. Unless the disinfection device is designed to operate without electricity, an applicant shall not install the device if electricity is not permanently available at the site.
2. The 4.20 General Permit does not authorize a disinfection device that releases chemical disinfectants or disinfection byproducts harmful to plants or wildlife in the discharge area or causes a violation of an Aquifer Water Quality Standard.

C. Performance. An applicant shall ensure that:
1. A fail-safe wastewater control or operational process is incorporated to prevent a release of inadequately treated wastewater;
2. The performance of a disinfection device meets the level of disinfection needed for the type of disposal and produces effluent that:
   a. Is nominally free of coliform bacteria;
   b. Is clear and odorless, and
   c. Has a dissolved oxygen content of at least 6 milligrams per liter;

D. Design requirements. An applicant shall ensure that an on-site wastewater treatment facility with a disposal works designed to discharge to the land surface includes disinfection technology that conforms with the following requirements:
1. Chlorine disinfection.
   a. Available chlorine is maintained as indicated in the following table:

pH of Wastewater (s.u.)	Required Concentration of Available Chlorine in Wastewater (mg/L)	
	Wastewater to the Disinfection Device Meets a TSS of 30 mg/L and BOD5 of 30 mg/L	Wastewater to the Disinfection Device Meets a TSS of 20 mg/L and BOD5 of 20 mg/L
6	15 – 30	6 – 10
7	20 – 35	10 – 20
8	30 – 45	20 – 35

   b. The minimum chlorine contact time is 15 minutes for wastewater at 70°F and 30 minutes for wastewater at 50°F, based on a flow equal to four times the daily design flow;
2. Contact chambers are watertight and made of plastic, fiberglass, or other durable material and are configured to prevent short-circuiting; and
3. For a device that disinfects by another method other than chlorine disinfection, dose and contact time are determined to reliably produce treated wastewater that is nominally free of coliform bacteria, based on a flow equal to four times the daily design flow.

E. Operation and maintenance. A permittee shall ensure that:
1. If the disinfection device relies on the addition of chemicals for disinfection, the device is operated to minimize the discharge of disinfection chemicals while achieving the required level of disinfection; and
2. The disinfection device is inspected and maintained at least once every three months by a qualified person.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023

(Supp. 23-2).

R18-9-E321. 4.21 General Permit: Surface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.21 General Permit allows for surface application of treated wastewater that is nominally free of coliform bacteria produced by the treatment works of an on-site wastewater treatment facility.

B. Performance. An applicant shall ensure that the treated wastewater distributed for surface application meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean;
4. Is nominally free of total coliform bacteria as indicated by a total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 95th percentile.

C. Restrictions. The applicant shall not install the disposal works if weather records indicate that:
1. Average minimum temperature in any month is 20°F or less, or
2. Over 1/3 of the average annual precipitation falls in a 30-day period.

D. Design requirements. An applicant shall ensure that:
1. The land surface application rate does not exceed the lowest application rate as determined under R18-9-A312(D) minus no greater than 50 percent of the evapotranspiration that may occur during the month with the least evapotranspiration in any soil zone within the top 5 feet of soil;
2. The design incorporates sprinklers, bubbler heads, or other dispersal components that optimize wastewater loading rates and prevent ponding on the land surface;
3. The design specifies containment berms:
   a. Compacted to a minimum of 95 percent Proctor;
   b. Designed to contain the runoff of the 10-year, 24-hour storm event in addition to the daily design flow; and
   c. Designed to remain intact in the event of a more severe rainfall event; and
4. The design incorporates placement of signage on hose bibs, human ingress points to the surface disposal area, and at intervals around the perimeter of the surface disposal area to provide notification of use of treated wastewater and a warning against ingestion.

E. Installation requirements. An applicant shall ensure that installation of the wastewater dispersal components conforms to manufacturer's specifications that do not conflict with this Article and to the design documents specified in the Construction Authorization issued under R18-9-A301(D)(1)(c).

F. Operation and maintenance. In addition to the requirements specified in R18-9-A313(B), the permittee shall operate and maintain the surface disposal works to:
1. Prevent treated wastewater from coming into contact with drinking fountains, water coolers, or eating areas;
2. Contain all treated wastewater within the bermed area; and
3. Ensure that hose bibs discharging treated wastewater are secured to prevent use by the public.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Section repealed; new Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (Supp. 05-3).

R18-9-E322. 4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.22 General Permit allows for the construction and use of a subsurface drip irrigation disposal works that receives high quality wastewater from an on-site wastewater treatment facility to dispense the wastewater to an irrigation system that is buried at a shallow depth in native soil. A 4.22 General Permit includes a pressure distribution system under R18-9-E304.
1. The subsurface drip irrigation disposal works is designed to disperse the treated wastewater into the soil under unsaturated conditions by pressure distribution and timed dosing. The applicant shall ensure that the pressure distribution system meets the requirements specified in R18-9-E304, and the Department shall consider whether the requirements of R18-9-E304 are met when processing the application under R18-9-A301(B).
2. A subsurface drip irrigation disposal works reduces the downward percolation of wastewater by enhancing evapotranspiration to the atmosphere.
3. An applicant may use a subsurface drip irrigation disposal works to overcome site constraints, such as high groundwater, shallow soils, slowly permeable soils, or highly permeable soils, or if water conservation is needed.
4. The subsurface drip irrigation disposal works includes pipe, pressurization and dosing components, controls, and appurtenances to reliably deliver treated wastewater to driplines using supply and return manifold lines.

B. Performance. An applicant shall ensure that:
1. Treated wastewater that meets the following criteria is delivered to a subsurface drip irrigation disposal works:
   a. Performance Category A.
      i. TSS of 20 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of one colony forming unit per 100 milliliters, 95th percentile; or
   b. Performance Category B.
      i. TSS of 30 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile; and
2. The subsurface drip irrigation works is designed to meet the following performance criteria:
   a. Prevention of ponding on the land surface, and
   b. Incorporation of a fail-safe wastewater control or operational process to prevent inadequately treated wastewater from being discharged.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B), R18-9-A309(B), and R18-9-E304, the applicant shall submit:
1. Documentation of the pretreatment method proposed to achieve the wastewater criteria specified in subsection (B)(1), such as the type of pretreatment system and the manufacturer's warranty;

2. Initial filter and drip irrigation flushing settings;
3. Site evapotranspiration calculations if used to reduce the size of the disposal works; and
4. If supplemental irrigation water is introduced to the subsurface drip irrigation disposal works, an identification of the cross-connection controls, backflow controls, and supplemental water sources.

D. Design requirements. In addition to the applicable design requirements specified in R18-9-A312, an applicant shall ensure that:

1. The design requirements of R18-9-E304 are followed, except that:
   a. The requirement for quick disconnects in R18-9-E304(D)(1)(c) is not applicable, and
   b. The applicant may provide the reserve volume specified in R18-9-E304(D)(3)(a)(iv) in an oversized treatment tank or a supplemental storage tank;
2. Drip irrigation components and appurtenances are properly placed.
   a. Performance category A subsurface drip irrigation disposal works. The applicant shall ensure that:
      i. Driplines and emitters are placed to prevent ponding on the land surface, and
      ii. Cover material and placement depth follow manufacturer's requirements to prevent physical damage or ultraviolet degradation of components and appurtenances; or
   b. Performance category B subsurface drip irrigation disposal works. The applicant shall ensure that:
      i. Driplines and emitters are placed at least 6 inches below the surface of the native soil;
      ii. A cover of soil or engineered fill is placed on the surface of the native soil to achieve a total emitter burial depth of at least 12 inches;
      iii. Cover material and placement depth follow manufacturer's requirements to prevent physical damage or ultraviolet degradation of components and appurtenances; and
      iv. The drip irrigation disposal works is not used for irrigating food crops;
3. Wastewater is filtered upstream of the dripline emitters to remove particles 100 microns in size and larger;
4. A pressure regulator is provided to limit the pressure of wastewater in the drip irrigation disposal works;
5. Wastewater pipe meets the approved pressure rating in "Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120, D1785-04a (2004)," or "Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80, F441/F441M-02 (2002)," published by the American Society for Testing and Materials. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
6. The system design flushes the subsurface drip irrigation disposal works components with wastewater at a minimum velocity of 2 feet per second, unless the manufacturer's manual and warranty specify another flushing practice. The applicant shall ensure that piping and appurtenances allow the wastewater to be pumped in a line flushing mode of operation with discharge returned to the treatment system headworks;
7. Air vacuum release valves are installed to prevent water and soil drawback into the emitters;
8. Driplines.
   a. Driplines are placed from 12 to 24 inches apart unless other configurations are allowed by the manufacturer's specifications;
   b. Dripline installation and design requirements, including the allowable deflection, follow manufacturer's requirements;
   c. The maximum length of a single dripline follows manufacturer's specifications to provide even distribution;
   d. The dripline incorporates a herbicide to prevent root intrusion for at least 10 years;
   e. The dripline incorporates a bactericide to reduce bacterial slime buildup;
   f. Disinfection does not reduce the life of the bactericide or herbicide in the dripline;
   g. Any return flow from a drip irrigation disposal works to the treatment works does not impair the treatment performance; and
   h. When dripline installation is under subsection (E)(1)(b) or (c), backfill consists of the excavated soil or similar soil obtained from the site that is screened for removal of debris and rock larger than 1/2-inch;
9. Emitters.
   a. Emitters are spaced no more than 2 feet apart, and
   b. Emitters are designed to discharge from 0.5 to 1.5 gallons per hour;
10. A suitable backflow prevention system is installed if supplemental water for irrigation is introduced to the pumping system. The applicant shall not introduce supplemental water to the treatment works;
11. The drip irrigation disposal works is installed in soils classified as:
    a. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure or in soil with a percolation rate from 45 to 120 minutes per inch;
    b. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure or in soil with a percolation rate from 31 to 120 minutes per inch; and
    c. Other soils if an appropriate site-specific SAR is determined;
12. The minimum vertical separation distances are 1/2 of those specified in R18-9-A312(E)(2) if the design evapotranspiration rate during the wettest 30-day period of the year is 50 percent or more of design flow, except that the applicant shall not use a minimum vertical separation distance less than 1 foot;
13. In areas where freezing occurs, the irrigation system is protected as recommended by the manufacturer;
14. If drip irrigation components are used for a disposal works using a shaded trench constructed in native soil, the following requirements are met:
    a. The trench is between 12 and 24 inches wide;
    b. The trench bottom is between 12 and 30 inches below the original grade of native soil and level to within 2 inches per 100 feet of length;
    c. Two driplines are positioned in the bottom of the trench, not more than 4 inches from each sidewall;

d. The trench with the positioned driplines is filled to a depth of 6 to 10 inches with decomposed granite or C-33 sand or a mixture of both, with mixture composition, if applicable, and placement specified on the construction drawing;
e. A minimum of 8 inches of backfill is placed over the decomposed granite or C-33 sand fill to an elevation of 1 to 3 inches above the native soil finished grade;
f. Observation ports are placed at both ends of each shaded trench to confirm the saturated wastewater level during operation; and
g. A separation distance of 24 inches or more is maintained between the nearest sidewall of an adjacent trench; and

15. The soil absorption area used for design of a drip irrigation works is calculated using:
a. For a design that uses the shaded trench method described in subsection (D)(14), the bottom and sidewall area of the shaded trench not more than 4 square feet per linear foot of trench; or
b. For all other designs, the number of emitters times an area for each emitter where the emitter area is a square centered on each emitter with the side dimension equal to the emitter separation distance selected by the designer in accordance with R18-9-E322(D)(9)(a), excluding all areas of overlap of adjacent squares.

E. Installation requirements. In addition to the applicable requirements in R18-9-A313(A) and R18-9-E304, the applicant shall ensure that:
1. The dripline is installed by:
a. A plow mechanism that cuts a furrow, dispenses pipe, and covers the dripline in one operation;
b. A trencher that digs a trench 4 inches wide or less;
c. Digging the trench with hand tools to minimize trench width and disruption to the native soil; or
d. Without trenching, removing surface vegetation, scarifying the soil parallel with the contours of the land surface, placing the pipe grid, and covering with fill material, unless prohibited in subsection (D)(2)(b)(ii);
2. Drip irrigation pipe is stored to preserve the herbicidal and bactericidal characteristics of the pipe;
3. Pipe deflection conforms to the manufacturer's requirements and installation is completed without kinking to prevent flow restriction;
4. A shaded trench drip irrigation disposal works is installed as specified in the design documents used for the Construction Authorization; and
5. The pressure piping and electrical equipment are installed according to the Construction Authorization in R18-9-A301(D)(1)(c) and any local building codes.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B) and R18-9-E304, the permittee shall:
1. Test any fail-safe wastewater control or operational process quarterly to ensure proper operation to prevent discharge of inadequately treated wastewater, and
2. Maintain the herbicidal and bacteriological capability of the drip irrigation disposal works.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-E323. 4.23 General Permit: 3000 to less than 24,000 Gallons Per Day Design Flow

A. A 4.23 General Permit allows for the construction and use of an on-site wastewater treatment facility with a design flow from 3000 gallons per day to less than 24,000 gallons per day or more than one on-site wastewater treatment facility on a property or on adjacent properties under common ownership with a combined design flow from 3000 to less than 24,000 gallons per day if all of the following apply:
1. Except as specified in subsection (A)(3), the treatment and disposal works consists of technologies or designs that would otherwise be covered under other general permits, but are either sized larger to accommodate increased flows or, will be located at a site that cumulatively accommodates flows between 3000 gallons per day to less than 24,000 gallons per day;
2. The on-site wastewater treatment facility complies with all applicable requirements of Articles 1, 2, and 3 of this Chapter;
3. The facility is not a system or a technology that would otherwise be covered by one of the following general permits available for a design flow of less than 3000 gallons per day:
a. An aerobic system as described in R18-9-E315;
b. A disinfection device described in R18-9-E320, except that an ultraviolet radiation disinfection device is allowed; or
c. A seepage pit or pits described in R18-9-E302; and
4. The discharge of total nitrogen to groundwater is controlled.
a. An applicant shall:
i. Demonstrate that the nitrogen loading calculated over the property served by the on-site wastewater treatment facility, including streets, common areas, and other non-contributing areas, is not more than 0.088 pounds (39.9 grams) of total nitrogen per day per acre calculated at a horizontal plane immediately beneath the zone of active treatment of the on-site wastewater treatment facility including its disposal field; or
ii. Justify a nitrogen loading that is equally protective of aquifer water quality as the nitrogen loading specified in subsection (A)(4)(a)(i) based on site-specific hydrogeological or other factors.
b. For purposes of the demonstration in subsection (A)(4)(a)(i), the applicant may assume that 0.0333 pounds (15.0 grams) of total nitrogen per day per person is contributed to raw sewage and may determine the nitrogen concentration in the treated wastewater at a horizontal plane immediately beneath the zone of active treatment of the on-site wastewater treatment facility including its disposal field.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. A performance assurance plan consisting of tasks, schedules, and estimated annual costs for operating, maintaining, and monitoring performance over a 20-year operational life;

2. Design documents and the performance assurance plan, signed, dated, and sealed by an Arizona-registered professional engineer;
3. Any documentation submitted under the alternative design procedure in R18-9-A312(G) that pertains to achievement of better performance levels than those specified in the general permit for the corresponding facility with a design flow of less than 3000 gallons per day, or for any other alternative design, construction, or operational change proposed by the applicant; and
4. A demonstration of total nitrogen discharge control specified in subsection (A)(4).

C. Design requirements. The applicant shall comply with the applicable requirements in R18-9-A312 and the applicable general permits for the treatment works and disposal works used in the design of the on-site wastewater treatment facility.

D. Installation requirements. The applicant shall comply with the applicable requirements in R18-9-A313(A) and the applicable general permits for the treatment works and disposal works used in the design of the on-site wastewater treatment facility.

E. Operation and maintenance requirements. The applicant shall comply with the applicable requirements in R18-9-A313(B) and the applicable general permits for the treatment works and disposal works used in the design of the on-site wastewater treatment facility.

F. Additional Discharge Authorization requirements. In addition to any other requirements, the applicant shall submit the following information before the Discharge Authorization is issued.
1. A signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department affirming that:
   a. The project was completed in compliance with the requirements of this Section and as described in the plans and specifications, or
   b. Any changes are reflected in as-built plans submitted with the Engineer's Certificate of Completion.
2. The name of the service provider or certified operator that is responsible for implementing the performance assurance plan.

G. Reporting requirement. The permittee shall provide the Department with the following information on the anniversary date of the Discharge Authorization:
1. A form signed by the certified operator or service provider that:
   a. Provides any data or documentation required by the performance assurance plan,
   b. Certifies compliance with the requirements of the performance assurance plan, and
   c. Describes any additions to the facility during the year that increased flows and certifies that the flow did not exceed 24,000 gallons per day during any day; and
2. Any applicable fee required by 18 A.A.C. 14.

H. Facility expansion. If an expansion of an on-site wastewater treatment facility or site operating under this Section involves the installation of a separate on-site wastewater treatment facility on the property with a design flow of less than 3000 gallons per day, the applicant shall submit the applicable Notice of Intent to Discharge and fee required under 18 A.A.C. 14 for the separate on-site wastewater treatment facility in order to add the facility to the existing site operating under this Section.
1. The applicant shall indicate in the Notice of Intent to Discharge the Department's file number and the issuance date of the Discharge Authorization previously issued by the Director under this Section for the property.
2. Upon satisfactory review, the Director shall reissue the Discharge Authorization for this Section, with the new issuance date and updated information reflecting the expansion.
3. If the expansion causes the accumulative design flow from on-site wastewater treatment facilities on the property to equal or exceed 24,000 gallons per day, the Director shall not reissue the Discharge Authorization, but shall require the applicant to submit an application for an individual permit addressing all proposed and operating facilities on the property.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

Table 1. Unit Design Flows

Wastewater Source (Add together all wastewater source line items applicable to the facility per applicable unit.)	**Applicable Unit**	**Sewage Design Flowper Applicable Unit, Gallons Per Day**
Airport		
For each passenger (average daily number), add	Passenger (average daily number)	4
For each employee, add	Employee	15
Auto Wash	Facility	Per manufacturer, if consistent with this Chapter
Bar/Lounge	Seat	30
Barber Shop	Chair	35
Beauty Parlor	Chair	100
Bowling Alley (snack bar only)	Lane	75
Camp		
Day camp, no cooking facilities	Camping unit	30
Campground, overnight, flush toilets	Camping unit	75
Campground, overnight, flush toilets and shower	Camping unit	150
Campground, luxury	Person	100-150
Camp, youth, summer, or seasonal	Person	50

Church Without kitchen With kitchen	 Person (maximum attendance) Person (maximum attendance)	 5 7
Country Club	Resident Member Nonresident Member	100 10
Dance Hall	Patron	5
Dental Office	Chair	500
Dog Kennel	Animal, maximum occupancy	15
Dwelling For determining design flow for sewage treatment facilities under R18-9-B202(A)(9)(a) and sewage collection systems under R18-9-E301(D) and R18-9-B301(K), excluding peaking factor.	Person	80
Dwelling For on-site wastewater treatment facilities per R18-9-E302 through R18-9-E323: Apartment Building 1 bedroom 2 bedroom 3 bedroom 4 bedroom Seasonal or Summer Dwelling (with recorded seasonal occupancy restriction) Single Family Dwellings (for both conventional and alternative systems) Other than Single Family Dwelling, the greater flow value based on: Bedroom count 1-2 bedrooms Each bedroom over 2 Fixture count	 Apartment Apartment Apartment Apartment Resident see R18-9-A314(4)(a) Bedroom Bedroom Fixture unit	 200 300 400 500 100 see R18-9-A314(4)(a) 300 150 25
Fire Station	Employee	45
Hospital All flows Kitchen waste only Laundry waste only	 Bed Bed Bed	 250 25 40
Hotel/motel (assuming outsourced linen laundry service) Without kitchen With kitchen	 Bed (2 person) Bed (2 person)	 50 60
Industrial facility Without showers With showers Cafeteria, add	 Employee Employee Employee	 25 35 5
Institutions Resident Nursing home Rest home	 Person Person Person	 75 125 125
Laundry Self service Commercial	 Wash cycle Washing machine	 50 Per manufacturer, if consistent with this Chapter
Office Building	Employee	20
Park (temporary use) Picnic, with showers, flush toilets Picnic, with flush toilets only Recreational vehicle, no water or sewer connections Recreational vehicle, with water and sewer connections Mobile home/Trailer	 Parking space Parking space Vehicle space Vehicle space Space	 40 20 75 100 250

Restaurant/Cafeteria For each employee, add With toilet, add Kitchen waste – full plated service, add Kitchen waste – disposable service, add Garbage disposal, add Cocktail lounge, add	 Employee Customer Meal Meal Meal Customer	 20 7 6 2 1 2
Restroom, public	Toilet	200
School Staff and office Elementary, add Middle and High, add with gym & showers, add with cafeteria, add Boarding, total flow	 Person Student Student Student Student Person	 20 15 20 5 3 100
Service Station with toilets	First bay Each additional bay	1000 500
Shopping Center, no food or laundry	Square foot of retail space	0.1
Store For each employee, add Public restroom, add	 Employee Square foot of retail space	 20 0.1
Swimming Pool, Public	Person	10
Theater Indoor Drive-in	 Seat Car space	 5 10

Note: Unit flow rates published in standard texts, literature sources, or relevant area or regional studies are considered by the Department, if appropriate to the project.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3). Amended by final rulemaking at 29 A.A.R. 1023 (May 12, 2023), effective June 19, 2023 (Supp. 23-2).

ARTICLE 4. NITROGEN MANAGEMENT GENERAL PERMITS

R18-9-401. Definitions

In addition to the definitions established in A.R.S. §§ 49-101 and 49-201 and A.A.C. R18-9-101, the following terms apply to this Article:

1. "Application of nitrogen fertilizer" means any use of a substance containing nitrogen for the commercial production of a crop or plant. The commercial production of a crop or plant includes commercial sod farms and nurseries.
2. "Contact stormwater" means stormwater that comes in contact with animals or animal wastes within a concentrated animal feeding operation.
3. "Crop or plant needs" means the amount of water and nitrogen required to meet the physiological demands of a crop or plant to achieve a defined yield.
4. "Crop or plant uptake" means the amount of water and nitrogen that can be physiologically absorbed by the roots and vegetative parts of a crop or plant following the application of water.
5. "Impoundment" means any structure, other than a tank or a sump, designed and maintained to contain liquids. A structure that stores or impounds only non-contact stormwater is not an impoundment under this Article.
6. "Liner" or "lining system" means any natural, amendment, or synthetic material used to reduce seepage of impounded liquids into a vadose zone or aquifer.
7. "NRCS guidelines" means the United States Department of Agriculture, Natural Resources Conservation Service, National Engineering Handbook, Part 651 Agricultural Waste Management Field Handbook, Chapter 10, 651.1080, Appendix 10D – Geotechnical, Design, and Construction Guideline (November 1997). This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the United States Department of Agriculture, Natural Resources Conservation Service at ftp://ftp.wcc.nrcs.usda.gov/downloads/wastemgmt/AWMFH/awmfh-chap10-app10d.pdf.

Historical Note

Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-401 renumbered from R18-9-201 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-402. Nitrogen Management General Permits: Nitrogen Fertilizers

An owner or operator may apply a nitrogen fertilizer under this general permit without submitting a notice to the Director, if the owner or operator complies with the following best management practices:

1. Limit application of the fertilizer so that it meets projected crop or plant needs;
2. Time application of the fertilizer to coincide to maximum crop or plant uptake;

3. Apply the fertilizer by a method designed to deliver nitrogen to the area of maximum crop or plant uptake;
4. Manage and time application of irrigation water to minimize nitrogen loss by leaching and runoff; and
5. Use tillage practices that maximize water and nitrogen uptake by a crop or plant.

Historical Note

Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-402 renumbered from R18-9-202 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-403. Nitrogen Management General Permits: Concentrated Animal Feeding Operations

A. An owner or operator may discharge from a concentrated animal feeding operation without submitting a notice to the Director, if the owner or operator complies with the following best management practices:
1. Harvest, stockpile, and dispose of animal manure from a concentrated animal feeding operation to minimize discharge of any nitrogen pollutant by leaching and runoff;
2. Control and dispose of nitrogen-contaminated water resulting from an activity associated with a concentrated animal feeding operation, up to a 25-year, 24-hour storm event equivalent, to minimize the discharge of any nitrogen pollutant;
3. Following the requirements in subsection (B), construct and maintain a lining for an impoundment, used to contain process wastewater or contact stormwater from a concentrated animal feeding operation to minimize the discharge of any nitrogen pollutant; and
4. Close a facility in a manner that will minimize the discharge of any nitrogen pollutant. If a liner was used in an impoundment:
   a. Remove liquids and any solid residue on the liner and dispose appropriately;
   b. Inspect any synthetic liner for evidence of holes, tears, or defective seams that could have leaked. If evidence of leakage is discovered:
      i. Remove the liner in the area of suspected leakage,
      ii. Sample potentially impacted soil, and
      iii. Properly dispose of impacted soil or restore to background nitrogen levels;
   c. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   d. Remove and dispose of the liner elsewhere if the impoundment is bermed;
   e. Grade the facility to prevent the impoundment of water; and
   f. Notify the Department within 60 days following closure.

B. Lining requirements for concentrated animal feeding operation impoundments.
1. New impoundments. The owner or operator shall:
   a. Follow the NRCS guidelines for any newly constructed impoundment or an impoundment first used after November 12, 2005, and
   b. Use a coefficient of permeability of 1 X 10^{-7} centimeters per second or less as acceptable liner performance. The owner or operator may include up to 1 order of magnitude reduction in permeability from manure sealing in impoundments that hold wastes having manure as a significant component.
2. Impoundments already in use.
   a. The owner or operator shall maintain the existing seal for any impoundment first used before November 12, 2005.
   b. If any of the following conditions exist at a concentrated animal feeding operation, the Director shall send a notice requiring the owner or operator to reassess the performance of the lining system:
      i. The concentrated animal feeding operation is located within a Nitrogen Management Area designated under R18-9-A317; or
      ii. Existing conditions or trends in nitrogen loading to an aquifer will cause or contribute to an exceedance of an Aquifer Water Quality Standard for a nitrogen pollutant at the point of compliance determined under A.R.S. § 49-244, based on the following information:
         (1) Existing contamination of groundwater by nitrogen species;
         (2) Existing and potential impact to groundwater by sources of nitrogen other than the concentrated animal feeding operation;
         (3) Characteristics of the soil surface, vadose zone, and aquifer;
         (4) Depth to groundwater;
         (5) The estimated operational life of the impoundment;
         (6) Location and characteristics of existing and potential drinking water supplies;
         (7) Construction material and design of existing impoundment structure; and
         (8) Any other information relevant to determining the severity of actual or potential nitrogen impact on the aquifer.
   c. The owner or operator shall, within 90 days of the Director's notice, submit either:
      i. A report to the Department demonstrating consistency with NRCS guidelines and the acceptable liner performance criteria established in subsection (B)(1)(b); or
      ii. Plans and a schedule to upgrade the liner for the impoundment to meet the NRCS guidelines and the acceptable liner performance criteria in subsection (B)(1)(b). The Director may provide additional time for the submittal of the plans and a schedule for upgrade, if the owner or operator demonstrates that technical or financial assistance to develop the plans is needed.
   d. Preliminary decision.
      i. Within 90 days from the date of receipt, the Director shall review the report or the plans submitted under subsection (B)(2)(c) and provide to the owner or operator a preliminary decision on the submittal.
      ii. The owner or operator may, within 30 days of the preliminary decision, submit written comments and supporting information to the Director on the preliminary decision.
      iii. The Director shall evaluate any comments on the preliminary decision and supporting information and, within 90 days of receipt of the

comments and information, make a final decision.

e. Final decision.

i. If the Director determines that the owner or operator has demonstrated that the lining system meets NRCS guidelines and the acceptable performance criteria in subsection (B)(1)(b), no additional action is necessary.

ii. If the Director approves the plans and schedules under subsection (B)(2)(c)(ii), the owner or operator shall implement the plans within the time-frame specified in the approved schedule.

iii. If the Director determines that the owner or operator failed to demonstrate that the lining system meets NRCS guidelines and the acceptable performance criteria in subsection (B)(1)(b) or that the schedule to upgrade the lining is not acceptable, the owner or operator shall upgrade the lining system within a time-frame specified by the Director.

iv. The owner or operator may appeal the Director's decision under A.R.S. Title 41, Chapter 6, Article 10.

3. Notification requirement. The owner or operator of any lined impoundment shall either:

a. Notify the Department of the type of liner that was used to line each impoundment by February 19 of each year following either:

i. The first use of an impoundment not used before November 12, 2005; or

ii. Completion of a liner upgrade required under this Section for an impoundment used before November 12, 2005; or

b. Include the information required in subsections (B)(3)(a)(i) and (ii) in the next annual report submitted for the AZPDES Concentrated Animal Feeding Operation General Permit, issued under 18 A.A.C. 9, Article 9, Part C.

Historical Note

Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-403 renumbered from R18-9-203 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

R18-9-404. Revocation of Coverage under a Nitrogen Management General Permit

A. The Director may revoke coverage under a nitrogen management general permit and require the permittee to obtain an individual permit under 18 A.A.C. 9, Article 2, if the Director determines that the permittee failed to comply with the best management practices under R18-9-403.

B. Notification.

1. If coverage under the nitrogen management general permit is revoked under subsection (A), the Director shall notify the permittee by certified mail of the decision according to the notification and hearing procedures in A.R.S. Title 41, Chapter 6, Article 10. The notification shall include:

a. A brief statement of the reason for the decision,

b. The effective revocation date of the general permit coverage, and

c. A statement of whether the discharge shall cease immediately or whether the discharge may continue until the individual permit is issued, and

2. If the Director requires a person to obtain an individual permit, the notification shall include:

a. An individual permit application form, and

b. A deadline between 90 and 180 days after receipt of the notification for filing the application.

C. When the Director issues an individual permit to an owner or operator of a facility covered under a nitrogen management general permit, the coverage under the nitrogen management general permit is superseded by the individual permit allowing the discharge.

Historical Note

New Section made by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

ARTICLE 5. GRAZING BEST MANAGEMENT PRACTICES

R18-9-501. Surface Water Quality General Grazing Permit

A. A person who engages in livestock grazing and applies any of the following voluntary best management practices to maintain soil cover and prevent accelerated erosion, nitrogen discharges, and bacterial impacts to surface water greater than the natural background amount is issued a Surface Water Quality General Grazing Permit:

1. Manages the location, timing, and intensity of grazing activities to help achieve Surface Water Quality Standards;

2. Installs rangeland improvements, such as fences, water developments, trails, and corrals to help achieve Surface Water Quality Standards;

3. Implements land treatments to help achieve Surface Water Quality Standards;

4. Implements supplemental feeding, salting, and parasite control measures to help achieve Surface Water Quality Standards.

B. The person to whom a permit is issued shall make the following information available to the Department, at the person's place of business, within 10 business days of Department notice:

1. The name and address of the person grazing livestock, and

2. The best management practices selected for livestock grazing.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 1768, effective April 5, 2001 (Supp. 01-2).

ARTICLE 6. UNDERGROUND INJECTION CONTROL

R18-9-601. Repealed

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section repealed by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-602. Repealed

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section repealed by final rulemaking at 23 A.A.R. 3091, effective

January 1, 2018 (Supp. 17-4).

R18-9-603. Repealed

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section repealed by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART A. GENERAL PROVISIONS

R18-9-A601. Definitions
The following terms apply to this Article:

1. "Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.
2. "Administrator" means the Administrator of the United States Environmental Protection Agency (EPA), or an authorized representative.
3. "Application" means the ADEQ prescribed method, such as a form, for applying for a permit, including any additions, revisions or modifications thereof.
4. "Appropriate Act and regulations" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA); or Safe Drinking Water Act (SDWA), whichever is applicable; and applicable regulations promulgated under those statutes.
5. "Aquifer" means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.
6. "Area of review" means the area surrounding an injection well described according to the criteria set forth in R18-9-B612 or in the case of an area permit, the project area plus a circumscribing area the width of which is either 1/4 of a mile or a number calculated according to the criteria set forth in R18-9-B612.
7. "Arizona UIC Memorandum of Agreement" means the agreement between the Administrator and the Director that coordinates EPA and ADEQ activities, responsibilities, and programs under the Arizona UIC Program.
8. "Arizona UIC Program" means the UIC program administered by the Director and approved by EPA according to 42 U.S.C. § 300h-1.
9. "Casing" means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling to support the sides of the hole and prevent the walls from caving; to prevent loss of drilling mud into porous ground; or to prevent water, gas, or other fluid from entering or leaving the hole.
10. "Catastrophic collapse" means the sudden and utter failure of overlaying strata caused by removal of underlying materials.
11. "Cementing" means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.
12. "Cesspool" means a drywell that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.
13. "Confining zone" means a geological formation, group of formations, or parts of a formation that is capable of limiting fluid movement above an injection zone.
14. "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.
15. "Conventional mine" means an open pit or underground excavation for the production of minerals.
16. "Director" means the Director of the Arizona Department of Environmental Quality or the Director's designee.
17. "Disposal well" means a well that is used for the disposal of waste into a subsurface stratum.
18. "Draft permit" means a document prepared under R18-9-C618 indicating the Director's tentative decision to issue, renew, modify, revoke and reissue, or terminate a permit. A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in R18-9-C631 are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination, of a permit is not a draft permit, except as discussed in R18-9-C631(B).
19. "Drilling mud" means a heavy suspension used in drilling an injection well, introduced down the drill pipe and through the drill bit.
20. "Drywell" means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.
21. "Effective date of the Arizona UIC Program" means the date that the Arizona UIC Program is approved or established by the Administrator.
22. "Emergency permit" means a UIC permit issued in accordance with R18-9-C625.
23. "Environmental Protection Agency" or "EPA" means the United States Environmental Protection Agency.
24. "Exempted aquifer" means an aquifer or its portion that meets the criteria in the definition of underground source of drinking water (USDW) but has been exempted according to the procedures in R18-9-A605.
25. "Existing injection well" means an injection well other than a new injection well.
26. "Experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested.
27. "Facility" or "activity" means any UIC injection well subject to regulation under this Article.
28. "Fault" means a surface or zone of rock fracture along which there has been displacement.
29. "Final permit decision" means the Director's decision to issue, renew, modify, revoke and reissue, deny or terminate a permit as described in R18-9-C627.
30. "Flow rate" means the volume per time unit given the flow of gases or other fluid substance which emerges from an orifice, pump, turbine, or passes along a conduit or channel.
31. "Fluid" means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.
32. "Formation" means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.
33. "Formation fluid" means fluid present in a formation under natural conditions as opposed to introduced fluids, such as drilling mud.
34. "Generator" means any person, by site location, whose act or process produces hazardous waste identified or listed in A.A.C. Title 18, Chapter 8 (Hazardous Waste Management).

35. "Geologic sequestration" means the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.
36. "Ground water" means water below the land surface in a zone of saturation.
37. "Hazardous waste" means a hazardous waste as defined in A.R.S. § 49-921.
38. "Improved sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.
39. "Indian lands" means Indian country as defined in 18 U.S.C. 1151.
40. "Indian Tribe" means any Indian Tribe having a Federally recognized governing body carrying out substantial governmental duties and powers over a defined area.
41. "Injection well" means a well into which fluids are being injected.
42. "Injection zone" means a geological formation group of formations, or part of a formation receiving fluids through a well.
43. "Lithology" means the description of rocks on the basis of their physical and chemical characteristics.
44. "Major facility" means any UIC facility or activity classified as such by the Administrator in conjunction with the Director.
45. "New injection wells" means an injection well which began injection after the effective date of the Arizona UIC Program.
46. "Owner" or "operator" means the owner or operator of any facility or activity subject to regulation under the Arizona UIC program.
47. "Packer" means a device lowered into a well to produce a fluid-tight seal.
48. "Permit" means an authorization issued by the Director pursuant to this Article. 'Permit' includes an area permit under R18-9-C624 and an emergency permit under R18-9-C625. 'Permit' does not include UIC authorization by rule or any permit which has not yet been subject to a final permit decision, such as a 'draft permit.'"
49. "Person" means an individual, employee, officer, managing body, trust, firm, joint-stock company, consortium, public or private corporation, Partnership, association or state, a political subdivision of this state, a commission, the United States government or any federal facility, interstate body, Tribal agency, or other entity.
50. "Plugging" means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.
51. "Plugging record" means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.
52. "Pressure" means the total load or force per unit area acting on a surface.
53. "Project" means a group of wells in a single operation.
54. "Radioactive Waste" means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR part 20, appendix B, table II column 2.
55. "RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609, Pub. L. 96-510, 42 U.S.C. 6901 et seq.).
56. "Sanitary waste" means liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commercial facilities, and industrial facilities provided the waste is not mixed with industrial waste.
57. "Schedule of compliance" means a schedule of remedial measures included in a permit including an enforceable sequence of interim requirements leading to compliance with this Article.
58. "SDWA" or "Safe Drinking Water Act" means the Safe Drinking Water Act (Pub. L. 93-523, as amended; 42 U.S.C. 300f et seq.).
59. "Septic system" means a well that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.
60. "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.
61. "Stratum" means a single sedimentary bed or layer, or series of layers that consists of generally the same kind of rock material regardless of thickness. The plural of stratum is strata.
62. "Subsidence" means the lowering of the natural land surface in response to earth movements; lowering fluid pressures; removal of underlying support material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting; oxidation of organic matter in soils; or added load on the land surface.
63. "Subsurface fluid distribution system" means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.
64. "Surface casing" means the first string of well casing to be installed in the well.
65. "Total dissolved solids" or "TDS" means the total dissolved (filterable) solids as determined by use of the method specified in A.A.C. R9-14-610 or R9-14-611.
66. "Transferee" means the owner or operator receiving ownership and/or operational control of the well.
67. "Transferor" means the owner or operator transferring ownership and/or operational control of the well.
68. "Underground injection" means a well injection; which excludes the underground injection of natural gas for purposes of storage and the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.

69. "Underground Injection Control" or "UIC" means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including the Arizona UIC Program.
70. "USDW," "USDWs," or "Underground source of drinking water" means an aquifer or aquifers or its portion that:
    a. Supplies any public water system; or
    b. Contains a sufficient quantity of ground water to supply a public water system; and
        i. Currently supplies drinking water for human consumption; or
        ii. Contains fewer than 10,000 mg/l total dissolved solids; and
    c. Is not an exempted aquifer.
71. "Well" means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or a subsurface fluid distribution system.
72. "Well injection" means the subsurface emplacement of fluids through a well.
73. "Well plug" means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.
74. "Well monitoring" means the measurement, by on-site instruments or laboratory methods, of the quality of water in a well.
75. "Well stimulation" means several processes used to clean the well bore, enlarge channels and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation and includes surging, jetting, blasting, acidizing, or hydraulic fracturing.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-A602. Applicability

A. This Article becomes effective upon the date of the Environmental Protection Agency's approval of the Arizona UIC Program. Upon that date, the Department shall, under A.R.S. Title 49, Chapter 2, Articles 3.3, 4 and Article 6 of this Chapter, administer and enforce any permit which has been previously authorized or issued in this state under the Federal UIC program.

B. This Article and 40 CFR Part 145, Subpart C provide the minimum requirements of the State of Arizona's Underground Injection Control (UIC) program under A.R.S. Title 49, Chapter 2, Article 3.3 (Underground Injection Control Permit Program) and pursuant to Part C of the Safe Drinking Water Act (SDWA) (Pub. L. 93-523, as amended; 42 U.S.C. 300h et seq.).

C. Underground injection is prohibited in lands under the jurisdiction of the State of Arizona unless:
1. Authorized by permit or rule under this Article in accordance with 42 U.S.C. 300h et seq., or
2. Authorized by OGCC pursuant to regulations approved by EPA.

D. Any injection activity authorized by permit or rule under this Article shall prohibit the movement of fluid containing any contaminant into underground sources of drinking water (USDWs), where the presence of that contaminant may cause a violation of this Article or may adversely affect the health of persons.

E. Injection wells regulated under this Article are categorized into six classes based on characteristics of the injection well activity. Owners or operators of injection wells regulated under all six classes must be authorized by permit (all classes) or rule (Class V only if no permit is required) pursuant to the requirements of this Article.

F. Specific inclusions. The following wells are included among those types of injection activities which are covered by the UIC regulations in this Article. (This list is not intended to be exclusive but is for clarification only.)
1. Any injection well located on a drilling platform inside the State's territorial waters.
2. Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.
3. Any well used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste. This includes the disposal of hazardous waste into what would otherwise be septic systems and cesspools, regardless of their capacity.
4. Any septic tank, cesspool, or other well used by a multiple dwelling, or community, or other large system for the injection of wastes.

G. Specific exclusions. The following are not covered by these regulations:
1. Septic systems or similar waste disposal systems if such systems:
    a. Are used solely for the disposal of sanitary waste, and
    b. Have a design capacity of less than 3,000 gallons per day.
2. Injection wells used for injection of hydrocarbons which are of pipeline quality and are gases at standard temperature and pressure for the purpose of storage.
3. Any dug hole, drilled hole, or bored shaft which is not used for the subsurface emplacement of fluids.
4. Injection wells authorized by OGCC pursuant to regulations approved by EPA, in accordance with 42 U.S.C. 300h et seq.

H. Safe Drinking Water Act exemptions. The following activities are exempt from the Arizona UIC Program:
1. The underground injection of natural gas for purposes of storage.
2. The underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.

I. The Director may identify aquifers and portions of aquifers which are actual or potential sources of drinking water, to assist in carrying out the Director's duty pursuant to this Article. Any aquifer meeting the criteria under R18-9-A601(70) shall be protected as an USDW, even if it has not been explicitly identified pursuant to this Section.

J. The Director may also designate aquifers or portions of aquifers as exempt from the program using the criteria in R18-9-A605 and R18-9-A606, subject to EPA approval. Any aquifer or portion thereof within the State that has previously been designated exempt by EPA pursuant to 40 CFR § 144.7 shall be part of the Arizona UIC program upon the effective date of the Arizona UIC program.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022

(Supp. 22-3).

R18-9-A603. Confidentiality of Information

A. In accordance with A.R.S. § 49-205, any information submitted to the Director pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the Director may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in A.R.S. § 49-205 (Availability of information to the public).

B. Claims of confidentiality for the following information will be denied:

1. The name and address of any permit applicant or permittee.
2. Information which deals with the existence, absence, or level of contaminants in drinking water.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-A604. Classification of Wells

A. Class I wells are:

1. Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation that contains, within one-quarter mile of the well bore, an USDW.
2. Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation that contains, within one-quarter mile of the well bore, an USDW.
3. Radioactive waste disposal wells which inject fluids beneath the lowermost formation that contains, within one-quarter mile of the well bore, an USDW.

B. Class II wells are injection wells that inject fluids:

1. That are brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.
2. For enhanced recovery of oil or natural gas.
3. For storage of hydrocarbons which are liquid at standard temperatures and pressure.

C. Class III wells are injection wells used for the extraction of minerals, including:

1. Sulfur mining by the Frasch process.
2. In-situ production of uranium or other metals from those ore bodies not conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.
3. Solution mining of salts or potash.

D. Class IV wells are injection wells that either:

1. Inject hazardous or radioactive wastes into or above a formation with an USDW located within one-quarter mile of the well bore, or
2. Inject hazardous wastes and cannot be classified under subsection (A)(1), or (D)(1) (e.g., wells used to dispose of hazardous wastes into or above a formation which contains an aquifer which has been previously exempted or exempted pursuant to R18-9-A606).

E. Class V wells are injection wells not included in Class I, II, III, IV, or VI.

1. Class V wells include but are not limited to:
   a. Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump.
   b. Cesspools including multiple dwelling, community or regional cesspools, or other devices that receive wastes which have an open bottom and sometimes have perforated sides. The UIC requirements do not apply to single family residential cesspools nor to non-residential cesspools which receive solely sanitary wastes and have the capacity to serve fewer than 20 persons a day.
   c. Cooling water return flow wells used to inject water previously used for cooling.
   d. Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation.
   e. Dry wells used for the injection of wastes into a subsurface formation.
   f. Recharge wells used to replenish the water in an aquifer.
   g. Salt water intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water.
   h. Sand backfill and other backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines, except for radioactive wastes.
   i. Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank.
   j. Subsidence control wells, other than those used in oil or natural gas production, that inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with freshwater overdraft.
   k. Injection wells associated with the recovery of geothermal energy for heating, aquaculture, and production of electric power.
   l. Wells used for solution mining of conventional mines such as stopes leaching.
   m. Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
   n. Injection wells used in experimental technologies.
   o. Injection wells used for in situ recovery of lignite, coal, tar sands, and oil shale.
2. Class V wells do not include single-family residential septic system wells or non-residential septic system wells used solely for the disposal of sanitary waste with a design capacity of less than 3,000 gallons per day.

F. Class VI wells are:

1. Not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW;
2. Wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at R18-9-J670; or
3. Wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas

recovery aquifer exemption pursuant to R18-9-A605 of this Chapter and R18-9-A604.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-A605. Identification of Underground Sources of Drinking Water and Exempt Aquifers

A. The Director may identify, by narrative description, illustration, maps, or other means, and shall protect as USDWs, all aquifers and parts of aquifers that meet the definition of USDW in R18-9-A601(70) except to the extent there is an applicable aquifer exemption under subsection (B) or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under subsection (D). Other than EPA-approved aquifer exemption expansions that meet the criteria set forth in R18-9-A606(4), new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the Director, it is an USDW if it meets the definition in R18-9-A601(70).

B. Aquifer exemptions procedure:
1. The Director may identify, by narrative description, illustrations, maps, or other means, and describe in geographic and/or geometric terms, such as vertical and lateral limits and gradient, that are clear and definite, all aquifers or parts thereof that the Director proposes to designate as exempted aquifers using the criteria in R18-9-A606.
2. No designation of an exempted aquifer submitted as part of Arizona's UIC program shall be final until approved by EPA as part of the Arizona UIC Program. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the EPA as a substantial revision of the Arizona UIC Program in accordance with 40 CFR 145.32.
3. Subsequent to the program approval or promulgation, the Director may, after notice and opportunity for public hearing, identify additional exempted aquifers.
4. Exemption of aquifers identified:
   a. Under R18-9-A606(2) shall be treated as a program revision under 40 CFR 145.32;
   b. Under R18-9-A606(3) shall become final if the Director submits the exemption in writing to the Administrator and the Administrator has not disapproved the designation within 45 days.

C. Additional aquifer exemption requirements:
1. For Class III wells, the Director shall require an applicant for a permit which necessitates an aquifer exemption under R18-9-A606(2)(a) to furnish the data necessary to demonstrate that the aquifer is expected to be mineral or hydrocarbon producing. Information contained in the mining plan for the proposed project, such as a map and general description of the mining zone, general information on the mineralogy and geochemistry of the mining zone, analysis of the amenability of the mining zone to the proposed mining method, and a time-table of planned development of the mining zone shall be considered by the Director in addition to the information required by R18-9-C616(D).
2. For Class II wells, a demonstration of commercial producibility shall be made as follows:
   a. For a Class II well to be used for enhanced oil recovery processes in a field or project containing aquifers from which hydrocarbons were previously produced, commercial producibility shall be presumed by the Director upon a demonstration by the applicant of historical production having occurred in the project area or field.
   b. For Class II wells not located in a field or project containing aquifers from which hydrocarbons were previously produced, information such as logs, core data, formation description, formation depth, formation thickness and formation parameters such as permeability and porosity shall be considered by the Director, to the extent such information is available.

D. Owners or operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the Director approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests must be treated as a substantial program revision to the Arizona UIC program under 40 CFR 145.32 and will not be final until approved by EPA.
1. The owner or operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define, by narrative description, illustrations, maps or other means, and describe in geographic and/or geometric terms, such as vertical and lateral limits and gradient, that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in R18-9-A606.
2. In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the Director must determine that the request meets the criteria for exemptions in R18-9-A606. In making the determination, the Director shall consider:
   a. Current and potential future use of the USDWs to be exempted as drinking water resources;
   b. The predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the geologic sequestration project, as informed by computational modeling performed pursuant to R18-9-J659(C)(1), in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation;
   c. Whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review, pursuant to R18-9-J659(E); and
   d. Any information submitted to support a waiver request made by the owner or operator under R18-9-J670 if appropriate.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022

(Supp. 22-3).

R18-9-A606. Criteria for Exempted Aquifers

An aquifer or a portion thereof which meets the criteria for an "USDW" in R18-9-A601(70) may be determined under R18-9-A605 to be an "exempted aquifer" for Class I-V wells if it meets the criteria in subsections (A)(1) through (A)(3). Class VI wells must meet the criteria under subsection (A)(4).

1. It does not currently serve as a source of drinking water; and
2. It cannot now and will not in the future serve as a source of drinking water because:
   a. It is mineral hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or Class III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;
   b. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technically impractical;
   c. It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or
   d. It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or
3. The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.
4. The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under R18-9-A605(D) if it meets the following criteria:
   a. It does not currently serve as a source of drinking water; and
   b. The total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and
   c. It is not reasonably expected to supply a public water system.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART B. GENERAL PROGRAM REQUIREMENTS

R18-9-B607. Prohibition of Unauthorized Injection

Any underground injection, except into a well authorized by rule or authorized by permit under the Arizona UIC program, is prohibited. The construction of any well required to have a permit is prohibited until the permit has been issued.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B608. Prohibition of Movement of Fluid into Underground Sources of Drinking Water

A. No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of any primary drinking water regulation under this Article, as shown in Table 1, or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this subsection are met.

B. For Class I, II, III, and VI wells, if any water quality monitoring of an USDW indicates the movement of any contaminant into the USDW, except as authorized under this Article, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with R18-9-C632 or the permit may be terminated under R18-9-C634 if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of Class V wells authorized by rule see R18-9-I650 through R18-9-I655 in Part I of this Article.

C. For Class V wells, if at any time the Director learns that a Class V well may cause a violation of primary drinking water regulations under this Article, they shall:

1. Require the injector to obtain an individual permit;
2. Order the injector to take such actions (including, where required, closure of the injection well) as may be necessary to prevent the violation; or
3. Take enforcement action.

D. Whenever the Director learns that a Class V well may be otherwise adversely affecting the health of persons, they may prescribe such actions as may be necessary to prevent the adverse effect, including any action authorized under subsection (C).

E. Notwithstanding any other provision of this Section, the Director may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or USDW may present an imminent and substantial endangerment to the health of persons.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B609. Prohibition of Hazardous Waste Injection and Class IV Wells

A. Hazardous Waste Injection.

1. The following are prohibited, except as provided in subsection (B)(3):
   a. The construction of any well for the purpose of hazardous waste injection.
   b. The operation of any well for the purpose of hazardous waste injection.
2. The owner or operator of a well for the purpose of hazardous waste injection shall close the well in accordance with this subsection.
3. The owner or operator of a well for the purpose of hazardous waste injection shall comply with the following requirements regarding closure of the well.
   a. Prior to abandoning any well for the purpose of hazardous waste injection, the owner or operator shall plug or otherwise close the well in a manner acceptable to the Director.
   b. The owner or operator of a well for the purpose of hazardous waste injection must notify the Director of intent to abandon the well at least 30 days prior to abandonment.

B. Class IV.

1. The following are prohibited, except as provided in subsection (B)(3):
   a. The construction of any Class IV well.
   b. The operation or maintenance of any Class IV well.
2. The owner or operator of a Class IV well shall comply with the requirements of R18-9-H649 regarding closure of Class IV wells.
3. Wells used to inject contaminated groundwater that has been treated and is being reinjected into the same formation that it was drawn are not prohibited by this Section if such injection is approved by the Administrator or the Director pursuant to subsections (B)(3)(a), (b) or (c):
   a. Provisions for cleanup of releases under CERCLA, or
   b. The requirements and provisions under RCRA, or
   c. The requirements and provisions under other applicable state laws for corrective and remedial action.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B610. Waiver of Requirement by Director

A. When injection does not occur into, through, or above an USDW, the Director may authorize a well or project with less stringent requirements for area of review, construction, mechanical integrity, operation, monitoring, and reporting than required under this Article or R18-9-D636 to the extent that reduction in requirements will not result in an increased risk of movement of fluids into an USDW.

B. When injection occurs through or above an USDW, but the radius of endangering influence when computed under R18-9-B612(A) is smaller or equal to the radius of the well, the Director may authorize a well or project with less stringent requirements for operation, monitoring, and reporting than required under R18-9-D636 to the extent that a reduction in requirements will not result in an increased risk of movement of fluids into an USDW.

C. When reducing requirements under this Section, the Director shall prepare a fact sheet under R18-9-C619 explaining the reasons for the action.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B611. Records

The Director may require, by written notice on a selective well-by-well basis, an owner or operator of an injection well to establish and maintain records, make reports, conduct monitoring, and provide other information as is deemed necessary to determine whether the owner or operator has acted or is acting in compliance with this Article and Part C of the SDWA or its implementing regulations.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B612. Area of Review

A. The area of review for each injection well or each field, project or area of the State shall be determined according to this Section. The Director may solicit input from the owners or operators of injection wells within the State as to which method is most appropriate for each geographic area or field.

B. Where the area of review is determined according to the zone of endangering influence:
1. The zone of endangering influence shall be:
   a. In the case of application or applications for well permit or permits under R18-9-C616 that area the radius of which is the lateral distance in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into an USDW; or
   b. In the case of an application for an area permit under R18-9-C624, the project area plus a circumscribing area the width of which is the lateral distance from the perimeter of the project area, in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into an USDW.
2. Computation of the zone of endangering influence may be based upon the parameters listed in the following equation and should be calculated for an injection time period equal to the expected life of the injection well or pattern. The following modified Theis equation illustrates one form which the mathematical model may take.
   a.

$$r = \left(\frac{2.25KHt}{S10^{x}}\right)^{1/2}$$

where:

$$X = \frac{4\pi KH\left(h_w - h_{bo} \times S_p G_b\right)}{2.3Q}$$

r = Radius of endangering influence from injection well (length)
K = Hydraulic conductivity of the injection zone (length/time)
H = Thickness of the injection zone (length)
t = Time of injection (time)
S = Storage coefficient (dimensionless)
Q = Injection rate (volume/time)
h_{bo} = Observed original hydrostatic head of injection zone (length) measured from the base of the lowermost USDW
h_w = Hydrostatic head of USDW (length) measured from the base of the lowest USDW
$S_p G_b$ = Specific gravity of fluid in the injection zone (dimensionless)
π = 3.142 (dimensionless)

   b. The equation in subsection (B)(2)(a) is based on the following assumptions:
      1. The injection zone is homogeneous and isotropic;
      2. The injection zone has infinite area extent;
      3. The injection well penetrates the entire thickness of the injection zone;
      4. The well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and
      5. The emplacement of fluid into the injection zone creates instantaneous increase in pressure.

C. Where Fixed Radius is used, the following shall apply:
1. In the case of application of applications for well permit or permits under R18-9-C616 a fixed radius around the well of not less than one-quarter mile may be used.

2. In the case of an application for an area permit under R18-9-C624, a fixed radius width of not less than one-quarter mile for circumscribing area may be used.
3. In determining the fixed radius, the following factors shall be taken into consideration: Chemistry of injected and formation fluids; hydrogeology; population and ground-water use and dependence; and historical practices in the area.

D. If the area of review is determined by a mathematical model according to subsection (B), the permissible radius is the result of such calculation even if it is less than one-fourth mile.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B613. Mechanical Integrity

A. An injection well has mechanical integrity if:
1. There is no significant leak in the casing, tubing or packer; and
2. There is no significant fluid movement into an USDW through vertical channels adjacent to the injection well bore.

B. One of the following methods must be used to evaluate the absence of significant leaks under subsection (A)(1):
1. Following an initial pressure test, monitoring of the tubing-casing annulus pressure with sufficient frequency to be representative, as determined by the Director, while maintaining an annulus pressure different from atmospheric pressure measured at the surface;
2. Pressure test with liquid or gas; or
3. Records of monitoring showing the absence of significant changes in the relationship between injection pressure and injection flow rate for the following Class II enhanced recovery wells:
   a. Existing wells completed without a packer provided that a pressure test has been performed and the data is available and provided further that one pressure test shall be performed at a time when the well is shut down and if the running of such a test will not cause further loss of significant amounts of oil or gas; or
   b. Existing wells constructed without a long string casing, but with surface casing which terminates at the base of fresh water provided that local geological and hydrological features allow such construction and provided further that the annular space shall be visually inspected. For these wells, the Director shall prescribe a monitoring program which will verify the absence of significant fluid movement from the injection zone into an USDW.

C. One of the following methods must be used to determine the absence of significant fluid movement under subsection (A)(2):
1. The results of a temperature or noise log;
2. For Class II only, cementing records demonstrating the presence of adequate cement to prevent such migration;
3. For Class III wells where the nature of the casing precludes the use of the logging techniques prescribed at subsection (C)(1), cementing records demonstrating the presence of adequate cement to prevent such migration; or
4. For Class III wells where the Director elects to rely on cementing records to demonstrate the absence of significant fluid movement, the monitoring program prescribed by R18-9-G647(B) shall be designed to verify the absence of significant fluid movement.

D. The Director may allow the use of a test to demonstrate mechanical integrity other than those listed in subsections (B) and (C)(2) with the written approval of the Administrator.

E. In conducting and evaluating the tests enumerated in this Section or others to be allowed by the Director, the owner or operator and the Director shall apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, they shall include a description of the test or tests and the method or methods used. In making the evaluation, the Director shall review monitoring and other test data submitted since the previous evaluation.

F. The Director may require additional or alternative tests if the results presented by the owner or operator under subsection (E) are not satisfactory to the Director to demonstrate that there is no movement of fluid into or between USDWs resulting from the injection activity.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B614. Plugging and Abandoning Class I, II, III, IV, and V Wells

A. Requirements for Class I, II and III wells.
1. Prior to abandoning Class I, II and III wells, the well shall be plugged with cement in a manner which will not allow the movement of fluids either into or between USDWs. The Director may allow Class III wells to use other plugging materials if the Director is satisfied that such materials will prevent movement of fluids into or between USDWs.
2. Placement of the cement plugs shall be accomplished by one of the following:
   a. The Balance method;
   b. The Dump Bailer method;
   c. The Two-Plug method; or
   d. An alternative method approved by the Director, which will reliably provide a comparable level of protection to USDWs.
3. The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director, prior to the placement of the cement plug or plugs.
4. The plugging and abandonment plan required under R18-9-D635(15) and R18-9-D636(A)(5) shall, in the case of a Class III project which underlies or is in an aquifer which has been exempted under R18-9-A606, also demonstrate adequate protection of USDWs. The Director shall prescribe aquifer cleanup and monitoring where it is deemed necessary and feasible to insure adequate protection of USDWs.

B. Requirements for Class IV wells. Prior to abandoning a Class IV well, the owner or operator shall close the well in accordance with R18-9-H649.

C. Requirements for Class V wells.
1. Prior to abandoning a Class V well, the owner or operator shall close the well in a manner that prevents the movement of fluid containing any contaminant into an USDW, if the presence of that contaminant may cause a violation

of any primary drinking water regulation under Table 1 of this Article or may otherwise adversely affect the health of persons.

2. The owner or operator shall dispose of or otherwise manage any soil, gravel, sludge, liquids, or other materials removed from or adjacent to the well in accordance with all applicable Federal, State, and local regulations and requirements.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-B615. Transitioning from Class II to Class VI Injection Well

A. Owners and operators that are injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir must apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to the USDWs compared to Class II operations. In determining if there is an increased risk to USDWs, the owner or operator must consider the factors specified in subsection (B).

B. The Director shall determine when there is an increased risk to USDWs compared to Class II operations and a Class VI permit is required. In order to make this determination the Director shall consider the following:

1. Increase in reservoir pressure within the injection zone or zones;
2. Increase in carbon dioxide injection rates;
3. Decrease in reservoir production rates;
4. Distance between the injection zone or zones and USDWs;
5. Suitability of the Class II area of review delineation;
6. Quality of abandoned well plugs within the area of review;
7. The owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;
8. The source and properties of injected carbon dioxide; and
9. Any additional site-specific factors as determined by the Director.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART C. AUTHORIZATION BY PERMIT FOR UNDERGROUND INJECTION

R18-9-C616. Individual Permits; Application for Individual Permits

A. Unless an underground injection well is authorized by rule under R18-9-I650, all injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit. Authorization by rule for a well or project that has submitted a permit application terminates for the well or project upon the effective date of the permit. Procedures for applications, issuance, and administration of emergency permits are found exclusively under R18-9-C625.

B. When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

C. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Director in accordance with the Arizona UIC program as follows:

1. For existing wells, as expeditiously as practicable.
2. For new injection wells, except new wells authorized by an existing area permit under R18-9-C624(C), at a reasonable time before construction is expected to begin.

D. All applicants for Class I, II, III, and V permits shall provide the following information to the Director, using the application form provided by the Director. Applicants for Class VI permits shall follow the criteria provided in R18-9-J657.

1. Activities conducted by the applicant which require a permit;
2. Name, mailing address, and location of the facility for which the application is submitted;
3. Up to four NAICS codes which best reflect the principal products or services provided by the facility;
4. The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity;
5. A listing of all state and federal environmental permits or construction approvals received or applied for and other relevant environmental permits;
6. A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, and other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within a quarter mile of the facility property boundary;
7. A brief description of the nature of the business;
8. A plugging and abandonment plan that meets the requirements of R18-9-B614 and is acceptable to the Director;
9. A listing of any historic property or potential historic property as defined by R12-8-301.

E. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this Section for a period of at least three years from the date the application is signed.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C617. Signatories

A. All permit applications, except those submitted for Class II wells, shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:
   a. A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or
   b. The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. For a Partnership or sole proprietorship: by a general Partner or the proprietor, respectively; or

3. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this Section, a principal executive officer of a Federal agency includes:
   a. The chief executive officer of the agency; or
   b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All reports required by permits, other information requested by the Director, and all permit applications submitted for Class II wells under R18-9-C616 shall be signed by a person described in subsection (A), or by a duly authorized representative of that person. A person is a duly authorized representative only if:
1. The authorization is made in writing by a person described in subsection (A);
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; and
3. The written authorization is submitted to the Director.

C. If an authorization under subsection (B) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection (B) must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Any person signing a document under subsection (A) or (B) shall make the following certification: *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C618. Draft Permits

A. Once an application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.

B. If the Director tentatively decides to deny the permit application, they shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this Section. If the Director's final decision is that the tentative decision to deny the permit application was incorrect, they shall withdraw the notice of intent to deny and proceed to prepare a draft permit under subsection (D).

C. If the Director decides to prepare a draft permit, it shall contain the following information, to the extent applicable:
1. All conditions under R18-9-D635;
2. All compliance schedules under R18-9-D637;
3. All monitoring requirements under R18-9-D638; and
4. Permit conditions under R18-9-D636.

D. All draft permits prepared under this Section shall be accompanied by a brief summary of the basis for the draft permit conditions or the intent to deny, including references to applicable statutory or regulatory provisions and a fact sheet pursuant to R18-9-C619. The Director shall provide the applicant with the draft permit and the fact sheet and allow reasonable time for informal comment by the applicant prior to publicly noticing the draft permit and fact sheet. The Director shall give notice of opportunity for a public hearing and public comment, issue a final permit decision, and respond to comments.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C619. Fact Sheet

A. A fact sheet shall be prepared for every draft permit for a UIC facility or activity. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. The Director shall send the fact sheet to the applicant and, on request, to any other person.

B. The fact sheet shall include, when applicable:
1. A brief description of the type of facility or activity that is the subject of the draft permit.
2. The type and quantity of wastes, fluids, or pollutants that are proposed to be or are being injected.
3. A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record.
4. Reasons why any requested variance or alternatives to required standards do or do not appear justified.
5. A description of the procedures for reaching a final decision on the draft permit, including:
   a. The beginning and ending dates of the comment period under R18-9-C620 and the address where comments will be received;
   b. Procedures for requesting a hearing and the nature of that hearing; and
   c. Any other procedures by which the public may Participate in the final decision.
6. The name and telephone number of a person to contact for additional information.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C620. Public Notice of Permit Actions and Public Comment Period

A. The Director shall give public notice that the following actions have occurred:
1. A draft permit that has been prepared under R18-9-C618, and
2. A hearing has been scheduled under R18-9-C622.

B. Public notices may describe more than one permit or permit action.

C. Public notice of the preparation of a draft permit required under subsection (A):
1. Shall allow at least 30 days for public comment; and
2. Shall be given at least 30 days before the hearing date.

D. Public notice of activities described in subsection (A) shall be given by the following methods:

1. Delivery of a copy of the notice to:
   a. The applicant;
   b. Any affected federal, state, tribal, or local agency, or council of government;
   c. Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources, and the State Historic Preservation Office;
   d. Any person who requested, in writing, notification of the activity;
   e. Any persons on a contact list developed from past permit proceedings and public outreach; and
   f. State and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery and all agencies that oversee injection wells in the State for Classes I and VI injection well UIC permits.
2. For Major Facilities only, newspaper publication in accordance with A.A.C. R18-1-401(A)(1).

E. All public notices issued under this Part shall contain the following information:
1. Name and address of the Department;
2. Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;
3. A brief description of the business conducted at the facility or activity described in the permit application or the draft permit;
4. Name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or draft general permit, as the case may be, fact sheet, and the application;
5. A brief description of the comment procedures, the time and place of any hearing, including a statement of procedures to request a hearing, unless a hearing has already been scheduled, and other procedures that the public may use to participate in the final permit decision; and
6. Any additional information considered necessary to the permit decision.

F. In addition to the general public notice described in subsection (E), the public notice of hearing under R18-9-C622 shall contain the following information:
1. Reference to the date of previous public notices relating to the permit;
2. Date, time, and place of the hearing; and
3. A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

G. In addition to the general public notice described in subsection (E), the Director shall deliver a copy of the fact sheet, permit application, and draft permit to all persons identified in subsections (D)(1)(a), (b), and (c).

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-C621. Public Comments and Requests for Public Hearings

During the public comment period provided under R18-9-C620, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in R18-9-C623.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C622. Public Hearings

A. The Director shall hold a public hearing whenever they find, on the basis of a request, a significant degree of public interest in a draft permit or permits.

B. The Director may also hold a public hearing at their discretion such as when a hearing might clarify one or more issues involved in the permit decision. The Director may designate a presiding officer if a hearing is held.

C. Public notice of the hearing shall be given as specified in R18-9-C620.

D. Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under R18-9-C620 shall automatically be extended to the close of any public hearing under this Section. The hearing officer may also extend the comment period by so stating at the hearing.

E. An audio recording or written transcript of the hearing shall be made available to the public upon request.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C623. Response to Comments

A. At the time that any final permit is issued under R18-9-C627, the Director shall issue a response to comments. This response shall:
1. Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and
2. Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

B. The response to comments shall be available to the public.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C624. Area Permits

A. The Director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells:
1. Described and identified by location in permit application or applications if they are existing wells, except that the Director may accept a single description of wells with substantially the same characteristics;
2. Within the same well field, facility site, reservoir, project, or similar unit located in Arizona;
3. Operated by a single owner or operator;
4. Used to inject fluids other than hazardous waste; and
5. Other than Class VI wells.

B. Area permits shall specify:
1. The area within which underground injections are authorized; and

2. The requirements for construction, monitoring, reporting, operation, and abandonment, for all wells authorized by the permit.

C. The area permit may authorize the permittee to construct and operate, convert, or plug and abandon wells within the permit area provided:
1. The permittee notifies the Director at such time as the permit requires;
2. The additional well satisfies the criteria in subsection (A) and meets the requirements specified in the permit under subsection (B); and
3. The cumulative effects of drilling and operation of additional injection wells are considered by the Director during evaluation of the area permit application and are acceptable to the Director.

D. If the Director determines any well that is constructed pursuant to subsection (C) does not satisfy any of the requirements of subsections (C)(1) and (2) the Director may modify the permit under R18-9-C632, terminate under R18-9-C634, or take enforcement action. If the Director determines that cumulative effects are unacceptable, the permit may be modified under R18-9-C632.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C625. Emergency Permits

A. Notwithstanding any other provision of this Article, the Director may temporarily permit a specific underground injection if:
1. An imminent and substantial endangerment to the health of persons will result unless a temporary emergency permit is granted; or
2. A substantial and irretrievable loss of oil or gas resources will occur unless a temporary emergency permit is granted to a Class II well; and
   a. Timely application for a permit could not practicably have been made; and
   b. The injection will not result in the movement of fluids into USDWs; or
3. A substantial delay in production of oil or gas resources will occur unless a temporary emergency permit is granted to a new Class II well and the temporary authorization will not result in the movement of fluids into an USDW.

B. Requirements for issuance.
1. Any temporary permit under subsection (A)(1) shall be for no longer term than required to prevent the hazard.
2. Any temporary permit under subsection (A)(2) shall be for no longer than 90 days, except that if a permit application has been submitted prior to the expiration of the 90-day period, the Director may extend the temporary permit until final action on the application.
3. Any temporary permit under subsection (A)(3) shall be issued only after a complete permit application has been submitted and shall be effective until final action on the application.
4. Notice of any temporary permit under this Section shall be published in accordance with R18-9-C621 within 10 days of the issuance of the permit.
5. The temporary permit under this Section may be either oral or written. If oral, it must be followed within five calendar days by a written temporary emergency permit.
6. The Director shall condition the temporary permit in any manner they determine is necessary to ensure that the injection will not result in the movement of fluids into an USDW.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C626. Effect of a Permit

A. Except for Class II and III wells, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with this Article and Part C of the SDWA. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in R18-9-C632 and R18-9-C634.

B. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

C. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C627. Final Permit Decision and Notification

A. Issuance of a final permit decision by the Director shall be accompanied by the permit and an updated fact sheet per R18-9-C619, if applicable, and a notification to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The notice and hearing procedures are subject to either A.R.S. Title 41, Chapter 6, Article 10, or A.R.S. Title 49, Chapter 2, Article 7.

B. The notice shall include:
1. If applicable, the reasons for the denial, revocation or termination, including reference to the statutes or rules on which the decision is based.
2. A description of the party's right to request a hearing and a reference to the procedures for appealing the final permit decision, including the number of days within which an appeal may be filed and the name and telephone number of the Department contact person who can answer questions regarding the appeals process.
3. A reference to the applicant's right to request an informal settlement conference under A.R.S. § 41-1092.06.

C. If the final permit decision is based on a determination by the Director that the applicable criteria under R18-9-A606 are not satisfied, then that determination may be included as part of the appeal.

D. The final permit decision shall take effect 30 days after its issuance in accordance with the notification requirements of subsection A unless stayed pursuant to A.R.S. Title 41, Chapter 6, Article 10, or A.R.S. Title 49, Chapter 2, Article 7.

E. If, under this Article, the issuance, modification, or revocation and reissuance of a permit necessitates a new aquifer exemption or enlargement of a previously approved aquifer exemption, then the issuance, modification, or revocation and reissuance of the permit is appealable, but shall not become effective unless the new aquifer exemption or enlargement of the previously approved aquifer exemption has been approved by the Administrator.

F. If, under this Article, the issuance, modification, or revocation and reissuance of a permit necessitates an injection depth

waiver pursuant to R18-9-J670 of this Article then the issuance, modification, or revocation and reissuance of the permit is appealable, but shall not become effective until the Director is in receipt of written concurrence from the Administrator.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C628. Permit Duration

A. Permits for Class I and Class V wells shall be effective for a fixed term not to exceed 10 years. UIC permits for Class II and III wells shall be issued for a period up to the operating life of the facility. UIC permits for Class VI wells shall be issued for the operating life of the facility and the post-injection site care period. The Director shall review each issued Class II, III, and VI well UIC permit at least once every five years to determine whether it should be modified, revoked and reissued, terminated, or a minor modification made as provided in R18-9-C632.

B. Except as provided in R18-9-C629, the term of a permit shall not be extended by modification beyond the maximum duration specified in this Section.

C. The Director may issue any permit for a duration that is less than the full allowable term under this Section.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C629. Continuation of Expiring Permits

A. The conditions of an expiring permit continue in force under A.R.S. § 41-1092.11(A) until the effective date of a new permit if:
1. The permittee has submitted a timely application that is a complete application for a new permit; and
2. The Director, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the prior permit.

B. Permits continued under this Section remain fully effective and enforceable.

C. When the permittee is not in compliance with the conditions of the expiring or expired permits the Director may choose to do any or all of the following:
1. Initiate enforcement action based upon the permit that has been continued;
2. Issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;
3. Issue a new permit under this Article with appropriate conditions; or
4. Take other action as authorized under this Article.

D. Upon the effective date of EPA's approval of Arizona's UIC program, the Department shall administer any permit authorized or issued under the EPA UIC program in the state of Arizona, excluding Indian lands. The Director may continue expired or expiring EPA-issued UIC permits until the effective date of a new state-issued UIC permit.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C630. Permit Transfer

A. Except as provided in subsection (B), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued under R18-9-C632(F)(2), or a minor modification made under R18-9-C633(4), to identify the new permittee and incorporate such other requirements as may be necessary under this Article the Safe Drinking Water Act.

B. As an alternative to transfers under subsection (A), any UIC permit for a well not injecting hazardous waste or injecting carbon dioxide for geological sequestration may be automatically transferred to a new permittee if:
1. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date referred to in subsection (B)(2);
2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer or permit responsibility, coverage, and liability between them, and the notice demonstrates that the financial responsibility requirements of R18-9-D636(A)(6) will be met by the new permittee; and
3. The Director does not notify the existing permittee and the proposed new permittee of the Director's intent to modify or revoke and reissue the permit. A modification under this Section may also be a minor modification under R18-9-C633. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection (B)(2).

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C631. Modification; Revocation and Reissuance; or Termination of Permits

A. Permits may only be modified or revoked and reissued pursuant to R18-9-C632 or terminated pursuant to R18-9-C634 either at the request of any interested person, including the permittee, or upon the Director's initiative. All requests shall be made in writing and shall contain facts or reasons supporting the request.

B. If the Director decides a request to modify, revoke and reissue, or terminate is not justified, they shall send the requestor a brief written response giving a reason for the decision. Denial of a request to terminate does not require a notice of intent to deny. Denial of a request for modification or revocation and reissuance requires a notice of intent to deny only when the request is made by the permittee, the scope of the request has not previously been requested and denied and the request is not for a minor modification. A notice of intent to deny is a type of draft permit which shall follow the same procedures as any draft permit prepared pursuant to R18-9-C618.

C. If the Director preliminarily decides to modify or revoke and reissue a permit under R18-9-C632, they shall prepare a draft permit under R18-9-C618 incorporating the proposed changes and notify the permittee in writing of the reason for the preliminary decision to modify or revoke and reissue a permit with reference to the statute or rule on which the decision is based. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application. The Director shall require the submission of a new application in the case of revoked and reissued permits.

D. In a permit modification under this Section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this Section, the entire permit is reopened just as if the permit had expired and was being reissued. During any modification or revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is issued.

E. Minor modifications pursuant to R18-9-C633 are not subject to the requirements of this Section.

F. If the Director preliminarily decides to terminate under R18-9-C634(A)(1), (2) or (3), the Director shall issue a notice of intent to terminate that identifies the reason for the preliminary decision to terminate with reference to the statute or rule on which the decision is based. A notice of intent to terminate is not required when a permittee requests termination under R18-9-C634(A)(4). A notice of intent to terminate is a type of draft permit which shall follow the same procedures as any draft permit prepared pursuant to R18-9-C618.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C632. Modification; Revocation and Reissuance of Permits

A. When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit, receives a request for modification or revocation and reissuance under R18-9-C631, or conducts a review of the permit file) they may determine whether or not one or more of the causes listed in subsections (E) and (F) for modification or revocation and reissuance or both exist.

B. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of subsection (G), and may request an updated application if necessary.

C. If cause does not exist under this Section or R18-9-C633, the Director shall not modify or revoke and reissue the permit.

D. If a permit modification satisfies the criteria in R18-9-C633 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures under this Article must be followed.

E. For Class II, Class III or Class VI wells the following may be causes for revocation and reissuance as well as modification; and for all other wells the following may be cause for revocation or reissuance as well as modification when the permittee requests or agrees:

1. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.
2. Permits other than for Class II and III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance, other than revised regulations, guidance, or test methods, and would have justified the application of different permit conditions at the time of issuance. For UIC area permits under R18-9-C624, this cause shall include any information indicating that cumulative effects on the environment are unacceptable.
3. The standards or regulations on which the permit was based have been changed by promulgation of new regulations or by judicial decision after the permit was issued. Permits other than those for Class II, Class III or Class VI wells may be modified during their permit terms for this cause only as follows:
   a. For promulgation of amended standards or regulations, when:
      i. The permit condition requested to be modified was based on a regulation promulgated under this Article;
      ii. ADEQ has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based; and
      iii. A permittee requests modification in accordance with R18-9-C631 within 90 days after *Arizona Administrative Register* notice of the ADEQ action on which the request is based.
   b. For judicial decisions, a court of competent jurisdiction has remanded and stayed ADEQ promulgated regulations if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee in accordance with R18-9-C631 within 90 days of judicial remand.
4. The Director determines if good cause exists for modification of a compliance schedule. Good cause includes unforeseen circumstances, like a strike, a flood, a materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy. See also R18-9-C633 (minor modifications).
5. Additionally, for Class VI wells, whenever the Director determines that permit changes are necessary based on:
   a. Area of review reevaluations under R18-9-J659(E)(1);
   b. Any amendments to the testing and monitoring plan under R18-9-J665(10);
   c. Any amendments to the injection well plugging plan under R18-9-J667(C);
   d. Any amendments to the post-injection site care and site closure plan under R18-9-J668(A)(3);
   e. Any amendments to the emergency and remedial response plan under R18-9-J669(D); or
   f. A review of monitoring and/or testing results conducted in accordance with permit requirements.

F. The following are causes to modify or, alternatively, revoke and reissue a permit:

1. Cause exists for termination under R18-9-C634, and the Director determines that modification or revocation and reissuance is appropriate.
2. The Director has received notification of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer under R18-9-C630(B) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.
3. A determination that the waste being injected is a hazardous waste as defined in A.R.S. § 49-921 either because the definition has been revised, or because a previous determination has been changed.

G. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to

human health or the environment exists which was unknown at the time of permit issuance.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C633. Minor Modifications of Permits
Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section, without following the procedures of this Article. Any permit modification not processed as a minor modification under this Section must be made for cause and with a draft permit and public notice as required by R18-9-C632. Minor modifications may only:

1. Correct typographical errors;
2. Require more frequent monitoring or reporting by the permittee;
3. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
4. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director;
5. Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Director, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification;
6. Change construction requirements approved by the Director pursuant to R18-9-D636(A)(1), provided that any such alteration shall comply with the requirements of this Article;
7. Amend a plugging and abandonment plan that has been updated under R18-9-D636(A)(5); or
8. Amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the Director.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-C634. Termination of Permits

A. The Director may terminate a permit during its term, or deny a permit renewal application for the following causes:

1. Noncompliance by the permittee with any condition of the permit;
2. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or
3. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
4. The permittee has requested termination of their permit due to the completion of the terms and conditions therein, including proper abandonment or plugging pursuant to R18-9-B614.

B. The Director shall follow the applicable procedures as required under R18-9-C631(F) in terminating any permit under this Section.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART D. PERMIT CONDITIONS FOR UNDERGROUND INJECTION

R18-9-D635. Conditions Applicable to All Permits
The following conditions apply to all UIC permits. All conditions applicable to all permits shall be incorporated into the permits issued under this Article, either expressly or referenced by specific citation. If incorporated by reference, a specific citation to this Section must be given in the permit.

1. The permittee must comply with all conditions of any permit issued under this Article. Any permit noncompliance constitutes a violation of this Article and is grounds for enforcement action; for permit modification, revocation and reissuance, or termination; or for denial of a permit renewal application unless otherwise authorized in an emergency permit under R18-9-C625.
2. If the permittee wishes to continue any activity regulated by permit under this Article after the expiration date of this permit, the permittee must apply for and obtain a new permit.
3. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.
5. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control, and related appurtenances, that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.
6. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
7. This permit does not convey property rights of any sort, or any exclusive privilege.
8. The permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to

determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

9. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by this Article or the SDWA, any substances or parameters at any location.
10. Monitoring and records.
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. The permittee shall retain records of all monitoring information, including the following:
      i. Calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time; and
      ii. The nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under R18-9-D636(A)(5), or under this Article as appropriate. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.
   c. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual or individuals who performed the sampling or measurements;
      iii. The date or dates analyses were performed;
      iv. The individual or individuals who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   d. Owners or operators of Class VI wells shall retain records as specified in Part J of this Article, including R18-9-J659(G), R18-9-J666(6), R18-9-J667(D), R18-9-J668(F), and R18-9-J668(H).
11. All applications, reports, or information submitted to the Director shall be signed and certified as required under R18-9-C617.
12. Reporting requirements.
   a. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
   b. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
   c. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under this Article.
   d. Monitoring results shall be reported at the intervals specified in this permit.
   e. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.
   f. The permittee shall report any noncompliance that may endanger health or the environment within 24 hours, including:
      i. Any monitoring or other information that indicates any contaminant may cause an endangerment to a USDW; or
      ii. Any noncompliance with a permit condition or malfunction of the injection system that may cause fluid migration into or between USDWs. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
   g. The permittee shall report all instances of noncompliance not reported under subsections (A)(12)(a), (d), (e), and (f), at the time monitoring reports are submitted. The reports shall contain the information listed in subsection (A)(12)(f).
   h. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.
13. Except for all new wells authorized by an area permit under R18-9-C624(C), a new injection well may not commence injection until construction is complete; and:
   a. The permittee has submitted notice of completion of construction to the Director; and
   b. Either of the following apply:
      i. The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or
      ii. The permittee has not received notice from the Director of the intent to inspect or otherwise

review the new injection well within 13 days of the date of the notice under subsection (A)(13)(a), in which case prior inspection or review is waived and the permittee may commence injection. The Director shall include in the notice a reasonable time period in which the well shall be inspected.

14. The permittee shall notify the Director at such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.
15. A Class I, II, or III permit shall include, and a Class V permit may include, conditions that meet the requirements of R18-9-B614 to ensure that plugging and abandonment of the well will not allow the movement of fluids into or between USDWs. Where the plan meets the requirements of R18-9-B614, the Director shall incorporate the plan into the permit as a permit condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, the Director may require the applicant to revise the plan, prescribe conditions meeting the requirements of this subsection, or deny the permit. A Class VI permit shall include conditions that meet the requirements set forth in R18-9-J667. Where the plan meets the requirements of R18-9-J667, the Director shall incorporate it into the permit as a permit condition. For purposes of this subsection, temporary or intermittent cessation of injection operations is not abandonment.
16. Within 60 days after plugging a well or at the time of the next quarterly report, whichever is less, the owner or operator shall submit a report to the Director. If the quarterly report is due less than 15 days before completion of plugging, then the report shall be submitted within 60 days. The report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:
    a. A statement that the well was plugged in accordance with the plan previously submitted to the Director; or
    b. Where actual plugging differed from the plan previously submitted, an updated version of the plan on the form supplied by the Director, specifying the differences.
17. Duty to establish and maintain mechanical integrity.
    a. The owner or operator of a Class I, II, III or VI well permitted under this Article shall establish mechanical integrity prior to commencing injection or on a schedule determined by the Director. Thereafter the owner or operator of Class I, II, and III wells must maintain mechanical integrity as defined in R18-9-B613 and the owner or operator of Class VI wells must maintain mechanical integrity as defined in R18-9-J664.
    b. When the Director determines that a Class I, II, III or VI well lacks mechanical integrity pursuant to R18-9-B613 or R18-9-J664 for Class VI, written notice of the determination will be given to the owner or operator. Unless the Director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the Director's determination. The Director may allow plugging of the well pursuant to the requirements of R18-9-B614 or require the permittee to perform such additional construction, operation, monitoring, reporting, and corrective action as is necessary to prevent the movement of fluid into or between USDWs caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the Director that the owner or operator has demonstrated mechanical integrity pursuant to R18-9-B613.
    c. The Director may allow the owner or operator of a well that lacks mechanical integrity pursuant to R18-9-B613(A)(1) to continue or resume injection, if the owner or operator has made a satisfactory demonstration that there is no movement of fluid into or between USDWs.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-D636. Establishing Permit Conditions

A. In addition to conditions required in R18-9-D635, the Director shall establish conditions, as required on a case-by-case basis under R18-9-C628 (Permit Duration), R18-9-D637 (Schedules of Compliance), and R18-9-D638 (Requirements for Recording and Reporting Monitoring Results). Permits for owners or operators of Class VI injection wells shall include conditions meeting the requirements of Part J of this Article. Permits for other wells shall contain the following requirements, when applicable.

1. Construction requirements as set forth in this Article. Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements. New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the Director as minor modifications as defined under R18-9-C633. No such changes may be physically incorporated into construction of the well prior to approval of the modification by the Director.
2. Corrective action as set forth in R18-9-D639 and R18-9-J659.
3. Operation requirements as set forth in this Article; the permit shall establish any maximum injection volumes and/or pressures necessary to assure that fractures are not initiated in the confining zone, that injected fluids do not migrate into any USDW, that formation fluids are not displaced into any USDW, and to assure compliance with the operating requirements under this Article.
4. Monitoring and reporting requirements as set forth in this Article. The permittee shall be required to identify types of tests and methods used to generate the monitoring data. Monitoring of the nature of injected fluids shall comply with an analytical method prescribed in A.A.C. R9-14-610, or an alternative analytical method approved under A.A.C. R9-14-610(C), or as approved by the Director. A test result from a sample taken to determine compliance with a national primary drinking water standard is

valid only if the sample is analyzed by a laboratory that is licensed by the Arizona Department of Health Services, an out-of-state laboratory licensed under A.R.S. § 36-495.14, or a laboratory exempted under A.R.S. § 36-495.02, for the analysis performed.

5. After a cessation of operations for two years the owner or operator shall plug and abandon the well in accordance with the plan unless they:
   a. Provide notice to the Director; and
   b. Describe actions or procedures, satisfactory to the Director, that the owner or operator will take to ensure that the well will not endanger USDWs during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the Director.
6. Financial responsibility.
   a. The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until:
      i. The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to R18-9-D635(15), R18-9-B614, and R18-9-J667, and submitted a plugging and abandonment report pursuant to R18-9-D635(16); or
      ii. The well has been converted in compliance with the requirements of R18-9-D635(14); or
      iii. The transferor of a permit has received notice from the Director that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.
   b. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance, such as a financial statement or other materials acceptable to the Director. For Class VI wells, the permittee shall show evidence of such financial responsibility to the Director by the submission of a qualifying instrument, such as a financial statement or other materials acceptable to the Director. The owner or operator of a Class VI well must comply with the financial responsibility requirements set forth in R18-9-J660.
7. A permit for any Class I, II, III or VI well or injection project that lacks mechanical integrity shall include, and for any Class V well may include, a condition prohibiting injection operations until the permittee shows to the satisfaction of the Director under R18-9-B613 or R18-9-J664 for Class VI, that the well has mechanical integrity.
8. The Director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into USDWs.

B. In addition to conditions required in all permits, the Director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of this Article. Applicable requirements include, but are not limited to:
1. State statutory or regulatory requirements in effect prior to final administrative disposition of a permit; or
2. Any requirement in effect prior to the modification or revocation and reissuance of a permit, to the extent allowed under R18-9-C632.

C. New or reissued permits, and to the extent allowed under R18-9-C632 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this Section.

D. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

E. Permits shall provide language on duration, expiration and termination.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-D637. Compliance Schedule

A. A permit may, when appropriate, specify a schedule for compliance with this Article.
1. Any compliance schedules shall require compliance as soon as possible, and in no case later than three years after the effective date of the permit.
2. Except as provided in subsection (B)(1)(b), if a permit establishes a compliance schedule that exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.
   a. The time between interim dates shall not exceed one year.
   b. If the time necessary for completion of any interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.
3. The permit shall be written to require that if subsection (A)(1) is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.

B. A permit applicant or permittee may cease conducting regulated activities at a given time by plugging and abandonment rather than continue to operate and meet permit requirements as follows:
1. If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:
   a. The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or
   b. The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.
2. If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination that will ensure timely compliance with the applicable requirements.
3. If the permittee is undecided whether to cease conducting regulated activities, the Director may issue or modify a permit to contain two schedules as follows:

a. Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date that ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;
b. One schedule shall lead to timely compliance with applicable requirements;
c. The second schedule shall lead to cessation of the regulated activities by a date that ensures timely compliance with applicable requirements; and
d. Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under subsection (B)(3)(a) it shall follow the schedule leading to compliance if the decision is to continue conducting the regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

4. The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Director, such as a resolution of the board of Directors of a corporation.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-D638. Requirements for Recording and Reporting Monitoring Results
All permits shall specify:

1. Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods, including biological monitoring methods when appropriate;
2. Required monitoring including type, intervals, and frequency sufficient to yield data that are representative of the monitored activity including when appropriate, continuous monitoring; and
3. Applicable reporting requirements based upon the impact of the regulated activity and as specified under this Article. Reporting shall be no less frequent than specified in the above rules.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-D639. Corrective Action

A. Applicants for Class I, II, or III injection well permits shall identify the location of all known wells within the injection well's area of review that penetrates the injection zone, or in the case of Class II wells operating over the fracture pressure of the injection formation, all known wells within the area of review penetrating formations affected by the increase in pressure. For such wells that are improperly sealed, completed, or abandoned, the applicant shall also submit a plan consisting of such steps or modifications as are necessary to prevent movement of fluid into USDWs. Where the plan is adequate, the Director shall incorporate it into the permit as a condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, the Director shall require the applicant to revise the plan, prescribe a plan for corrective action as a condition of the permit under subsection (B) through (E), or deny the application. The Director may disregard the provisions of R18-9-B612 and this Section when reviewing an application to permit an existing Class II well.

B. Any permit issued for an existing injection well, other than Class II wells, requiring corrective action shall include a compliance schedule requiring any corrective action accepted or prescribed under subsection (A) to be completed as soon as possible.

C. No owner or operator of a new injection well may begin injection until all required corrective action has been taken.

D. The Director may require as a permit condition that injection pressure be so limited that pressure in the injection zone does not exceed hydrostatic pressure at the site of any improperly completed or abandoned well within the area of review. This pressure limitation shall satisfy the corrective action requirement. Alternatively, such injection pressure limitation can be part of a compliance schedule and last until all other required corrective action has been taken.

E. When setting corrective action requirements for Class III wells, the Director shall consider the overall effect of the project on the hydraulic gradient in potentially affected USDWs, and the corresponding changes in potentiometric surface or surfaces and flow direction or directions rather than the discrete effect of each well. If a decision is made that corrective action is not necessary based on the determinations above, the monitoring program required in R18-9-G647(B) shall be designed to verify the validity of such determinations.

F. In determining the adequacy of corrective action proposed by the applicant under this Section and in determining the additional steps needed to prevent fluid movement into USDWs, the following criteria and factors shall be considered by the Director:

1. Nature and volume of injected fluid;
2. Nature of native fluids or by-products of injection;
3. Potentially affected population;
4. Geology;
5. Hydrology;
6. History of the injection operation;
7. Completion and plugging records;
8. Abandonment procedures in effect at the time the well was abandoned; and
9. Hydraulic connections with USDWs.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART E. CLASS I INJECTION WELL REQUIREMENTS

R18-9-E640. Class I; Construction Requirements

A. All Class I wells shall be sited in such a fashion that they inject into a formation which is beneath the lowermost formation containing, within one-quarter mile of the well bore, an USDW.

B. All Class I wells shall be cased and cemented to prevent the movement of fluids into or between USDWs. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the following factors shall be considered:

1. Depth to the injection zone;
2. Injection pressure, external pressure, internal pressure, and axial loading;
3. Hole size;

4. Size and grade of all casing strings, such as wall thickness, diameter, nominal weight, length, joint Specification, and construction material;
5. Corrosiveness of injected fluid, formation fluids, and temperatures;
6. Lithology of injection and confining intervals; and
7. Type or grade of cement.

C. All Class I injection wells, except those municipal wells injecting non-corrosive wastes, shall inject fluids through tubing with a packer set immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer, and fluid seal shall be designed for the expected service.
1. The use of other alternatives to a packer may be allowed with the written approval of the Director. To obtain approval, the operator shall submit a written request to the Director, which shall set forth the proposed alternative and all technical data supporting its use. The Director shall approve the request if the alternative method will reliably provide a comparable level of protection to USDWs. The Director may approve an alternative method solely for an individual well or for general use.
2. In determining and specifying requirements for tubing, packer, or alternatives the following factors shall be considered:
   a. Depth of setting;
   b. Characteristics of injection fluid such as chemical content, corrosiveness, and density;
   c. Injection pressure;
   d. Annular pressure;
   e. Rate, temperature and volume of injected fluid; and
   f. Size of casing.

D. Appropriate logs and other tests shall be conducted during the drilling and construction of new Class I wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director. At a minimum, such logs and tests shall include:
1. Deviation checks on all holes constructed by first drilling a pilot hole, and then enlarging the pilot hole by reaming or another method. Such checks shall be at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.
2. Such other logs and tests as may be needed after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses. In determining which logs and tests shall be required, the following logs shall be considered for use in the following situations:
   a. For surface casing intended to protect USDWs:
      i. Resistivity, spontaneous potential, and caliper logs before the casing is installed; and
      ii. A cement bond, temperature, or density log after the casing is set and cemented.
   b. For intermediate and long strings of casing intended to facilitate injection:
      i. Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed;
      ii. Fracture finder logs; and
      iii. A cement bond, temperature, or density log after the casing is set and cemented.

E. At a minimum, the following information concerning the injection formation shall be determined or calculated for new Class I wells:
1. Fluid pressure;
2. Temperature;
3. Fracture pressure;
4. Other physical and chemical characteristics of the injection matrix; and
5. Physical and chemical characteristics of the formation fluids.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-E641. Class I; Operating, Monitoring, and Reporting Requirements

A. Operating requirements shall, at a minimum, specify that:
1. Except during stimulation injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluids into an USDW.
2. Injection between the outermost casing protecting USDWs and the well bore is prohibited.
3. Unless an alternative to a packer has been approved under R18-9-E640(C), the annulus between the tubing and the long string of casings shall be filled with a fluid approved by the Director and a pressure, also approved by the Director, shall be maintained on the annulus.

B. Monitoring requirements shall, at a minimum, include:
1. The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics;
2. Installation and use of continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string of casing;
3. A demonstration of mechanical integrity pursuant to R18-9-B613 at least once every five years during the life of the well; and
4. The type, number and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the USDWs, the parameters to be measured and the frequency of monitoring.

C. Reporting requirements shall, at a minimum, include:
1. Quarterly reports to the Director on:
   a. The physical, chemical and other relevant characteristics of injection fluids;
   b. Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure; and
   c. The results of monitoring prescribed under subsection (B)(4).
2. Reporting the results, with the first quarterly report after the completion, of:
   a. Periodic tests of mechanical integrity;
   b. Any other test of the injection well conducted by the permittee if required by the Director; and
   c. Any well work over.

D. Ambient monitoring.

1. Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Director shall require the owner or operator to develop a monitoring program. At a minimum, the Director shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.
2. When prescribing a monitoring system the Director may also require:
   a. Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by the Director;
   b. The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by the Director, or to provide other site specific data;
   c. Periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;
   d. Periodic monitoring of the ground water quality in the lowermost USDW; and
   e. Any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-E642. Class I; Information to be Considered by the Director

A. This Section sets forth the information which must be considered by the Director in authorizing Class I wells.
1. For an existing or converted new Class I well the Director may rely on the existing permit file for those items of information listed in subsections (B), (C) and (D) which are current and accurate in the file.
2. For a newly drilled Class I well, the Director shall require the submission of all the information listed in subsections (B), (C) and (D) which are current and accurate in the file.
3. For both existing and new Class I wells certain maps, cross sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current, readily available to the Director and sufficiently identified to be retrieved.

B. Prior to the issuance of a permit for an existing Class I well to operate or the construction or conversion of a new Class I well the Director shall consider the following:
1. Information required in R18-9-C616;
2. A map showing the injection well or wells for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number, or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines, quarries, water wells and other pertinent surface features including residences and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;
3. A tabulation of data on all wells within the area of review which penetrate into the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require;
4. Maps and cross sections indicating the general vertical and lateral limits of all USDWs within the area of review, their position relative to the injection formation and the direction of water movement, where known, in each USDW which may be affected by the proposed injection;
5. Maps and cross sections detailing the geologic structure of the local area;
6. Generalized maps and cross sections illustrating the regional geologic setting;
7. Proposed operating data:
   a. Average and maximum daily rate and volume of the fluid to be injected;
   b. Average and maximum injection pressure; and
   c. Source and an analysis of the chemical, physical, radiological and biological characteristics of injection fluids;
8. Proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of and other information on the receiving formation;
9. Proposed stimulation program;
10. Proposed injection procedure;
11. Schematic or other appropriate drawings of the surface and subsurface construction details of the well.
12. Contingency plans to cope with all shut-ins or well failures so as to prevent migration of fluids into any USDW;
13. Plans, including maps, for meeting the monitoring requirements in R18-9-E641(B);
14. For wells within the area of review which penetrate the injection zone but are not properly completed or plugged, the corrective action proposed to be taken under R18-9-D639;
15. Construction procedures including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program; and
16. A certificate that the applicant has assured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well as required by R18-9-D636(A)(6).

C. Prior to granting approval for the operation of a Class I well the Director shall consider the following information:
1. All available logging and testing program data on the well;
2. A demonstration of mechanical integrity pursuant to R18-9-B613;
3. The anticipated maximum pressure and flow rate at which the permittee will operate;
4. The results of the formation testing program;
5. The actual injection procedure;
6. The compatibility of injected waste with fluids in the injection zone and minerals in both the injection zone and the confining zone; and
7. The status of corrective action on defective wells in the area of review.

D. Prior to granting approval for the plugging and abandonment of a Class I well the Director shall consider the following information:
1. The type and number of plugs to be used;
2. The placement of each plug including the elevation of the top and bottom;
3. The type and grade and quantity of cement to be used;

4. The method for placement of the plugs; and
5. The procedure to be used to meet the requirements of R18-9-B614(C).

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART F. CLASS II INJECTION WELL REQUIREMENTS

R18-9-F643. Class II; Construction Requirements

A. All new Class II wells shall be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review.

B. All Class II injection wells:
1. Shall be cased and cemented to prevent movement of fluids into or between USDWs. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the following factors shall be considered:
   a. Depth to the injection zone;
   b. Depth to the bottom of all USDWs; and
   c. Estimated maximum and average injection pressures.
2. In addition the Director may consider information on:
   a. Nature of formation fluids;
   b. Lithology of injection and confining zones;
   c. External pressure, internal pressure, and axial loading;
   d. Hole size;
   e. Size and grade of all casing strings; and
   f. Class of cement.

C. The requirements in subsection (B) need not apply to existing or newly converted Class II wells located in existing fields if:
1. Regulatory controls for casing and cementing existed for those wells at the time of drilling and those wells are in compliance with those controls; and
2. Well injection will not result in the movement of fluids into an USDW so as to create a significant risk to the health of persons.

D. The requirements in subsection (B) need not apply to newly drilled wells in existing fields if:
1. They meet the requirements of the State for casing and cementing applicable to that field at the time of submission of the State program to the Administrator; and
2. Well injection will not result in the movement of fluids into an USDW so as to create a significant risk to the health of persons.

E. Appropriate logs and other tests shall be conducted during the drilling and construction of new Class II wells. A descriptive report interpreting the results of that portion of those logs and tests which specifically relate to (1) an USDW and the confining zone adjacent to it, and (2) the injection and adjacent formations shall be prepared by a knowledgeable log analyst and submitted to the Director. At a minimum, these logs and tests shall include:
1. Deviation checks on all holes constructed by first drilling a pilot hole and then enlarging the pilot hole, by reaming or another method. Such checks shall be at sufficiently frequent intervals to assure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling.
2. Such other logs and tests as may be needed after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses. In determining which logs and tests shall be required the following shall be considered by the Director in setting logging and testing requirements:
   a. For surface casing intended to protect USDWs in areas where the lithology has not been determined:
      i. Electric and caliper logs before casing is installed; and
      ii. A cement bond, temperature, or density log after the casing is set and cemented.
   b. For intermediate and long strings of casing intended to facilitate injection:
      i. Electric, porosity and gamma ray logs before the casing is installed;
      ii. Fracture finder logs; and
      iii. A cement bond, temperature, or density log after the casing is set and cemented.

F. At a minimum, the following information concerning the injection formation shall be determined or calculated for new Class II wells or projects:
1. Fluid pressure;
2. Estimated fracture pressure; and
3. Physical and chemical characteristics of the injection zone.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-F644. Class II; Operating, Monitoring, and Reporting Requirements

A. Operating requirements shall, at a minimum, specify that:
1. Injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure during injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to the USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into an USDW.
2. Injection between the outermost casing protecting USDWs and the well bore shall be prohibited.

B. Monitoring requirements shall, at a minimum, include:
1. Monitoring of the nature of injected fluids at time intervals sufficiently frequent to yield data representative of their characteristics;
2. Observation of injection pressure, flow rate, and cumulative volume at least with the following frequencies:
   a. Weekly for produced fluid disposal operations;
   b. Monthly for enhanced recovery operations;
   c. Daily during the injection of liquid hydrocarbons and injection for withdrawal of stored hydrocarbons; and
   d. Daily during the injection phase of cyclic steam operations; and
   e. Record one observation of injection pressure, flow rate and cumulative volume at reasonable intervals no greater than 30 days;
3. A demonstration of mechanical integrity pursuant to R18-9-B613 at least once every five years during the life of the injection well;

4. Maintenance of the results of all monitoring until the next permit review; and
5. Hydrocarbon storage and enhanced recovery may be monitored on a field or project basis rather than on an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well, operating with a common manifold. Separate monitoring systems for each well are not required provided the owner/operator demonstrates that manifold monitoring is comparable to individual well monitoring.

C. Reporting requirements.
1. Reporting requirements shall at a minimum include an annual report to the Director summarizing the results of monitoring required under subsection (B). Such summary shall include monthly records of injected fluids, and any major changes in characteristics or sources of injected fluid. Previously submitted information may be included by reference.
2. Owners or operators of hydrocarbon storage and enhanced recovery projects may report on a field or project basis rather than an individual well basis where manifold monitoring is used.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-F645. Class II; Information to be Considered by the Director

A. This Section sets forth the information which must be considered by the Director in authorizing Class II wells. Certain maps, cross sections, tabulations of wells within the area of review, and other data may be included in the application by reference provided they are current, readily available to the Director and sufficiently identified to be retrieved.

B. Prior to the issuance of a permit for an existing Class II well to operate or the construction or conversion of a new Class II well the Director shall consider the following:
1. Information required in R18-9-C616.
2. A map showing the injection well or project area for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name and location of all existing producing wells, injection wells, abandoned wells, dry holes, and water wells. The map may also show surface bodies of waters, mines (surface and subsurface), quarries and other pertinent surface features including residences and roads, and faults if known or suspected. Only information of public record and pertinent information known to the applicant is required to be included on this map. This requirement does not apply to existing Class II wells.
3. A tabulation of data reasonably available from public records or otherwise known to the applicant on all wells within the area of review included on the map required under subsection (B)(2) which penetrate the proposed injection zone or, in the case of Class II wells operating over the fracture pressure of the injection formation, all known wells within the area of review which penetrate formations affected by the increase in pressure. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the Director may require. In cases where the information would be repetitive and the wells are of similar age, type, and construction the Director may elect to only require data on a representative number of wells. This requirement does not apply to existing Class II wells.
4. Proposed operating data:
   a. Average and maximum daily rate and volume of fluids to be injected;
   b. Average and maximum injection pressure; and
   c. Source and an appropriate analysis of the chemical and physical characteristics of the injection fluid.
5. Appropriate geological data on the injection zone and confining zone including lithologic description, geological name, thickness and depth.
6. Geologic name and depth to bottom of all USDWs which may be affected by the injection.
7. Schematic or other appropriate drawings of the surface and subsurface construction details of the well.
8. In the case of new injection wells the corrective action proposed to be taken by the applicant under R18-9-D639.
9. A certificate that the applicant has assured through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well as required by R18-9-D636(A)(6).

C. In addition the Director may consider the following:
1. Proposed formation testing program to obtain the information required by R18-9-F643(F);
2. Proposed stimulation program;
3. Proposed injection procedure;
4. Proposed contingency plans, if any, to cope with well failures so as to prevent migration of contaminating fluids into an USDW;
5. Plans for meeting the monitoring requirements of R18-9-F644(B).

D. Prior to granting approval for the operation of a Class II well the Director shall consider the following information:
1. All available logging and testing program data on the well;
2. A demonstration of mechanical integrity pursuant to R18-9-B613;
3. The anticipated maximum pressure and flow rate at which the permittee will operate;
4. The results of the formation testing program;
5. The actual injection procedure; and
6. For new wells the status of corrective action on defective wells in the area of review.

E. Prior to granting approval for the plugging and abandonment of a Class II well the Director shall consider the following information:
1. The type, and number of plugs to be used;
2. The placement of each plug including the elevation of top and bottom;
3. The type, grade, and quantity of cement to be used;
4. The method of placement of the plugs; and
5. The procedure to be used to meet the requirements of R18-9-B614(A).

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

PART G. CLASS III INJECTION WELL REQUIREMENTS

R18-9-G646. Class III; Construction Requirements

A. All new Class III wells shall be cased and cemented to prevent the migration of fluids into or between USDWs. The Director may waive the cementing requirement for new wells in existing projects or portions of existing projects where they have substantial evidence that no contamination of USDWs would result. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the following factors shall be considered:
1. Depth to the injection zone;
2. Injection pressure, external pressure, internal pressure, axial loading, etc.;
3. Hole size;
4. Size and grade of all casing strings, such as wall thickness, diameter, nominal weight, length, joint specification, and construction material;
5. Corrosiveness of injected fluids and formation fluids;
6. Lithology of injection and confining zones; and
7. Type and grade of cement.

B. Appropriate logs and other tests shall be conducted during the drilling and construction of new Class III wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director. The logs and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. Deviation checks shall be conducted on all holes where pilot holes and reaming are used, unless the hole will be cased and cemented by circulating cement to the surface. Where deviation checks are necessary they shall be conducted at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

C. Where the injection zone is a formation which is naturally water-bearing the following information concerning the injection zone shall be determined or calculated for new Class III wells or projects:
1. Fluid pressure;
2. Fracture pressure; and
3. Physical and chemical characteristics of the formation fluids.

D. Where the injection formation is not a water-bearing formation, the information in subsection (C)(2) must be submitted.

E. Where injection is into a formation which contains water with less than 10,000 mg/l TDS monitoring wells shall be completed into the injection zone and into any USDWs above the injection zone which could be affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injection fluids, process by-products, or formation fluids outside the mining area or zone. If the operation may be affected by subsidence or catastrophic collapse the monitoring wells shall be located so that they will not be physically affected.

F. Where injection is into a formation which does not contain water with less than 10,000 mg/l TDS, no monitoring wells are necessary in the injection stratum.

G. Where the injection wells penetrate an USDW in an area subject to subsidence or catastrophic collapse an adequate number of monitoring wells shall be completed into the USDW to detect any movement of injected fluids, process by-products or formation fluids into the USDW. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

H. In determining the number, location, construction and frequency of monitoring of the monitoring wells the following criteria shall be considered:
1. The population relying on the USDW affected or potentially affected by the injection operation;
2. The proximity of the injection operation to points of withdrawal of drinking water;
3. The local geology and hydrology;
4. The operating pressures and whether a negative pressure gradient is being maintained;
5. The nature and volume of the injected fluid, the formation water, and the process by-products; and
6. The injection well density.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-G647. Class III; Operating, Monitoring, and Reporting Requirements

A. Operating requirements prescribed shall, at a minimum, specify that:
1. Except during well stimulation, injection pressure at the wellhead shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case, shall injection pressure initiate fractures in the confining zone or cause the migration of injection or formation fluids into an USDW.
2. Injection between the outermost casing protecting USDWs and the well bore is prohibited.

B. Monitoring requirements shall, at a minimum, specify:
1. Monitoring of the nature of injected fluids with sufficient frequency to yield representative data on its characteristics. Whenever the injection fluid is modified to the extent that the analysis required by R18-9-G648(B)(7)(c) is incorrect or incomplete, a new analysis as required by R18-9-G648(B)(7)(c) shall be provided to the Director.
2. Monitoring of injection pressure and either flow rate or volume semi-monthly, or metering and daily recording of injected and produced fluid volumes as appropriate.
3. Demonstration of mechanical integrity pursuant to R18-9-B613 at least once every five years during the life of the well for salt solution mining.
4. Monitoring of the fluid level in the injection zone semi-monthly, where appropriate and monitoring of the parameters chosen to measure water quality in the monitoring wells required by R18-9-G646(E), semi-monthly.
5. Quarterly monitoring of wells required by R18-9-G646(G).
6. All Class III wells may be monitored on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well, operating with a common manifold. Separate monitoring systems for each well are not required provided the owner/operator demonstrates that manifold monitoring is comparable to individual well monitoring.

C. Reporting requirements shall, at a minimum, include:
1. Quarterly reporting to the Director on required monitoring;

2. Results of mechanical integrity and any other periodic test required by the Director reported with the first regular quarterly report after the completion of the test; and
3. Monitoring may be reported on a project or field basis rather than individual well basis where manifold monitoring is used.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-G648. Class III; Information to be Considered by the Director

A. This Section sets forth the information which must be considered by the Director in authorizing Class III wells. Certain maps, cross sections, tabulations of wells within the area of review, and other data may be included in the application by reference provided they are current, readily available to the Director and sufficiently identified to be retrieved.

B. Prior to the issuance of a permit for an existing Class III well or area to operate or the construction of a new Class III well the Director shall consider the following:
1. Information required in R18-9-C616;
2. A map showing the injection well or project area for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name and location of all existing producing wells, injection wells, abandoned wells, dry holes, public water systems and water wells. The map may also show surface bodies of waters, mines (surface and subsurface) quarries and other pertinent surface features including residences and roads, and faults if known or suspected. Only information of public record and pertinent information known to the applicant is required to be included on this map;
3. A tabulation of data reasonably available from public records or otherwise known to the applicant on wells within the area of review included on the map required under subsection (B)(2) which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the Director may require. In cases where the information would be repetitive and the wells are of similar age, type, and construction the Director may elect to only require data on a representative number of wells;
4. Maps and cross sections indicating the vertical limits of all USDWs within the area of review, their position relative to the injection formation, and the direction of water movement, where known, in every USDW which may be affected by the proposed injection;
5. Maps and cross sections detailing the geologic structure of the local area;
6. Generalized map and cross sections illustrating the regional geologic setting;
7. Proposed operating data:
   a. Average and maximum daily rate and volume of fluid to be injected;
   b. Average and maximum injection pressure; and
   c. Qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is confidential pursuant to R18-9-A603 an applicant may, in lieu of the ranges in concentrations, choose to submit maximum concentrations which shall not be exceeded. In such a case the applicant shall retain records of the undisclosed concentrations and provide them upon request to the Director as part of any enforcement investigation.
8. Proposed formation testing program to obtain the information required by R18-9-G646(C);
9. Proposed stimulation program;
10. Proposed injection procedure;
11. Schematic or other appropriate drawings of the surface and subsurface construction details of the well;
12. Plans (including maps) for meeting the monitoring requirements of R18-9-G647(B);
13. Expected changes in pressure, native fluid displacement, direction of movement of injection fluid;
14. Contingency plans to cope with all shut-ins or well failures so as to prevent the migration of contaminating fluids into USDWs;
15. A certificate that the applicant has assured, through a performance bond, or other appropriate means, the resources necessary to close, plug, or abandon the well as required by R18-9-D636(A)(5); and
16. The corrective action proposed to be taken under R18-9-D639.

C. Prior to granting approval for the operation of a Class III well the Director shall consider the following information:
1. All available logging and testing data on the well;
2. A satisfactory demonstration of mechanical integrity for all new wells and for all existing salt solution wells pursuant to R18-9-B613;
3. The anticipated maximum pressure and flow rate at which the permittee will operate;
4. The results of the formation testing program;
5. The actual injection procedures; and
6. The status of corrective action on defective wells in the area of review.

D. Prior to granting approval for the plugging and abandonment of a Class III well the Director shall consider the following information:
1. The type and number of plugs to be used;
2. The placement of each plug including the elevation of the top and bottom;
3. The type, grade and quantity of cement to be used;
4. The method of placement of the plugs; and
5. The procedure to be used to meet the requirements of R18-9-B614(A).

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART H. CLASS IV INJECTION WELL REQUIREMENTS

R18-9-H649. Class IV; Closure Requirements and Remediation

A. Closure.
1. Prior to abandoning any Class IV well, the owner or operator shall plug or otherwise close the well in a manner acceptable to the Director.
2. The owner or operator of a Class IV well must notify the Director of intent to abandon the well at least 30 days prior to abandonment.

B. Remediation. Injection wells used to inject contaminated groundwater that has been treated and is being injected into the same formation from which it was drawn are authorized by

rule for the life of the well if such subsurface emplacement of fluids is approved by the Administrator or the Director pursuant to subsections (B)(1), (2) or (3):

1. Provisions for cleanup of releases under CERCLA, or
2. The requirements and provisions under RCRA, or
3. The requirements and provisions under other applicable state laws for corrective and remedial action.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART I. CLASS V INJECTION WELL REQUIREMENTS

R18-9-I650. Class V; General Requirements

A. The following requirements apply to Class V Wells authorized by rule:

1. A Class V Injection well is authorized by rule subject to the conditions under this Section.
2. Well authorization under this Section expires upon the effective date of a permit issued pursuant to R18-9-I651, R18-9-C616, R18-9-C624, R18-9-C625, or upon proper closure of the well.
3. An owner or operator of a well that is authorized by rule pursuant to this Section is prohibited from injecting into the well:
   a. Upon the effective date of an applicable permit denial;
   b. Upon failure to submit a permit application in a timely manner pursuant to R18-9-I651 or R18-9-C616;
   c. Upon failure to submit inventory information in a timely manner pursuant to R18-9-I652; or
   d. Upon failure to comply with a request for information in a timely manner pursuant to R18-9-I653.
4. Submission of the following is required in order to transfer ownership of a well that is authorized by rule pursuant to this Section:
   a. An inventory, and
   b. Class V authorized by rule transfer fee pursuant to R18-14-111(A)(3).

B. The following requirements apply for all Class V Wells:

1. With certain exceptions listed in subsection (B)(2), Class V injection activity is "authorized by rule," meaning owners and operators must comply with all the requirements of this Article but do not have to get an individual permit. Well authorization expires once the injection well has been properly closed.
2. A Class V well requires a permit and shall no longer be authorized by rule upon any of the following:
   a. Failure to comply with the prohibition of movement standard in R18-9-B608(A).
   b. The Director specifically requires a Class V permit for the well to operate pursuant to R18-9-I651. In which case rule authorization expires upon the effective date of the permit issued, or you are prohibited from injecting into your well upon:
      i. Failure to submit a permit application in a timely manner as specified in a notice from the Director; or
      ii. Upon the effective date of permit denial.
   c. Failure to submit inventory information as required under R18-9-I652.
   d. Failure to comply with the Director's request for additional information under R18-9-I653 in a timely manner.
3. Prior to abandoning a Class V well, the owner or operator shall meet the plugging requirements in R18-9-B614(C).
4. In limited cases, the Director may authorize the conversion (reclassification) of a motor vehicle waste disposal well to another type of Class V well. Motor vehicle wells may only be converted if: all motor vehicle fluids are segregated by physical barriers and are not allowed to enter the well; and, injection of motor vehicle waste is unlikely based on a facility's compliance history and records showing proper waste disposal. The use of a semi-permanent plug as the means to segregate waste is not sufficient to convert a motor vehicle waste disposal well to another type of Class V well.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-I651. Class V; Requiring a Permit

A. The Director may require the owner or operator of any Class V injection well authorized by rule under this Article to apply for and obtain an individual or area UIC permit. Cases where individual or area UIC permits may be required include:

1. The injection well is not in compliance with any requirement under this Article or A.R.S. Title 49, Chapter 2, Article 3.3;
2. The injection well is not or no longer is within the category of wells and types of well operations authorized in the rule; or
3. The protection of USDWs requires that the injection operation be regulated by requirements, such as for corrective action, monitoring and reporting, or operation, which are not contained in the rule.

B. If an individual or area UIC permit is required, the Director shall notify the discharger in writing of the decision. The notice shall include:

1. A brief statement of the reasons for the decision,
2. An application form,
3. A statement setting a deadline to file the application,
4. A statement that on the effective date of issuance or denial of the individual or area UIC permit, coverage by rule will automatically terminate.
5. The applicant's right to appeal the individual permit requirement under A.R.S. § 49-323 and the name and telephone number of the Department contact person who can answer questions regarding the appeals process.

C. An owner or operator of a well authorized by rule may request to be excluded from the coverage of this Section by applying for an individual or area UIC permit. The owner or operator shall submit an application under R18-9-C616 with reasons supporting the request to the Director. The Director may grant any such requests.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-I652. Class V; Inventory Requirements for Class V Wells Authorized by Rule

A. The owner or operator of an injection well authorized by rule under R18-9-I650 shall submit inventory information to the Director. Such an owner or operator is prohibited from injecting into the well upon failure to submit inventory information for the well within the timeframe specified in subsection (D).
B. As part of the inventory, the Director shall require and the owner/operator shall provide at least the following information:
1. Facility name and location;
2. Name and address of legal contact;
3. Ownership of facility;
4. Nature and type of injection well; and
5. Operating status of injection well.
C. Upon approval of the Arizona UIC Program, the Director shall notify all known owners or operators of injection wells of their duty to submit inventory information in the manner specified by the Director.
D. The owner or operator of an injection well shall submit inventory information no later than one year after the effective date of the Arizona UIC program. The Director need not require inventory information from any facility with interim status under RCRA.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-I653. Class V; Requiring Other Information
A. In addition to the inventory requirements under R18-9-I652, the Director may require the owner or operator of any well authorized by rule under this Article to submit information as deemed necessary by the Director to determine whether a well may be endangering an USDW in violation of R18-9-B608 of this Part.
B. Such information requirements may include, but are not limited to:
1. Performance of ground-water monitoring and the periodic submission of reports of such monitoring;
2. An analysis of injected fluids, including periodic submission of such analyses; and
3. A description of the geologic strata through and into which injection is taking place.
C. Any request for information under this Section shall be made in writing, and include a brief statement of the reasons for requiring the information. An owner and operator shall submit the information within the time period or time periods provided in the notice.
D. An owner or operator of an injection well authorized by rule under this Part is prohibited from injecting into the well upon failure of the owner or operator to comply with a request for information within the time period or time periods specified by the Director pursuant to subsection (C). An owner or operator of a well prohibited from injection under this Section shall not resume injection except under a permit issued pursuant to R18-9-I651; R18-9-C616, R18-9-C624, or R18-9-C625.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-I654. Class V; Prohibition of Class V Cesspools and Motor Vehicle Waste Disposal Wells
The construction and operation of cesspools and motor vehicle waste disposal wells are prohibited.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-I655. Class V; Prohibition of Non-Experimental Class V Wells for Geologic Sequestration
The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

PART J. CLASS VI INJECTION WELL REQUIREMENTS

R18-9-J656. Class VI; Applicability
A. This Part establishes criteria and standards for underground injection control programs to regulate any Class VI carbon dioxide geologic sequestration injection wells.
B. This Part applies to any well used to inject carbon dioxide specifically for the purpose of geologic sequestration.
C. This Part also applies to owners or operators of permit- or rule-authorized Class V experimental carbon dioxide injection projects who seek to apply for Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the Director that the wells were engineered and constructed to meet the requirements of R18-9-J661 and ensure protection of USDWs, in lieu of requirements at R18-9-J661 and R18-9-J662. A converted well must still meet all other requirements under Part F of this Article.
D. The following definitions apply to this Part and govern for Class VI wells to the extent that these definitions conflict with those in R18-9-A601:
1. "Area of review" means the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and displaced fluids, and is based on available site characterization, monitoring, and operational data as set forth in R18-9-J659.
2. "Carbon dioxide plume" means the extent underground, in three dimensions, of an injected carbon dioxide stream.
3. "Carbon dioxide stream" means carbon dioxide that has been captured from an emission source, plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This Part does not apply to any carbon dioxide stream that meets the definition of a hazardous waste under A.R.S. § 49-921.
4. "Confining zone" means a geologic formation, group of formations, or part of a formation stratigraphically overlying the injection zone or zones that acts as barrier to fluid movement. For Class VI wells operating under an injection depth waiver, confining zone means a geologic formation, group of formations, or part of a formation stratigraphically overlying and underlying the injection zone or zones.
5. "Corrective action" means the use of Director-approved methods to ensure that wells within the area of review do

not serve as conduits for the movement of fluids into USDWs.

6. "Geologic sequestration" means the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.
7. "Geologic sequestration project" means an injection well or wells used to emplace a carbon dioxide stream beneath the lowermost formation containing a USDW; or, wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at R18-9-J670; or, wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to R18-9-A605 and R18-9-A606. It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated area of elevated pressure, and displaced fluids, as well as the surface area above that delineated region.
8. "Injection zone" means a geologic formation, group of formations, or part of a formation that is of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a geologic sequestration project.
9. "Post-injection site care" means appropriate monitoring and other actions, including corrective action, needed following cessation of injection to ensure that USDWs are not endangered, as required under R18-9-J668.
10. "Pressure front" means the zone of elevated pressure that is created by the injection of carbon dioxide into the subsurface. For the purposes of this Part, the pressure front of a carbon dioxide plume refers to a zone where there is a pressure differential sufficient to cause the movement of injected fluids or formation fluids into a USDW.
11. "Site closure" means the point/time, as determined by the Director following the requirements under R18-9-J668, at which the owner or operator of a geologic sequestration site is released from post-injection site care responsibilities.
12. "Transmissive fault" or "fracture" means a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J657. Class VI; Required Permit Information

A. This Section sets forth the information which must be considered by the Director in authorizing Class VI wells. For converted Class I, Class II, or Class V experimental wells, certain maps, cross sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current, readily available to the Director, and sufficiently identified to be retrieved.

B. Prior to the issuance of a permit for the construction of a new Class VI well or the conversion of an existing Class I, Class II, or Class V well to a Class VI well, the owner or operator shall submit, pursuant to R18-9-J666, and the Director shall consider the following:

1. Information required in R18-9-C616(D)(1) through (9);
2. A map showing the injection well for which a permit is sought and the applicable area of review consistent with R18-9-J659. Within the area of review, the map must show the number or name, and location of all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or EPA-approved subsurface cleanup sites, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells, other pertinent surface features including structures intended for human occupancy, State, Tribal, and Territory boundaries, and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;
3. Information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:
   a. Maps and cross sections of the area of review;
   b. The location, orientation, and properties of known or suspected faults and fractures that may transect the confining zone or zones in the area of review and a determination that they would not interfere with containment;
   c. Data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone or zones; including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;
   d. Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone or zones;
   e. Information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and
   f. Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.
4. A tabulation of all wells within the area of review which penetrate the injection or confining zone or zones. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require;
5. Maps and stratigraphic cross sections indicating the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their positions relative to the injection zone or zones, and the direction of water movement, where known;
6. Baseline geochemical data on subsurface formations, including all USDWs in the area of review;
7. Proposed operating data for the proposed geologic sequestration site:
   a. Average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;
   b. Average and maximum injection pressure;
   c. The source or sources of the carbon dioxide stream; and
   d. An analysis of the chemical and physical characteristics of the carbon dioxide stream.
8. Proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone or zones and confining zone or zones and that meets the requirements at R18-9-J662;

9. Proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;
10. Proposed procedure to outline steps necessary to conduct injection operation;
11. Schematics or other appropriate drawings of the surface and subsurface construction details of the well;
12. Injection well construction procedures that meet the requirements of R18-9-J661;
13. Proposed area of review and corrective action plan that meets the requirements under R18-9-J659;
14. A demonstration, satisfactory to the Director, that the applicant has met the financial responsibility requirements under R18-9-J660;
15. Proposed testing and monitoring plan required by R18-9-J665;
16. Proposed injection well plugging plan required by R18-9-J667(B);
17. Proposed post-injection site care and site closure plan required by R18-9-J668(A);
18. At the Director's discretion, a demonstration of an alternative post-injection site care timeframe required by R18-9-J668(C);
19. Proposed emergency and remedial response plan required by R18-9-J669;
20. A list of contacts, submitted to the Director, for those States, Tribes, and Territories identified to be within the area of review of the Class VI project based on information provided in subsection (B)(2);
21. A listing of any historic property or potential historic property as defined by R12-8-301; and
22. Any other information requested by the Director.

C. The Director shall notify, in writing, any States, Tribes, or Territories within the area of review of the Class VI project based on information provided in subsections (B)(2) and (B)(20) of the permit application.

D. Prior to granting approval for the operation of a Class VI well, the Director shall consider the following information:
1. The final area of review based on modeling, using data obtained during logging and testing of the well and the formation as required by subsections (D)(2), (3), (4), (6), (7), and (10);
2. Any relevant updates, based on data obtained during logging and testing of the well and the formation as required by subsections (D)(3), (4), (6), (7), and (10), to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of subsection (B)(3);
3. Information on the compatibility of the carbon dioxide stream with fluids in the injection zone or zones and minerals in both the injection and the confining zone or zones, based on the results of the formation testing program, and with the materials used to construct the well;
4. The results of the formation testing program required at subsection (B)(8);
5. Final injection well construction procedures that meet the requirements of R18-9-J661;
6. The status of corrective action on wells in the area of review;
7. All available logging and testing program data on the well required by R18-9-J662;
8. A demonstration of mechanical integrity pursuant to R18-9-J664;
9. Any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under subsection (B), which are necessary to address new information collected during logging and testing of the well and the formation as required by all subsections of this Section, and any updates to the alternative post-injection site care timeframe demonstration submitted under subsection (B), which are necessary to address new information collected during the logging and testing of the well and the formation as required by this Section; and
10. Any other information requested by the Director.

E. Owners or operators seeking a waiver of the requirement to inject below the lowermost USDW must also refer to R18-9-J670 and submit a supplemental report, as required at R18-9-J670. The supplemental report is not part of the permit application.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J658. Class VI; Minimum Criteria for Siting

A. Owners or operators of Class VI wells must demonstrate to the satisfaction of the Director that the wells will be sited in areas with a suitable geologic system. The owners or operators must demonstrate that the geologic system comprises:
1. An injection zone or zones of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream.
2. Confining zone or zones free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone or zones.

B. The Director may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J659. Class VI; Area of Review and Corrective Action

A. The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.

B. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of this Section and is acceptable to the Director. The requirement to maintain and implement an approved

plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application for approval by the Director, the owner or operator must submit an area of review and corrective action plan that includes the following information:

1. The method for delineating the area of review that meets the requirements of subsection (C), including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based.
2. A description of:
   a. The minimum fixed frequency, not to exceed five years, at which the owner or operator proposes to reevaluate the area of review;
   b. The monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in subsection (B)(2)(a);
   c. How monitoring and operational data will be used to inform an area of review reevaluation; and
   d. How corrective action will be conducted to meet the requirements of subsection (D), including what corrective action will be performed prior to injection and what, if any, portions of the area of review will have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.

C. Owners or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

1. Predict, using existing site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director. The model must:
   a. Be based on detailed geologic data collected to characterize the injection zone zones, confining zone or zones and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;
   b. Take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and
   c. Consider potential migration through faults, fractures, and artificial penetrations.
2. Using methods approved by the Director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone or zones. Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require; and
3. Determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.

D. Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.

E. At the minimum fixed frequency, not to exceed five years, as specified in the area of review and corrective action plan, or when monitoring and operational conditions warrant, owners or operators must:

1. Reevaluate the area of review in the same manner specified in subsection (C)(1);
2. Identify all wells in the reevaluated area of review that require corrective action in the same manner specified in subsection (C);
3. Perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in subsection (C); and
4. Submit an amended area of review and corrective action plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements under R18-9-C632 or R18-9-C633, as appropriate.

F. The emergency and remedial response plan and the demonstration of financial responsibility must account for the area of review delineated as specified in subsection (C)(1) or the most recently evaluated area of review delineated under subsection (E), regardless of whether or not corrective action in the area of review is phased.

G. All modeling inputs and data used to support area of review reevaluations under subsection (E) shall be retained for 10 years.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J660. Class VI; Financial Responsibility

A. The owner or operator must demonstrate and maintain financial responsibility as determined by the Director that meets the following conditions:

1. The financial responsibility instrument or instruments used must be from the following list of qualifying instruments:
   a. Trust Funds;
   b. Surety Bonds;
   c. Letter of Credit;
   d. Insurance;
   e. Self Insurance (i.e., Financial Test and Corporate Guarantee);
   f. Escrow Account;
   g. Any other instrument or instruments satisfactory to the Director.
2. The qualifying instrument or instruments must be sufficient to cover the cost of:
   a. Corrective action under R18-9-J659;
   b. Injection well plugging under R18-9-J667;

c. Post injection site care and site closure under R18-9-J668; and
d. Emergency and remedial response under R18-9-J669.

3. The financial responsibility instrument or instruments must be sufficient to address endangerment of USDWs.
4. The qualifying financial responsibility instrument or instruments must comprise protective conditions of coverage.
   a. Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.
      i. Cancellation – for purposes of this Part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the Director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within 60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable (or possible), any funds from the instrument being cancelled must be released within 60 days of notification by the Director.
      ii. Renewal – for purposes of this Part, owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.
      iii. Cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration: The Director deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount due is paid.
5. The qualifying financial responsibility instrument or instruments must be approved by the Director.
   a. The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit under R18-9-J657.
   b. The owner or operator must provide any updated information related to their financial responsibility instrument or instruments on an annual basis and if there are any changes, the Director must evaluate, within a reasonable time, the financial responsibility demonstration to confirm that the instrument or instruments used remain adequate for use. The owner or operator must maintain financial responsibility requirements regardless of the status of the Director's review of the financial responsibility demonstration.
   c. The Director may disapprove the use of a financial instrument if they determine that it is not sufficient to meet the requirements of this Section.
6. The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.
   a. In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase such combination must be limited to instruments that are not based on financial strength or performance, for example trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow account, and insurance. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.
   b. When using a third-party instrument to demonstrate financial responsibility, the owner or operator must provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.
   c. An owner or operator using certain types of third-party instruments must establish a standby trust to enable ADEQ to be party to the financial responsibility agreement without ADEQ being the beneficiary of any funds. The standby trust fund must be used along with other financial responsibility instruments (e.g., surety bonds, letters of credit, or escrow accounts) to provide a location to place funds if needed.
   d. An owner or operator may deposit money to an escrow account to cover financial responsibility requirements; this account must segregate funds sufficient to cover estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts and uses.
   e. An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet a Tangible Net Worth of an amount approved by the Director, have a Net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost, have assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current well plugging,

post injection site care and site closure cost, and must submit a report of its bond rating and financial information annually. In addition the owner or operator must either: Have a bond rating test of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or meet all of the following five financial ratio thresholds: A ratio of total liabilities to net worth less than 2.0; a ratio of current assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; A ratio of current assets minus current liabilities to total assets greater than -0.1; and a net profit (revenues minus expenses) greater than 0.

f. An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent's demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner or operator.

g. An owner or operator may obtain an insurance policy to cover the estimated costs of geologic sequestration activities requiring financial responsibility. This insurance policy must be obtained from a third party provider.

B. The requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit.

1. The owner or operator must maintain financial responsibility and resources until:
   a. The Director receives and approves the completed post-injection site care and site closure plan; and
   b. The Director approves site closure.
2. The owner or operator may be released from a financial instrument in the following circumstances:
   a. The owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the Director, including obtaining financial responsibility for the next phase of the geologic sequestration project, if required; or
   b. The owner or operator has submitted a replacement financial instrument and received written approval from the Director accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.

C. The owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well or wells, post-injection site care and site closure, and emergency and remedial response.

1. The cost estimate must be performed for each phase separately and must be based on the costs to the regulatory agency of hiring a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.
2. During the active life of the geologic sequestration project, the owner or operator must adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument or instruments used to comply with subsection (A) and provide this adjustment to the Director. The owner or operator must also provide to the Director written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan as required under R18-9-J659, the injection well plugging plan under R18-9-J667, the post-injection site care and site closure plan as required under R18-9-J668, and the emergency and remedial response plan as required under R18-9-J669.
3. The Director must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than 60 days after the Director has approved the request to modify the area of review and corrective action plan as required under R18-9-J659, the injection well plugging plan under R18-9-J667, the post-injection site care and site closure plan as required under R18-9-J668, and the emergency and response plan as required under R18-9-J669, if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the Director. Any decrease to the value of the financial assurance instrument must first be approved by the Director. The revised cost estimate must be adjusted for inflation as specified at subsection (C)(2).
4. Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the Director.

D. The owner or operator must notify the Director by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.

1. In the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.
2. A guarantor of a corporate guarantee must make such a notification to the Director if they are named as debtor, as required under the terms of the corporate guarantee.
3. An owner or operator who fulfills the requirements of subsection (A) by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance policy will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance policy. The owner or operator must establish other financial assurance within 60 days after such an event.

E. The owner or operator must provide an adjustment of the cost estimate to the Director within 60 days of notification by the Director, if the Director determines during the annual evaluation of the qualifying financial responsibility instrument or instruments that the most recent demonstration is no longer adequate to cover the cost of corrective action as required under R18-9-J659, injection well plugging under R18-9-J667, post-injection site care and site closure as required under R18-9-J668, and emergency and remedial response as required under R18-9-J669.

F. The Director must approve the use and length of pay-in-periods for trust funds or escrow accounts.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J661. Class VI; Injection Well Construction Requirements

A. The owner or operator must ensure that all Class VI wells are constructed and completed to:
1. Prevent the movement of fluids into or between USDWs or into any unauthorized zones;
2. Permit the use of appropriate testing devices and workover tools; and
3. Permit continuous monitoring of the annulus space between the injection tubing and long string casing.

B. Casing and Cementing of Class VI Wells.
1. Casing and cement or other materials used in the construction of each Class VI well must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the Director to determine and specify casing and cementing requirements, the owner or operator must provide the following information:
   a. Depth to the injection zone or zones;
   b. Injection pressure, external pressure, internal pressure, and axial loading;
   c. Hole size;
   d. Size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);
   e. Corrosiveness of the carbon dioxide stream and formation fluids;
   f. Down-hole temperatures;
   g. Lithology of injection and confining zone or zones;
   h. Type or grade of cement and cement additives; and
   i. Quantity, chemical composition, and temperature of the carbon dioxide stream.
2. Surface casing must extend through the base of the lowermost USDW and be cemented to the surface through the use of a single or multiple strings of casing and cement.
3. At least one long string casing, using a sufficient number of centralizers, must extend to the injection zone and must be cemented by circulating cement to the surface in one or more stages.
4. Circulation of cement may be accomplished by staging. The Director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.
5. Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.

C. Tubing and packer.
1. Tubing and packer materials used in the construction of each Class VI well must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director.
2. All owners or operators of Class VI wells must inject fluids through tubing with a packer set at a depth opposite a cemented interval at the location approved by the Director.
3. In order for the Director to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:
   a. Depth of setting;
   b. Characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;
   c. Maximum proposed injection pressure;
   d. Maximum proposed annular pressure;
   e. Proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;
   f. Size of tubing and casing; and
   g. Tubing tensile, burst, and collapse strengths.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J662. Class VI; Logging, Sampling, and Testing Prior to Well Operation

A. During the drilling and construction of a Class VI injection well, the owner or operator must run appropriate logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of any formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements under R18-9-J661 and to establish accurate baseline data against which future measurements may be compared. The owner or operator must submit to the Director a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:
1. Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to ensure that vertical avenues for fluid movement in

the form of diverging holes are not created during drilling; and
2. Before and upon installation of the surface casing:
   a. Resistivity, spontaneous potential, and caliper logs before the casing is installed; and
   b. A cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.
3. Before and upon installation of the long string casing:
   a. Resistivity, spontaneous potential, porosity, caliper, gamma ray, fracture finder logs, and any other logs the Director requires for the given geology before the casing is installed; and
   b. A cement bond and variable density log, and a temperature log after the casing is set and cemented.
4. A series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:
   a. A pressure test with liquid or gas;
   b. A tracer survey such as oxygen-activation logging;
   c. A temperature or noise log;
   d. A casing inspection log; and
5. Any alternative methods that provide equivalent or better information and that are required by and/or approved of by the Director.

B. The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone or zones, and must submit to the Director a detailed report prepared by a log analyst that includes: Well log analyses (including well logs), core analyses, and formation fluid sample information. The Director may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The Director may require the owner or operator to core other formations in the borehole.

C. The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone or zones.

D. At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone or zones:
1. Fracture pressure;
2. Other physical and chemical characteristics of the injection and confining zone or zones; and
3. Physical and chemical characteristics of the formation fluids in the injection zone or zones.

E. Upon completion, but prior to operation, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone or zones:
1. A pressure fall-off test; and,
2. A pump test; or
3. Injectivity tests.

F. The owner or operator must provide the Director with the opportunity to witness all logging and testing by this Part. The owner or operator must submit a schedule of such activities to the Director 30 days prior to conducting the first test and submit any changes to the schedule 30 days prior to the next scheduled test.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J663. Class VI; Injection Well Operating Requirements

A. Except during stimulation, the owner or operator must ensure that injection pressure does not exceed 90 percent of the fracture pressure of the injection zone or zones so as to ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone or zones. In no case may injection pressure initiate fractures in the confining zone or zones or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at R18-9-J657(B)(9), all stimulation programs must be approved by the Director as part of the permit application and incorporated into the permit.

B. Injection between the outermost casing protecting USDWs and the well bore is prohibited.

C. The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the Director. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the Director determines that such requirement might harm the integrity of the well or endanger USDWs.

D. Other than during periods of well workover (maintenance) approved by the Director in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the owner or operator must maintain mechanical integrity of the injection well at all times.

E. The owner or operator must install and use:
1. Continuous recording devices to monitor: The injection pressure; the rate, volume and/or mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and
2. Alarms and automatic surface shut-off systems or, at the discretion of the Director, down-hole shut-off systems for onshore wells or, other mechanical devices that provide equivalent protection.

F. If a shutdown (such as down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under subsection (E) otherwise indicates that the well may be lacking mechanical integrity, the owner or operator must:
1. Immediately cease injection;
2. Take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;
3. Notify the Director within 24 hours;
4. Restore and demonstrate mechanical integrity to the satisfaction of the Director prior to resuming injection; and
5. Notify the Director when injection can be expected to resume.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J664. Class VI; Mechanical Integrity

A. A Class VI well has mechanical integrity if:
1. There is no significant leak in the casing, tubing, or packer; and

2. There is no significant fluid movement into a USDW through channels adjacent to the injection well bore.

B. To evaluate the absence of significant leaks under subsection (A)(1), owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in R18-9-J663;

C. At least once per year, the owner or operator must use one of the following methods to determine the absence of significant fluid movement under subsection (A)(2):
1. An approved tracer survey such as an oxygen-activation log; or
2. A temperature or noise log.

D. If required by the Director, at a frequency specified in the testing and monitoring plan required at R18-9-J665, the owner or operator must run a casing inspection log to determine the presence or absence of corrosion in the long-string casing.

E. The Director may require any other test to evaluate mechanical integrity under subsections (A)(1) or (2). Also, the Director may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the Administrator. To obtain approval for a new mechanical integrity test, the Director must submit a written request to the Administrator setting forth the proposed test and all technical data supporting its use.

F. In conducting and evaluating the tests enumerated in this Section or others to be allowed by the Director, the owner or operator and the Director must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, they shall include a description of the test or tests and the method or methods used. In making his or her evaluation, the Director must review monitoring and other test data submitted since the previous evaluation.

G. The Director may require additional or alternative tests if the results presented by the owner or operator under subsections (A) through (F) are not satisfactory to the Director to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity as stated in subsections (A)(1) and (2).

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J665. Class VI; Testing and Monitoring Requirements

The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be submitted with the permit application, for Director approval, and must include a description of how the owner or operator will meet the requirements of this Section, including accessing sites for all necessary monitoring and testing during the life of the project. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:

1. Analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;
2. Installation and use, except during well workovers as defined in R18-9-J663, of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the annulus between the tubing and the long string casing; and the annulus fluid volume added;
3. Corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in R18-9-J661, by:
   a. Analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or
   b. Routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or
   c. Using an alternative method approved by the Director;
4. Periodic monitoring of the ground water quality and geochemical changes above the confining zone or zones that may be a result of carbon dioxide movement through the confining zone or zones or additional identified zones including:
   a. The location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and
   b. The monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under R18-9-J657 and on any modeling results in the area of review evaluation required by R18-9-J659(C).
5. A demonstration of external mechanical integrity pursuant to R18-9-J664(C) at least once per year until the injection well is plugged; and, if required by the Director, a casing inspection log pursuant to requirements under R18-9-J664(D) at a frequency established in the testing and monitoring plan;
6. A pressure fall-off test at least once every five years unless more frequent testing is required by the Director based on site-specific information;
7. Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:
   a. Direct methods in the injection zone or zones; and,
   b. Indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the Director determines, based on site-specific geology, that such methods are not appropriate;
8. The Director may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW.
   a. Design of Class VI surface air and/or soil gas monitoring must be based on potential risks to USDWs within the area of review;
   b. The monitoring frequency and spatial distribution of surface air monitoring and/or soil gas monitoring must be decided using baseline data, and the monitoring plan must describe how the proposed monitoring will yield useful information on the area of

review delineation and/or compliance with standards under R18-9-B608;
c. If an owner or operator demonstrates that monitoring employed under 40 CFR §§ 98.440 to 98.449 (Clean Air Act, 42 U.S.C. 7401 et seq.) accomplishes the goals of subsections (A)(8)(a) and (b), and meets the requirements pursuant to R18-9-J666(3)(e), a Director that requires surface air/soil gas monitoring must approve the use of monitoring employed under 40 CFR §§ 98.440 to 98.449. Compliance with 40 CFR §§ 98.440 to 98.449 pursuant to this provision is considered a condition of the Class VI permit;

9. Any additional monitoring, as required by the Director, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under R18-9-J659(C) and to determine compliance with standards under R18-9-B608;
10. The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this Part, operational data collected under R18-9-J663, and the most recent area of review reevaluation performed under R18-9-J659(E). In no case shall the owner or operator review the testing and monitoring plan less often than once every five years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the Director that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements under R18-9-C632 or R18-9-C633, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:
    a. Within one year of an area of review reevaluation;
    b. Following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the Director; or
    c. When required by the Director.
11. A quality assurance and surveillance plan for all testing and monitoring requirements.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J666. Class VI; Reporting Requirements
The owner or operator must provide at a minimum, the following reports to the Director, and as specified in subsection (5) to EPA, for each permitted Class VI well:

1. Semi-annual reports containing:
    a. Any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;
    b. Monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;
    c. A description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;
    d. A description of any event which triggers a shut-off device required pursuant to R18-9-J663(E) and the response taken;
    e. The monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;
    f. Monthly annulus fluid volume added; and
    g. The results of monitoring prescribed under R18-9-J665.
2. Report, within 30 days, the results of:
    a. Periodic tests of mechanical integrity;
    b. Any well workover; and,
    c. Any other test of the injection well conducted by the permittee if required by the Director.
3. Report, within 24 hours:
    a. Any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;
    b. Any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;
    c. Any triggering of a shut-off system (i.e., down-hole or at the surface);
    d. Any failure to maintain mechanical integrity; or
    e. Pursuant to compliance with the requirement at R18-9-J665(8) for surface air/soil gas monitoring or other monitoring technologies, if required by the Director, any release of carbon dioxide to the atmosphere or biosphere.
4. Owners or operators must notify the Director in writing 30 days in advance of:
    a. Any planned well workover;
    b. Any planned stimulation activities, other than stimulation for formation testing conducted under R18-9-J657; and
    c. Any other planned test of the injection well conducted by the permittee.
5. Owners or operators must submit all required reports, submittals, and notifications under Part J of this Article to EPA in an electronic format approved by EPA.
6. Records shall be retained by the owner or operator as follows:
    a. All data collected under R18-9-J657 for Class VI permit applications shall be retained throughout the life of the geologic sequestration project and for 10 years following site closure.
    b. Data on the nature and composition of all injected fluids collected pursuant to R18-9-J665(1) shall be retained until 10 years after site closure. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.
    c. Monitoring data collected pursuant to R18-9-J665(2) through (9) shall be retained for 10 years after it is collected.
    d. Well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure report collected pursuant to requirements at R18-9-J668(F) and (H) shall be retained for 10 years following site closure.
    e. The Director has authority to require the owner or operator to retain any records required in this Part for longer than 10 years after site closure.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J667. Class VI; Injection Well Plugging

A. Prior to the well plugging, the owner or operator must flush each Class VI injection well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.

B. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan that is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application and must include the following information:
1. Appropriate tests or measures for determining bottomhole reservoir pressure;
2. Appropriate testing methods to ensure external mechanical integrity as specified in R18-9-J664;
3. The type and number of plugs to be used;
4. The placement of each plug, including the elevation of the top and bottom of each plug;
5. The type, grade, and quantity of material to be used in plugging. The material must be compatible with the carbon dioxide stream; and
6. The method of placement of the plugs.

C. The owner or operator must notify the Director in writing pursuant to R18-9-J666(5), at least 60 days before plugging of a well. At this time, if any changes have been made to the original well plugging plan, the owner or operator must also provide the revised well plugging plan. The Director may allow for a shorter notice period. Any amendments to the injection well plugging plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at R18-9-C632 or R18-9-C633, as appropriate.

D. Within 60 days after plugging, the owner or operator must submit, pursuant to R18-9-J666(5), a plugging report to the Director. The report must be certified as accurate by the owner or operator and by the person who performed the plugging operation, if other than the owner or operator. The owner or operator shall retain the well plugging report for 10 years following site closure.

Historical Note

New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J668. Class VI; Post-Injection Site Care and Site Closure

A. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of subsection (A)(2) and is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.
1. The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application to be approved by the Director.
2. The post-injection site care and site closure plan must include the following information:
   a. The pressure differential between pre-injection and predicted post-injection pressures in the injection zone or zones;
   b. The predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under R18-9-J659(C)(1);
   c. A description of post-injection monitoring location, methods, and proposed frequency;
   d. A proposed schedule for submitting post-injection site care monitoring results to the Director pursuant to R18-9-J666(5); and
   e. The duration of the post-injection site care timeframe and, if approved by the Director, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.
3. Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the Director, be incorporated into the permit, and are subject to the permit modification requirements at R18-9-C632 or R18-9-C633, as appropriate.
4. At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the Director's approval within 30 days of such change.

B. The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.
1. Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the Director-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the Director pursuant to requirements in subsection (C), unless they make a demonstration under subsection (B)(2). The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under subsection (B)(2) is submitted and approved by the Director.
2. If the owner or operator can demonstrate to the satisfaction of the Director before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the Director may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where they have substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.
3. Prior to authorization for site closure, the owner or operator must submit to the Director for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.

4. If the demonstration in subsection (B)(3) cannot be made at the end of the 50-year period or at the end of the approved alternative timeframe, or if the Director does not approve the demonstration, the owner or operator must submit to the Director a plan to continue post-injection site care until a demonstration can be made and approved by the Director.

C. At the Director's discretion, the Director may approve, in consultation with EPA, an alternative post-injection site care timeframe other than the 50-year default, if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to R18-9-J657 or R18-9-J658, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.

1. A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:
   a. The results of computational modeling performed pursuant to delineation of the area of review under R18-9-J659;
   b. The predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or the timeframe for pressure decline to pre-injection pressures;
   c. The predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;
   d. A description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;
   e. The predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and/or mineral phase;
   f. The results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in subsection (C)(1)(d) and (C)(1)(e);
   g. A characterization of the confining zone or zones including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid movement, such as carbon dioxide and formation fluids;
   h. The presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;
   i. A description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;
   j. The distance between the injection zone and the nearest USDWs above and/or below the injection zone; and
   k. Any additional site-specific factors required by the Director.
2. Information submitted to support the demonstration in subsection (C)(1) must meet the following criteria:
   a. All analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;
   b. Estimation techniques must be appropriate and EPA-certified test protocols must be used where available;
   c. Predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;
   d. Predictive models must be calibrated using existing information where sufficient data are available;
   e. Reasonably conservative values and modeling assumptions must be used and disclosed to the Director whenever values are estimated on the basis of known, historical information instead of site-specific measurements;
   f. An analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration;
   g. An approved quality assurance and quality control plan must address all aspects of the demonstration; and
   h. Any additional criteria required by the Director.

D. The owner or operator must notify the Director in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The Director may allow for a shorter notice period.

E. After the Director has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.

F. The owner or operator must submit a site closure report to the Director within 90 days of site closure, which must thereafter be retained at a location designated by the Director for 10 years. The report must include:

1. Documentation of appropriate injection and monitoring well plugging as specified in R18-9-J667 and subsection (E). The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the Director. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the Administrator of EPA Region 9;
2. Documentation of appropriate notification and information to such State, local and Tribal authorities that have authority over drilling activities to enable such State, local, and Tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone or zones; and
3. Records reflecting the nature, composition, and volume of the carbon dioxide stream.

G. Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during Title search that will in perpetuity provide any potential purchaser of the property the following information:
1. The fact that land has been used to sequester carbon dioxide;
2. The name of the State agency, local authority, and/or Tribe with which the survey plat was filed, as well as the address of the Environmental Protection Agency Regional Office to which it was submitted; and
3. The volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.

H. The owner or operator must retain for 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the Director at the conclusion of the retention period, and the records must thereafter be retained at a location designated by the Director for that purpose.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J669. Class VI; Emergency and Remedial Response

A. As part of the permit application, the owner or operator must provide the Director with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

B. If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:
1. Immediately cease injection;
2. Take all steps reasonably necessary to identify and characterize any release;
3. Notify the Director within 24 hours; and
4. Implement the emergency and remedial response plan approved by the Director.

C. The Director may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.

D. The owner or operator shall periodically review the emergency and remedial response plan developed under subsection (A). In no case shall the owner or operator review the emergency and remedial response plan less often than once every five years. Based on this review, the owner or operator shall submit an amended emergency and remedial response plan or demonstrate to the Director that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at R18-9-C632 or R18-9-C633, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:
1. Within one year of an area of review reevaluation;
2. Following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the Director; or
3. When required by the Director.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

R18-9-J670. Class VI; Injection Depth Waiver Requirements

A. This Section sets forth information which an owner or operator seeking a waiver of the Class VI injection depth requirements must submit to the Director; information the Director must consider in consultation with all affected Public Water System Supervision Directors; the procedure for Director-- Administrator communication and waiver issuance; and the additional requirements that apply to owners or operators of Class VI wells granted a waiver of the injection depth requirements.

B. In seeking a waiver of the requirement to inject below the lowermost USDW, the owner or operator must submit a supplemental report concurrent with permit application. The supplemental report must include the following:
1. A demonstration that the injection zone or zones is/are laterally continuous, is not a USDW, and is not hydraulically connected to USDWs; does not outcrop; has adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluids; and has appropriate geochemistry.
2. A demonstration that the injection zone or zones is/are bounded by laterally continuous, impermeable confining units above and below the injection zone or zones adequate to prevent fluid movement and pressure buildup outside of the injection zone or zones; and that the confining unit or units is/are free of transmissive faults and fractures. The report shall further characterize the regional fracture properties and contain a demonstration that such fractures will not interfere with injection, serve as conduits, or endanger USDWs.
3. A demonstration, using computational modeling, that USDWs above and below the injection zone will not be endangered as a result of fluid movement. This modeling should be conducted in conjunction with the area of review determination, as described in R18-9-J659, and is subject to requirements, as described in R18-9-J659(C), and periodic reevaluation, as described in R18-9-J659(E).
4. A demonstration that well design and construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of requirements at R18-9-J661(A)(1) and will meet well construction requirements in subsection (G).
5. A description of how the monitoring and testing and any additional plans will be tailored to the geologic sequestration project to ensure protection of USDWs above and below the injection zone or zones, if a waiver is granted.
6. Information on the location of all the public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review.
7. Any other information requested by the Director to inform the Administrator's decision to issue a waiver.

C. To inform the Administrator's decision on whether to grant a waiver of the injection depth requirements at R18-9-A604 and R18-9-J661(A)(1), the Director must submit, to the Administrator, documentation of the following:
1. An evaluation of the following information as it relates to siting, construction, and operation of a geologic sequestration project with a waiver:

a. The integrity of the upper and lower confining units;
b. The suitability of the injection zone or zones, such as lateral continuity, lack of transmissive faults and fractures, knowledge of current or planned artificial penetrations into the injection zone or zones, or formations below the injection zone;
c. The potential capacity of the geologic formation or formations to sequester carbon dioxide, accounting for the availability of alternative injection sites;
d. All other site characterization data, the proposed emergency and remedial response plan, and a demonstration of financial responsibility;
e. Community needs, demands, and supply from drinking water resources;
f. Planned needs, potential and/or future use of USDWs and non-USDWs in the area;
g. Planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation or formations and other formations both above and below the injection zone to determine if there are any plans to drill through the formation to access resources in or beneath the proposed injection zone or zones/formation or formations;
h. The proposed plan for securing alternative resources or treating USDW formation waters in the event of contamination related to the Class VI injection activity; and,
i. Any other applicable considerations or information requested by the Director.

2. Consultation with the Public Water System Supervision Directors of all States and Tribes having jurisdiction over lands within the area of review of a well for which a waiver is sought.
3. Any written waiver-related information submitted by the Public Water System Supervision Director or Directors to the (UIC) Director.

D. Pursuant to requirements at R18-9-C620 and concurrent with the Class VI permit application notice process, the Director shall give public notice that a waiver application has been submitted. The notice shall clearly state:
1. The depth of the proposed injection zone or zones;
2. The location of the injection well or wells;
3. The name and depth of all USDWs within the area of review;
4. A map of the area of review;
5. The names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and,
6. The results of UIC-Public Water System Supervision consultation required under subsection (C)(2).

E. Following public notice, the Director shall provide all information received through the waiver application process to the Administrator. Based on the information provided, the Administrator shall provide written concurrence or non-concurrence regarding waiver issuance.
1. If the Administrator determines that additional information is required to support a decision, the Director shall provide the information. At the Administrator's discretion, they may require that public notice of the new information be initiated.
2. In no case shall a Director of a State-approved program issue a waiver without receipt of written concurrence from the Administrator.

F. If a waiver is issued, within 30 days of waiver issuance, EPA shall post the following information on the Office of Water's Web site:
1. The depth of the proposed injection zone or zones;
2. The location of the injection well or wells;
3. The name and depth of all USDWs within the area of review;
4. A map of the area of review;
5. The names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and
6. The date of waiver issuance.

G. Upon receipt of a waiver of the requirement to inject below the lowermost USDW for geologic sequestration, the owner or operator of the Class VI well must comply with:
1. All requirements at R18-9-J659, R18-9-J660, R18-9-J662, R18-9-J663, R18-9-J664, R18-9-J666, R18-9-J667, and R18-9-J669;
2. All requirements at R18-9-J661 with the following modified requirements:
a. The owner or operator must ensure that Class VI wells with a waiver are constructed and completed to prevent movement of fluids into any unauthorized zones including USDWs, in lieu of requirements at R18-9-J661(A)(1).
b. The casing and cementing program must be designed to prevent the movement of fluids into any unauthorized zones including USDWs in lieu of requirements at R18-9-J661(B)(1).
c. The surface casing must extend through the base of the nearest USDW directly above the injection zone and be cemented to the surface; or, at the Director's discretion, another formation above the injection zone and below the nearest USDW above the injection zone.
3. All requirements at R18-9-J665 with the following modified requirements:
a. The owner or operator shall monitor the groundwater quality, geochemical changes, and pressure in the first USDWs immediately above and below the injection zone or zones; and in any other formations at the discretion of the Director.
b. Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure by using direct methods to monitor for pressure changes in the injection zone or zones; and, indirect methods (such as seismic, electrical, gravity, or electromagnetic surveys and/or downhole carbon dioxide detection tools), unless the Director determines, based on site-specific geology, that such methods are not appropriate.
4. All requirements at R18-9-J668 with the following, modified post-injection site care monitoring requirements:
a. The owner or operator shall monitor the groundwater quality, geochemical changes and pressure in the first USDWs immediately above and below the injection zone; and in any other formations at the discretion of the Director.
b. Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure by using direct methods in the injection zone or zones; and indirect methods, unless the Director determines based on site-specific geology, that such methods are not appropriate.

5. Any additional requirements requested by the Director designed to ensure protection of USDWs above and below the injection zone or zones.

Historical Note
New Section made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

Table 1. Applicable Standards National Primary Drinking Water Regulations

Contaminant	MCL[1] (mg/L)[2]
Alachlor	0.002
Alpha/photon emitters	15 picocuries per Liter (pCi/L)
Antimony	0.006
Arsenic	0.010
Asbestos (fibers>10 micrometers)	7 million fibers per Liter (MFL)
Atrazine	0.003
Barium	2
Benzene	0.005
Benzo(a)pyrene (PAHs)	0.0002
Beryllium	0.004
Beta photon emitters	4 millirems per year
Bromate	0.010
Cadmium	0.005
Carbofuran	0.04
Carbon tetrachloride	0.005
Chlordane	0.002
Chlorite	1.0
Chlorobenzene	0.1
Chromium (total)	0.1
Cyanide (as free cyanided)	0.2
2,4-D	0.07
Dalapon	0.2
1,2-Dibromo-3-chloropropane (DBCP)	0.0002
o-Dichlorobenzene	0.6
P-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Cis-1,2-Dichloroethylene	0.07
Trans-1,2-Dichloroethylene	0.1
Dichloromethane	0.005
1,2-Dichloropropane	0.005
Di(2-ethylhexyl) adipate	0.4
DI(2-ethylhexyl) phthalate	0.006
Dinoseb	0.007
Dioxin (2,3,7,8-TCDD)	0.00000003
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylbenzene	0.7
Ethylene dibromide	0.00005
Fecal coliform and *E.coli*	MCL[3]
Fluoride	4.0
Glyphosate	0.7
Haloacetic acids (HAA5)	0.060
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Mercury (inorganic)	0.002
Methoxychlor	0.04
Nitrate (measured as Nitrogen)	10
Nitrite (measured as Nitrogen)	1
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls (PCBs)	0.0005
Radium 226 and Radium 228 (combined)	5 pCi/L
Selenium	0.05
Simazine	0.004
Styrene	0.1
Tetrachloroethylene	0.005
Thallium	0.002
Toluene	1
Total Coliforms	5.0 percent[4]
Total Trihalomethanes (TTHMs)	0.080
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05
1,2,4-Trichlorobenzene	0.07
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.005
Trichloroethylene	0.005
Uranium	30µg/L
Vinyl chloride	0.002
Xylenes (total)	10

NOTES
[1] Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.

[2] Units are in milligrams per liter (mg/L) unless otherwise noted. Milligrams per liter are equivalent to parts per million (ppm).

[3] A routine sample that is fecal coliform-positive or E. coli-positive triggers repeat samples-if any repeat sample is total coliform-positive, the system has an acute MCL violation. A routine sample that is total coliform-positive, and fecal coliform-negative or E. coli-negative triggers repeat samples – if any repeat sample is fecal coli-

form-positive or E. coli-positive, the system has an acute MCL violation. See also Total Coliforms.

[4] No more than 5.0 percent samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli. If two consecutive TC-positive samples, and one is also positive for E. coli or fecal coliforms, system has an acute MCL violation.

Historical Note
New Table 1, under Article 6, Part J made by final rulemaking at 28 A.A.R. 1903 (August 5, 2022), effective September 6, 2022 (Supp. 22-3).

ARTICLE 7. USE OF RECYCLED WATER

R18-9-701. Renumbered

Historical Note
Former Section R9-20-401 repealed, new Section R9-20-401 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-401 renumbered without change as Section R18-9-701 (Supp. 87-3). Amended by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-701 renumbered to R18-9-A701 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-702. Renumbered

Historical Note
Former Section R9-20-402 repealed, new Section R9-20-402 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-402 renumbered without change as Section R18-9-702 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-702 renumbered to R18-9-A702 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-703. Renumbered

Historical Note
Former Section R9-20-403 repealed, new Section R9-20-403 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-403 renumbered without change as Section R18-9-703 (Supp. 87-3). Editorial change to labels in subsection (c)(8) (Supp. 89-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-703 renumbered to R18-9-B701 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-704. Renumbered

Historical Note
Former Section R9-20-404 repealed, new Section R9-20-404 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-404 renumbered without change as Section R18-9-704 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-704 amended by final rulemaking at 22 A.A.R. 1696, effective August 12, 2016 (Supp. 16-2). Section R18-9-704 and Table 1 renumbered to R18-9-B702 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-705. Renumbered

Historical Note
Former Section R9-20-405 repealed, new Section R9-20-405 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-405 renumbered without change as Section R18-9-705 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-705 renumbered to R18-9-A703 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-706. Renumbered

Historical Note
Former Section R9-20-406 repealed, new Section R9-20-406 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-406 renumbered without change as Section R18-9-706 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-706 renumbered to R18-9-B703 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-707. Renumbered

Historical Note
Former Section R9-20-407 repealed, new Section R9-30-407 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-407 renumbered without change as Section R18-9-707 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-707 renumbered to R18-9-C701 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-708. Renumbered

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-708 renumbered to R18-9-A704 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-709. Renumbered

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-709 renumbered to R18-9-A705 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-710. Renumbered

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-710 renumbered to R18-9-A706 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-711. Renumbered

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section

R18-9-711 renumbered to R18-9-D701 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-712. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-712 renumbered to R18-9-B704 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-713. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-713 renumbered to R18-9-B705 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-714. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-714 renumbered to R18-9-B706 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-715. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-715 renumbered to R18-9-B707 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-716. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-716 renumbered to R18-9-B708 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-717. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-717 renumbered to R18-9-B709 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-718. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-718 renumbered to R18-9-B710 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-719. Renumbered

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section R18-9-719 renumbered to R18-9-D702 by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-720. Repealed

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1). Section repealed by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART A. GENERAL PROVISIONS

R18-9-A701. Definitions

1. "Direct reuse" means the beneficial use of reclaimed water for a purpose allowed by this Article. The following is not a direct reuse of reclaimed water:
   a. The use of water subsequent to its discharge under the conditions of a National or Arizona Pollutant Discharge Elimination System permit;
   b. The use of water subsequent to discharge under the conditions of an Aquifer Protection Permit issued under 18 A.A.C. 9, Articles 1 through 3;
   c. The use of industrial wastewater, reclaimed water, or both, in a workplace subject to a federal program that protects workers from workplace exposures.
2. "Direct reuse site" means an area permitted for the application or impoundment of reclaimed water. An impoundment operated for disposal under an Aquifer Protection Permit is not a direct reuse site.
3. "End user" means a person who directly reuses reclaimed water meeting the standards for Classes A+, A, B+, B, and C, established under 18 A.A.C. 11, Article 3.
4. *"Gray water" means wastewater that has been collected separately from a sewage flow and that originates from a clothes washer or a bathroom tub, shower or sink but that does not include wastewater from a kitchen sink, dishwasher or toilet.* A.R.S. § 49-201(20).
5. "Industrial wastewater" means wastewater generated from an industrial process.
6. "Irrigation" means the beneficial use of water or reclaimed water, or both, for growing crops, turf, or silviculture, or for landscaping.
7. "Open access" means access to reclaimed water by the general public is uncontrolled.
8. "Open water conveyance" means any constructed open waterway, including canals and laterals, that transports reclaimed water from a sewage treatment facility to a reclaimed water blending facility or from a sewage treatment facility or reclaimed water blending facility to the point of land application or end use. An open water conveyance does not include waters of the United States.
9. "Pipeline conveyance" means any system of pipelines that transports reclaimed water from a sewage treatment facility to a reclaimed water blending facility or from a sewage treatment facility or reclaimed water blending facility to the point of land application or end use.
10. *"Reclaimed water" means water that has been treated or processed by a wastewater treatment plant or an on-site wastewater treatment facility.* A.R.S. § 49-201(41).
11. "Reclaimed water agent" means a person who holds a permit to distribute reclaimed water to more than one end user.
12. "Reclaimed water blending facility" means an installation or method of operation that receives reclaimed water

from a sewage treatment facility or other reclaimed water blending facility classified to produce Class C or better reclaimed water and blends it with other water so that the produced water may be used for a higher-class purpose listed in 18 A.A.C. 11, Article 3, Table A.

13. "Recycled water" means a processed water that originated as a waste or discarded water, including reclaimed water and gray water, for which the Department has designated water quality specifications to allow the water to be used as a supply.
14. "Restricted access" means that access to reclaimed water by the general public is controlled.
15. "Sewage Treatment Facility" means a sewage treatment facility as defined in 18 A.A.C. 9, Article 1.

Historical Note

New Section R18-9-A701 renumbered from R18-9-701 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025; amended by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp. 25-1).

R18-9-A702. Applicability and Standards for Recycled Water

A. This Article applies to:
1. An owner or operator of a sewage treatment facility that generates reclaimed water for direct reuse,
2. An owner or operator of a reclaimed water blending facility,
3. A reclaimed water agent,
4. An end user of reclaimed water,
5. A person who uses recycled water regulated under this Article,
6. A person who directly reuses reclaimed water from a sewage treatment facility combined with industrial wastewater or combined with water from an industrial wastewater treatment facility, and
7. A person who directly reuses reclaimed water from an industrial wastewater treatment facility in the production or processing of a crop or substance that may be used as human or animal food.

B. Reclaimed water classes A+, A, B+, B, and C specified in this Article shall meet the standards established in 18 A.A.C. 11, Article 3.

C. Nothing in this Article exempts the disposal of reclaimed water from the Aquifer Protection Permit requirements under A.R.S. Title 49, Chapter 2, Articles 1, 2, and 3.

Historical Note

New Section R18-9-A702 renumbered from R18-9-702 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-A703. Recycled Water Individual Permit Application

A. To apply for a Recycled Water Individual Permit, a person shall provide the Department with:
1. The applicable permit fee specified under 18 A.A.C. 14; and
2. The following information on a form provided by the Department:
   a. The name, e-mail address, telephone number, and mailing address of the owner or operator of the facility or, if applicable, the reclaimed water agent;
   b. The latitude and longitude coordinates; township range, and section; site address, if applicable; and a map showing the facility or site location;
   c. Any other federal or state environmental permits issued to the applicant;
   d. Source of recycled water to be used;
   e. The applicant may propose for approval, and the Department may issue, a single permit that includes more than one type of recycled water allowed by this article, including for multiple classes of reclaimed water, if the applicant demonstrates the waters will be treated appropriately for the end use;
   f. The applicant may propose, and the Department may permit, the inclusion of kitchen sink and dishwasher wastewater with gray water under a Recycled Water Individual Permit, if the applicant demonstrates such waters will be treated appropriately for the end use;
   g. Estimated volume of recycled water to be used on an annual basis;
   h. Class of reclaimed water to be directly reused, if applicable;
   i. Description of the use activity;
   j. Any treatment measures utilized to meet or maintain reclaimed water quality standards or otherwise ensure the quality of the recycled water is fit for the intended use; and
   k. The applicant's certification that the information submitted in the application is true and accurate to the best of the applicant's knowledge.

B. Public participation.
1. Notice of Preliminary Decision.
   a. The Department shall publish the Notice of Preliminary Decision regarding the issuance or denial of a final permit determination on the Department's website.
   b. The Department shall accept written comments from the public before a Recycled Water Individual Permit is issued or denied.
   c. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.
2. After publishing the notice specified in subsection (B)(1)(a), the Department shall hold a public hearing to address the Notice of Preliminary Decision if the Department determines that:
   a. Significant public interest in a public hearing exists, or
   b. Significant issues or information have been brought to the attention of the Department that are relevant to the permitting decision and have not been considered previously in the permitting process.
3. If the Department determines a public hearing is necessary and a public hearing has not already been noticed under subsection (B)(1)(a), the Department shall schedule a public hearing and republish the Notice of Preliminary Decision and notice of the public hearing on the Department's website.
4. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

C. Final permit issuance or denial.

1. The Department may deny a Recycled Water Individual Permit if the Department determines upon completion of the application process the applicant has:
   a. Failed or refused to correct a deficiency in the permit application;
   b. Failed to demonstrate the facility and the operation will protect public health and water quality. This determination shall be based on:
      i. The information submitted in the permit application,
      ii. Any information submitted to the Department as written public comment or following a public hearing; or
      iii. Any information relevant to the demonstration developed or acquired by the Department, or
   c. Provided false or misleading information.
2. If the Department denies a Recycled Water Individual Permit the Department shall provide the applicant with written notification explaining the following:
   a. The reasons for the denial with references to the statutes or rules on which the denial is based.
   b. The applicant's right to appeal the denial, including the number of days the applicant has to file a notice of appeal, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process.
   c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note
New Section R18-9-A703 renumbered from R18-9-705 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-A704. Recycled Water General Permit

A. Type 1 Recycled Water General Permit for Gray Water. A person may use recycled water without notice to the Department if the use:
1. Is specifically authorized by and meets the requirements of this Article, and
2. Complies with the requirements of the Type 1 Recycled Water General Permit under this Article.

B. Type 2 Recycled Water General Permit for Reclaimed Water.
1. A person may use recycled water under a Type 2 Recycled Water General Permit if:
   a. The use is authorized by and meets the requirements of this Article;
   b. The use meets all the conditions of the applicable Type 2 Recycled Water General Permit under this Article;
   c. The person files a Notice of Intent to Use Recycled Water under subsection (B)(2); and
   d. The person submits the applicable fee established in 18 A.A.C. 14.
2. Notice of Intent to Use Recycled Water.
   a. A person shall submit, by mail, in person, or by another method approved by the Department, the Notice of Intent to Use Recycled Water on a form provided by the Department.
   b. The Notice of Intent to Use Recycled Water shall include;
      i. The name, address, e-mail address, and telephone number of the applicant;
      ii. The name, address, and telephone number of the contact person;
      iii. The source, estimated volume, and, if applicable, class of recycled water to be used;
      iv. The latitude and longitude coordinates of the approximate center point of the use site;
      v. The description of the use activity; and
      vi. The applicant's certification that the applicant agrees to comply with all requirements of this Article, including specific terms of the applicable Recycled Water General Permit.
   c. For a Type 2 Recycled Water General Permit for Direct Reuse of Reclaimed Water, the Notice of Intent to Use Recycled Water must include the description of the direct reuse activity, including a description of acreage and the type of vegetation to be irrigated, if applicable to the type of direct reuse activity.
3. The Department shall notify the applicant that the Department received the Notice of Intent to Use Recycled Water and that the applicant is authorized to use the recycled water according to Type 2 permit conditions.

C. Type 3 Recycled Water General Permit for Reclaimed Water and Type 3 Recycled Water General Permit for Gray Water. A person shall not operate under a Type 3 Recycled Water General Permit until the Department issues a written Recycled Water Authorization.
1. Application submittal. The applicant shall submit, either by mail, in person at the Department, or by another method approved by the Department:
   a. The Notice of Intent to Use Recycled Water on a form provided by the Department containing the information specified in the applicable Type 3 Recycled Water General Permit under this Article, and
   b. The applicable fee established in 18 A.A.C. 14.
2. Issuance of Recycled Water Authorization. If, after reviewing the Notice of Intent to Use Recycled Water, the Department determines the direct reuse conforms with the conditions of a Type 3 Recycled Water General Permit and all other applicable requirements of this Article, the Department shall issue the Recycled Water Authorization.
3. Denial of Recycled Water Authorization.
   a. If the Department determines on the basis of its review or an inspection the use does not conform to the conditions of the applicable Type 3 Recycled Water General Permit or other applicable requirements of this Article, the Department shall notify the applicant of its decision not to issue the Recycled Water Authorization.
   b. The applicant may appeal the decision not to issue a Recycled Water Authorization under A.R.S. §§ 41-1092 through 41-1092.12.

Historical Note
New Section R18-9-A704 renumbered from R18-9-708 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-A705. Recycled Water Permit Term, Information Changes, and Renewal

A. A recycled water general permit is valid as follows:
1. A Type 1 Recycled Water General Permit is valid as long as the conditions of the general permit and the requirements of this Article are met. No renewal is required.

2. A Type 2 Recycled Water General Permit is valid for five years from the date the Department receives the Notice of Intent to Use Recycled Water;
3. A Type 3 Recycled Water General Permit is valid for five years from the date the Recycled Water Authorization is issued.

B. If any change in the following information occurs, a permittee operating under any individual, or Type 2 or Type 3 recycled water general permit shall update the Department with such changes at least once annually by January 31:
1. Permittee,
2. Ownership,
3. Contact person,
4. Phone number, address, email address, or telephone number, or any combination of any of the above, for permittee or contact person,
5. Name of the use site,
6. For a Type 2 Recycled Water General Permit for Direct Reuse of Class A + or B + Reclaimed Water remaining under the same ownership:
   a. Expansion of the reuse area,
   b. Addition of another allowable use if it is located within the same property boundary as the boundary identified in the Notice of Intent to Use Recycled Water submitted to the Department.
7. An increase in Class A, B, or C reclaimed water use of more than ten percent but less than twenty percent above the volume of reclaimed water currently permitted for use at the reuse site, if applicable.

C. To renew any Type 2 or Type 3 Recycled Water General Permit, a permittee must submit a Notice of Renewal at least 30 days before the permit expires and include the applicable fee established in 18 A.A.C. 14. A permittee may update or change any information as described in subsection (B) in a Notice of Renewal.

D. For changes not described in subsections (B) or (C), the permittee must submit a new Notice of Intent to Use Recycled Water or a Recycled Water Individual Permit application, as applicable.

Historical Note

New Section R18-9-A705 renumbered from R18-9-709 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-A706. Recycled Water Permit Revocation

A. After notice and opportunity for a hearing, the Director may revoke coverage under a Recycled Water General Permit and require the permittee to obtain an individual permit in order to operate for any of the following:
1. The permittee failed to comply with any applicable provision of A.R.S. Title 49, Chapter 2; Article 7 of this Chapter; or any permit condition;
2. The permittee misrepresented or omitted a fact, information, or data related to an application or permit condition;
3. The Director determines a permitted activity is causing or will cause a violation of a water quality standard established under A.R.S. § 49-221;
4. A permitted activity is causing or will cause imminent and substantial endangerment to public health or the environment.

B. The Director may revoke coverage under a general permit for any or all facilities within a specific geographic area, if, due to geologic or hydrologic conditions, the cumulative effect of the facilities subject to the Recycled Water General Permit has violated or will violate a water quality standard established under A.R.S. § 49-221.

C. If an individual permit is issued to replace general permit coverage, the coverage under the general permit is automatically revoked upon issuance of the individual permit.

D. The Director may, after notice and opportunity for hearing, suspend or revoke a Recycled Water Individual Permit for any of the reasons listed in subsections (A)(1) through (A)(4) of this Section.

Historical Note

New Section R18-9-A706 renumbered from R18-9-710 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-A707. Recycled Water Permit Transition

The terms and conditions of Type 2, Type 3, and individual reclaimed water permits issued before January 1, 2018, including permits issued for gray water, shall remain in effect according to the language of this Article effective as of the date the permit was issued.

Historical Note

New Section R18-9-A707 made by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART B. RECLAIMED WATER

R18-9-B701. Transition of Aquifer Protection Permits and Permits for the Reuse of Reclaimed Wastewater

A. A person may directly reuse reclaimed water under an individual Aquifer Protection Permit or a Permit for the Reuse of Reclaimed Wastewater issued by the Department before January 1, 2001 if the person meets the conditions of the permit and the permit does not expire.

B. A person meeting the requirements of subsection (A) may apply for a new reclaimed water permit under this Article.
1. To obtain a reclaimed water permit, a person shall submit a Recycled Water Individual Permit application, required under R18-9-A703(A), or a Notice of Intent to Use Recycled Water, required under R18-9-A704(B)(2) or R18-9-A704(B)(3), to the Department at least 120 days before the current permit expires.
2. The Department shall continue the terms of the individual Aquifer Protection Permit or the Permit for the Reuse of Reclaimed Wastewater beyond the stated date of expiration if:
   a. The permitted direct reuse is of a continuing nature; and
   b. The permittee submits a timely and complete application for a new permit.

C. Sewage treatment facility generating reclaimed water.
1. At the request of a permittee holding an individual Aquifer Protection Permit, the Department shall amend an individual Aquifer Protection Permit if the permittee adequately demonstrates that the applicable quality of reclaimed water produced for direct reuse is achieved. The Department shall review:
   a. The information in the individual Aquifer Protection Permit, any applicable supporting documentation, and the water quality test results from the previous two years to determine the classification of reclaimed water generated by the sewage treatment facility; and
   b. The available water quality data if the sewage treatment facility has operated for less than two years.

2. The Department shall issue an amended individual Aquifer Protection Permit under procedures specified under 18 A.A.C. 9, Article 2 containing:
   a. Identification of the class of reclaimed water generated by the facility;
   b. Requirements for monitoring reclaimed water quality and flow at a frequency appropriate to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3;
   c. Requirements for quarterly reporting of the following data to the Department, any reclaimed water agent who has contracted for delivery of reclaimed water from the facility, and any end user who has not waived interest in receiving this information:
      i. Water quality test results demonstrating reclaimed water produced by the facility meets the applicable standards for the class of water identified in subsection (C)(2)(a), and
      ii. The total volume of reclaimed water generated for direct reuse.
   d. Provision for cessation of delivery, if necessary, and storage or disposal if reclaimed water cannot be delivered for direct reuse.

Historical Note
New Section R18-9-B701 renumbered from R18-9-703 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B702. General Requirements for Reclaimed Water

A. Sewage treatment facility. A sewage treatment facility owner or operator shall provide reclaimed water for direct reuse only as authorized under an individual Aquifer Protection Permit.

B. Additional treatment. If an owner or operator of a facility accepts reclaimed water and provides additional treatment for a higher quality direct reuse, the facility is considered a sewage treatment facility and shall provide reclaimed water for direct reuse only as authorized under an individual Aquifer Protection Permit.

C. Reclaimed water blending facility. An owner or operator of a reclaimed water blending facility shall conduct blending operations only as authorized under a Recycled Water Individual Permit or a Type 3 Recycled Water General Permit for a Reclaimed Water Blending Facility.

D. Reclaimed water agent. A person shall operate as a reclaimed water agent only as authorized under a Recycled Water Individual Permit or a Type 3 Recycled Water General Permit for a Reclaimed Water Agent.

E. End user. A person shall not directly reuse reclaimed water unless permitted under this Article.

F. Irrigating with reclaimed water. A permittee applying reclaimed water for an irrigation use allowed in 18 A.A.C. 11, Article 3, Table A shall:
1. Use application methods that reasonably preclude human contact with reclaimed water;
2. Prevent reclaimed water from standing on open access areas during normal periods of use; and
3. Prevent reclaimed water from coming into contact with drinking fountains, water coolers, or eating areas.

G. Hose bibbs. A permittee directly reusing reclaimed water shall secure hose bibbs discharging reclaimed water to prevent use by the public.

H. Prohibited activities.
1. Irrigating with untreated sewage;
2. Providing water for human consumption from a reclaimed water source, except as permitted under Article 8 of this Chapter.
3. Providing or using reclaimed water for any of the following activities:
   a. Direct reuse for swimming, wind surfing, water skiing, or other full-immersion water activity with a potential of ingestion; or
   b. Direct reuse for evaporative cooling or misting.
4. Misapplying reclaimed water for any of the following reasons:
   a. Application of a stated class of reclaimed water of lesser quality than allowed by this Article for the type of direct reuse application;
   b. Application of reclaimed water to any area other than a direct reuse site; or
   c. Allowing runoff of reclaimed water or reclaimed water mixed with stormwater from a direct reuse site, except for:
      i. Agricultural return flow directed onto an adjacent field or returned to an open water conveyance; or
      ii. A discharge authorized by an individual or general NPDES or AZPDES permit.

I. Signage and Notification. A permittee shall place and maintain signage at locations and provide applicable notification as specified in Table 1 so the public is informed reclaimed water is in use and no one should drink from the system.

J. Pipeline Conveyances of Reclaimed Water.
1. Applicability. Any person constructing a pipeline conveyance, whether new or a replacement of an existing pipeline, shall meet the requirements of this subsection.
2. A person shall design and construct a pipeline conveyance system using good engineering judgment following standards of practice.
3. A person shall construct a pipeline conveyance so that:
   a. Reclaimed water does not find its way into, or otherwise contaminate, a potable water system;
   b. System structural integrity is maintained; and
   c. The capability for inspection, maintenance, and testing is maintained.
4. A person shall construct a pipeline conveyance and all appurtenances conducting reclaimed water to withstand a static pressure of at least 50 pounds per square inch greater than the design working pressure without leakage as determined in R18-9-E301(D)(2)(j).
5. A person shall provide a pipeline conveyance with thrust blocks or restrained joints where needed to prevent excessive movement of the pipeline.
6. The following requirements for minimum separation distance apply. A person shall:
   a. Locate a pipeline conveyance no closer than 50 feet from a drinking water well unless the pipeline conveyance is constructed as specified under subsection (J)(6)(c);
   b. Locate a pipeline conveyance no closer than two feet vertically nor six feet horizontally from a potable water pipeline unless the pipeline conveyance is constructed as specified under subsection (J)(6)(c);
   c. Construct a pipeline conveyance that does not meet the minimum separation distances specified in subsections (J)(6)(a) and (J)(6)(b) by encasing the pipeline conveyance in at least six inches of concrete or using mechanical joint ductile iron pipe or other

materials of equivalent or greater tensile and compressive strength at least 10 feet beyond any point on the pipeline conveyance within the specified minimum separation distance; and

d. If a reclaimed water system is supplemented with water from a potable water system, separate the potable water system from the pipeline conveyance by an air gap.

7. A person shall:
   a. For a pipeline conveyance, eight inches in diameter or less, use pipe marked on opposite sides in English: "CAUTION: RECLAIMED WATER, DO NOT DRINK" in intervals of three feet or less and colored purple or wrapped with durable purple tape.
   b. For a mechanical appurtenance to a pipeline conveyance, ensure the mechanical appurtenance is colored purple or legibly marked to identify it as part of the reclaimed water distribution system and distinguish it from systems for potable water distribution and sewage collection.

K. Open Water Conveyances of Reclaimed Water.

1. This subsection applies to an open water conveyance, regardless of the date of construction.
2. A person shall maintain an open water conveyance to prevent release of reclaimed water except as allowed under federal and state regulations. The maintenance program shall include periodic inspections and follow-up corrective measures to ensure the integrity of conveyance banks and capacity of the conveyance to safely carry operational flows.
3. Signage for Class B+, B, and C Reclaimed Water. A person shall:
   a. Ensure signs state: "CAUTION: RECLAIMED WATER, DO NOT DRINK," and display the international "do not drink" symbol;
   b. Place signs at all points of ingress and, if the open water conveyance is operated with open access, at least every 1/4-mile along the length of the open water conveyance or other interval as approved in writing by the Department; and
   c. Ensure signs are visible and legible from both sides of the open water conveyance.

Historical Note

New Section R18-9-B702 renumbered from R18-9-704 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018; clerical error to subsections corrected at (J)(6)(a), (b), and (c) as published at 23 A.A.R. 3091 (Supp. 17-4). Amended by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp. 25-1).

Table 1. Signage and Notification Requirements for Direct Reuse Sites

Reclaimed Water Class	Hose Bibbs	Residential Irrigation	Schoolground Irrigation	Other Open Access Irrigation	Restricted Access Irrigation	Mobile Reclaimed Water Dispersal
A+, A	Each bibb at valve	Front yard, or all entrances to a subdivision if the signage is supplemented by written yearly notification to individual homeowners by the homeowner's association.	On premises visible to staff and students	None	None	On dispersal equipment and visible to the public
B+, B	Each bibb at valve	Direct Reuse Not Allowed	Direct Reuse Not Allowed	Direct Reuse Not Allowed	1. Ingress points; 2. At reasonably spaced intervals of not more than 1/4 mile at the reuse site or along the open water conveyance, unless access to vehicular and pedestrian traffic is secured; and 3. If applicable, notice on golf score cards	On dispersal equipment and visible to the public
C	Each bibb at valve	Direct Reuse Not Allowed	Direct Reuse Not Allowed	Direct Reuse Not Allowed	1. Ingress points; 2. At reasonably spaced intervals of not more than 1/4 mile at the reuse site or along the open water conveyance, unless access to vehicular and pedestrian traffic is secured; and 3. If applicable, notice on golf score cards	On dispersal equipment and visible to the public

Note: All impoundments with open access including lakes, ponds, ornamental fountains, waterfalls, and other water features shall be posted with signs regardless of the class of reclaimed water.

Historical Note

New Section R18-9-B702, Table 1 renumbered from R18-9-704, Table 1 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B703. General Provisions for Recycled Water Individual Permit for Reclaimed Water

A. A Recycled Water Individual Permit for Reclaimed Water is obtained under R18-9-A703. A Recycled Water Individual Permit for Reclaimed Water:
1. Is valid for five years;
2. Must be updated as prescribed by R18-9-A705; and
3. Continues, pending the issuance of a new permit, with the same terms following its expiration if the following are met:
   a. The permittee submits an application for a new permit at least 60 days before the expiration of the existing permit; and
   b. The permitted activity is of a continuing nature.

B. A Recycled Water Individual Permit for Reclaimed Water shall contain, if applicable:
1. The class of reclaimed water to be applied for direct reuse or the alternative water quality criteria appropriate for a direct reuse type not listed in 18 A.A.C. 11, Article 3, Table A that ADEQ may allow under R18-11-309;
2. Specific types of direct reuse and any limitations on reuse;
3. Requirements for monitoring reclaimed water quality and flow to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3;
4. Requirements for reporting the following data to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3:
   a. Water quality test results demonstrating the reclaimed water meets the applicable standards for the class of water or the alternative water quality criteria identified in subsection (B)(1), and
   b. The total volume of reclaimed water generated for direct reuse.
5. Requirements for maintaining records of all monitoring information and monitoring activities include:
   a. The date, description of sampling location, and time of sampling or measurement;
   b. The name of the person who performed the sampling or measurement;
   c. The date the analyses were performed;
   d. The name of the person who performed the analyses;
   e. The analytical techniques or methods used;
   f. The results of the analyses; and
   g. Documentation of sampling technique, sample preservation, and transportation, including chain-of-custody forms.
6. Requirements to retain all monitoring activity records and results, including all data for continuous monitoring instrumentation, and calibration and maintenance records for five years from the date of sampling or analysis. The Director shall extend the five-year retention period:
   a. During the course of an unresolved litigation regarding compliance with the permit conditions, or
   b. For any other justifiable cause.
7. A requirement to allow all end users access to the records of physical, chemical, and biological quality of the reclaimed water.
8. Signage or other notification requirements appropriate to the use; and
9. Closure requirements, if applicable.

Historical Note

New Section R18-9-B703 renumbered from R18-9-706 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B704. Type 2 Recycled Water General Permit for Direct Reuse of Class A+ Reclaimed Water

A. A Type 2 Recycled Water General Permit for Direct Reuse of Class A+ Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Table A, if the conditions in this Article are met.

B. Record maintenance. A permittee shall maintain records for five years describing the direct reuse site and the total amount of reclaimed water used annually for the permitted direct reuse activity. The records shall be made available to the Department upon request.

C. A permittee shall post signs or provide notification or both as specified in R18-9-B702(I).

D. No lining is required for an impoundment storing Class A+ reclaimed water.

Historical Note

New Section R18-9-B704 renumbered from R18-9-712 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B705. Type 2 Recycled Water General Permit for Direct Reuse of Class A Reclaimed Water

A. A Type 2 Recycled Water General Permit for the Direct Reuse of Class A Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Table A, if the conditions in this Article are met.

B. Records and reporting. A permittee shall:
1. Maintain records containing the following information for five years, and make them available to the Department upon request:
   a. The direct reuse site,
   b. The volume of reclaimed water applied monthly for each category of direct reuse activity listed in 18 A.A.C. 11, Article 3, Table A,
   c. The total nitrogen concentration of the reclaimed water applied, and
   d. The acreage and type of vegetation to which the reclaimed water is applied.
2. Report annually to the Department on or before the anniversary date of the Notice of Intent to Use Recycled Water:
   a. The volume of reclaimed water received,
   b. The type of reclaimed water application, and
   c. If used for irrigation, the vegetation and acreage irrigated.

C. Nitrogen management. A permittee shall ensure:
1. Impoundments storing reclaimed water allowed by the general permit are lined using a low-hydraulic conductivity artificial or site-specific liner material achieving a calculated discharge rate less than 550 gallons per acre per day; and
2. The application rates of the reclaimed water are based on one of the following:
   a. If assigned, the water allotment specified by the Arizona Department of Water Resources;
   b. A water balance that considers consumptive use of water by the crop, turf, or landscape vegetation; or

c. An alternative method approved by the Department.

D. In addition to the Notice of Intent to Use Recycled Water specified in R18-9-A704(B)(2), the applicant shall provide a list of impoundments, water depth, freeboard, and the liner characteristics and the method chosen from the list in subsection (C)(2).

E. The permittee shall post signs or provide notification, or both, as specified in R18-9-B702(I).

Historical Note

New Section R18-9-B705 renumbered from R18-9-713 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B706. Type 2 Recycled Water General Permit for Direct Reuse of Class B+ Reclaimed Water

A. A Type 2 Recycled Water General Permit for Direct Reuse of Class B+ Reclaimed Water allows any direct reuse application of Class B and Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Table A, if the conditions in this Article are met.

B. A permittee shall comply with the record maintenance and posting requirements established under R18-9-B704 and make records available to the Department upon request.

C. No lining is required for an impoundment storing Class B+ reclaimed water.

Historical Note

New Section R18-9-B706 renumbered from R18-9-714 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B707. Type 2 Recycled Water General Permit for Direct Reuse of Class B Reclaimed Water

A. A Type 2 Recycled Water General Permit for the Direct Reuse of Class B Reclaimed Water allows the direct reuse application of Class B and Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Table A, if conditions in this Article are met.

B. A permittee shall comply with the requirements established under R18-9-B705(B), (C), (D), and (E).

Historical Note

New Section R18-9-B707 renumbered from R18-9-715 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B708. Type 2 Recycled Water General Permit for Direct Reuse of Class C Reclaimed Water

A. A Type 2 Recycled Water General Permit for the Direct Reuse of Class C Reclaimed Water allows the direct reuse application of Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Table A, if conditions in this Article are met.

B. A permittee shall comply with the requirements established under R18-9-B705(B), (C), (D), and (E).

Historical Note

New Section R18-9-B708 renumbered from R18-9-716 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B709. Type 3 Recycled Water General Permit for a Reclaimed Water Blending Facility

A. Permit conditions.

1. A Type 3 Recycled Water General Permit for a Reclaimed Water Blending Facility allows the blending of reclaimed water with other water, if the conditions in this Article are met.
2. Blending reclaimed water with industrial wastewater or with reclaimed water from an industrial wastewater treatment plant is not authorized by this general permit.

B. A person shall file with the Department a Notice of Intent to Operate a reclaimed water blending facility on a form provided by the Department. The Notice of Intent to Operate shall include:

1. The name, address, e-mail address, and telephone number of the applicant;
2. The name, address, e-mail address, and telephone number of a contact person;
3. The source and volume of reclaimed water to be blended;
4. The class of reclaimed water to be blended;
5. The source, volume, and quality of other water to be blended;
6. The latitude and longitude coordinates of the blending facility;
7. A description of the reclaimed water blending facility, including a demonstration the proposed blending methodology will meet the standards established in 18 A.A.C. 11, Article 3 for the class of reclaimed water the facility will produce;
8. The applicant's certification that the applicant agrees to comply with the requirements of this Article, 18 A.A.C. 11, Article 3, and the terms of this recycled water general permit; and
9. The applicable permit fee specified under 18 A.A.C. 14.

C. A person shall not operate a reclaimed water blending facility until the Department issues a written Recycled Water Authorization under R18-9-A704(C).

D. A permittee shall monitor:

1. The blended water quality for total nitrogen and fecal coliform at frequencies specified by the class of reclaimed water in 18 A.A.C. 11, Article 3.
   a. If the concentration in the blended water of either total nitrogen or fecal coliform, as applicable, exceeds the limits for the applicable reclaimed water class established in 18 A.A.C. 11, Article 3, within 30 days of the exceedance, the permittee shall submit a plan to the Department to change the blending process or to otherwise correct the deficiency. The permittee shall also double the monitoring frequency for the next four months.
   b. If another exceedance occurs within the interval of increased monitoring, the permittee shall submit an application within 45 days for a Recycled Water Individual Permit for Reclaimed Water.
2. The volume of reclaimed water, the volume of the other water, and the total volume of blended water delivered for direct reuse on a monthly basis.

E. The permittee shall report the results of the monitoring under subsection (D) to the Department by January 31, for the immediately preceding calendar year, and shall make this information available to the end users.

Historical Note

New Section R18-9-B709 renumbered from R18-9-717 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-B710. Type 3 Recycled Water General Permit for a Reclaimed Water Agent

A. A Type 3 Recycled Water General Permit for a Reclaimed Water Agent allows a person to operate as a Reclaimed Water Agent if the conditions of this Article are met, and the follow-

ing conditions are met for the class of reclaimed water delivered by the Reclaimed Water Agent:
1. Signage and notification requirements specified under R18-9-B702(I), as applicable;
2. Impoundment liner requirements specified under R18-9-B704(D), R18-9-B705(C), R18-9-B706(C), R18-9-B707(B) or R18-9-B708(B), as applicable; and
3. Nitrogen management requirements specified under R18-9-B705(C), R18-9-B707(B), and R18-9-B708(B), as applicable.

B. A person holding a Type 3 Recycled Water Permit for a Reclaimed Water Agent:
1. Is responsible for the direct reuse of reclaimed water by more than one end user instead of direct reuse by the end users under separate Type 2 Recycled Water General Permits, and
2. Shall maintain a contractual agreement with each end user stipulating any end user responsibilities for the requirements specified under subsection (A).

C. A person shall file with the Department a Notice of Intent to Operate as a reclaimed water agent. The Notice of Intent to Operate shall include:
1. The name, address, e-mail address, and telephone number of the applicant;
2. The name, address, e-mail address, and telephone number of a contact person;
3. The following information for each end user to be supplied reclaimed water by the applicant:
   a. The name, address, e-mail address, and telephone number of the end user;
   b. A system map showing the locations of the direct reuse sites and the latitude and longitude coordinates of each site; and
   c. A description of each direct reuse activity, including the type of vegetation, acreage, and annual volume of reclaimed water to be used, unless Class A+ or Class B+ reclaimed water is delivered.
4. The source, class, and annual volume of reclaimed water to be delivered by the applicant;
5. A description of the contractual arrangement between the applicant and each end user, including any end user responsibilities for the requirements specified under subsection (A); and
6. The applicable permit fee specified under 18 A.A.C. 14.

D. A proposed reclaimed water agent shall not distribute reclaimed water to end users until the Department issues a written Recycled Water Authorization under R18-9-A704(C).

E. A reclaimed water agent shall record and annually report the following information to the Department by January 31, for the immediately preceding year:
1. The total volume of reclaimed water delivered by the reclaimed water agent;
2. The volume of reclaimed water delivered to each end user for Class A, Class B, and Class C reclaimed water; and
3. Any change in the information submitted under subsection (C).

Historical Note
New Section R18-9-B710 renumbered from R18-9-718 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART C. RECYCLED INDUSTRIAL WASTEWATER

R18-9-C701. Recycled Water Individual Permit for Industrial Wastewater That Is Reused

A. The following activities are prohibited unless a Recycled Water Individual Permit is obtained under R18-9-A703:
1. Use of reclaimed water from a sewage treatment facility that is combined with industrial wastewater or water from an industrial wastewater treatment facility.
2. Use of reclaimed water from an industrial wastewater treatment facility for production or processing of a crop or substance that may be used as human or animal food.

B. In addition to the requirements in R18-9-A703(A), an application for a Recycled Water Individual Permit shall include:
1. Each source of the industrial wastewater with Standard Industrial Code or North American Industry Classification System Code, and the projected rates and volumes from each source;
2. The chemical, biological, and physical characteristics of the industrial wastewater from each source; and
3. If reclaimed water will be used in the processing of any crop or substance that may be used as human or animal food, the information regarding food safety and any potential adverse health effects of this direct reuse.

Historical Note
New Section R18-9-C701 renumbered from R18-9-707 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART D. GRAY WATER

R18-9-D701. Type 1 Recycled Water General Permit for Gray Water

A. A Type 1 Recycled Water General Permit for Gray Water allows private residential use of gray water for a flow of less than 400 gallons per day if all the following conditions are met:
1. Gray water originating from the residence is used and contained within the property boundary for household gardening, composting, or landscape watering;
2. Human contact with gray water and soil watered by gray water is avoided;
3. Surface application of gray water is not used for watering of food plants, except for trees and shrubs which have an edible portion that does not come into contact with the gray water;
4. The gray water does not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from hobbyist or home occupational activities;
5. The gray water does not contain water used to wash diapers or similarly soiled or infectious garments;
6. The application of gray water is managed to minimize standing water on the surface by using measures such as avoiding overwatering, distributing the gray water beneath a mulch or other cover, and using best practices to improve soil condition and increase filtration;
7. If blockage, backup, or overload of the system occurs, gray water distribution shall cease until the deficiency is corrected. The gray water system may include components to reduce blockage and backup and be operated using best practices to extend system lifetime;
8. Gray water surge tanks, if any, are covered to restrict access and to eliminate habitat for mosquitoes or other vectors, and holding time is minimized to avoid development of anaerobic conditions and odors;
9. The gray water system is sited outside of a floodway;
10. The gray water system is operated to maintain a minimum vertical separation distance of at least five feet from

the point of gray water application to the top of the seasonally high groundwater table;

11. For a residence using an on-site wastewater treatment facility for black water treatment and disposal, the use of a gray water system does not change the design, capacity, or reserve area requirements for the on-site wastewater treatment facility at the residence, and ensures the facility can handle the combined black water and gray water flow;
12. Any pressure piping used in a gray water system that may be susceptible to cross connection with a potable water system clearly indicates the piping does not carry potable water; and
13. Surface application of gray water is only by flood or drip distribution methods. Flood distribution methods may include containment by horticultural mulch basins and swales.

B. Prohibitions. The following are prohibited:

1. Gray water use for purposes other than watering and composting, and
2. Application of gray water by a spray method.

Historical Note

New Section R18-9-D701 renumbered from R18-9-711 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

R18-9-D702. Type 3 Recycled Water General Permit for Gray Water

A. A Type 3 Recycled Water General Permit for Gray Water allows for the use of gray water for landscape irrigation and composting if:

1. The general permit described in R18-9-D701 does not apply,
2. The flow is not more than 3000 gallons per day, and
3. The gray water system satisfies the notification, design, and installation requirements specified in subsections (B) and (C).

B. A person shall file a Notice of Intent to Operate a Gray Water System with the Department on a form provided by the Department. The Notice of Intent to Operate shall include:

1. The name, address, e-mail address, and telephone number of the applicant;
2. The latitude and longitude coordinates;
3. A description of the sources of gray water and calculations demonstrating the flow is not more than 3000 gallons per day;
4. Design plans for the gray water system;
5. The applicant's certification that the applicant agrees to comply with the requirements of this Article and the terms of this Recycled Water General Permit for Gray Water; and
6. The applicable permit fee specified under 18 A.A.C. 14.

C. The following requirements apply to the design, installation, and operation of a gray water system allowed under this Recycled Water General Permit for Gray Water:

1. Human contact with gray water and soil irrigated by gray water is avoided;
2. Gray water is not applied to an exposed surface but into a bed or trench of permeable material, through piping installed below the soil surface, or by similar means. Spray irrigation of gray water is not allowed. The application of gray water shall not result in standing water on the surface.
3. The design shall ensure gray water is used and contained within the property boundary for landscape irrigation or composting;
4. Gray water is not used for irrigation of food plants, except for trees and shrubs which have an edible portion that does not come into contact with the gray water;
5. The gray water may contain water from drinking fountains but does not contain hazardous chemicals derived from industrial, hobbyist, or similar activities at the site;
6. Gray water does not contain water used to wash diapers or similarly soiled or infectious garments;
7. The gray water system is constructed so if blockage, plugging, or backup of the system occurs, gray water can be directed into the sewage collection system or on-site wastewater treatment and disposal system, as applicable;
8. Gray water surge tanks, if any, are covered to restrict access and to eliminate habitat for mosquitoes or other vectors, and holding time is minimized to avoid development of anaerobic conditions and odors;
9. The gray water system is sited outside of a floodway;
10. The gray water system is operated to maintain a minimum vertical separation distance of at least five feet from the point of gray water application to the top of the seasonally high groundwater table;
11. If an on-site wastewater treatment facility is used for black water treatment and disposal, the use of a gray water system does not change the design, capacity, or reserve area requirements for the on-site wastewater treatment facility so the facility may handle the combined black water and gray water flow; and
12. Any piping used in a gray water system susceptible to cross connection with a potable water system clearly indicates the piping does not carry potable water.

D. The applicant shall not operate the gray water system until the Department issues a written Recycled Water Authorization under R18-9-A704(C).

E. The Department may issue a Recycled Water Authorization that differs from the requirements specified in subsection (C) if the system provides equivalent performance and protection of human health and water quality.

F. In the Recycled Water Authorization, the Department may require a permittee to report data or information for any of the conditions in this Section if the Department deems the reporting necessary to protect human health or water quality or both.

Historical Note

New Section R18-9-D702 renumbered from R18-9-719 and amended by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4).

PART E. REPEALED

R18-9-E701. Repealed

Historical Note

New Section made by final rulemaking at 23 A.A.R. 3091, effective January 1, 2018 (Supp. 17-4). Repealed by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025.

ARTICLE 8. ADVANCED WATER PURIFICATION

R18-9-801. Repealed

Historical Note

Corrected A.R.S. reference (Supp. 77-3). Former Section R9-8-311 renumbered without change as Section R18-9-801 (Supp. 87-3). Amended effective December 1, 1988

(Supp. 88-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-802. Repealed

Historical Note
Amended by adding subsections (N) through (R) effective June 8, 1981 (Supp. 81-3). Former Section R9-8-312 renumbered without change as Section R18-9-802 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-803. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Amended by adding subsection (E) effective October 2, 1986 (Supp. 86-5). Former Section R9-8-313 renumbered without change as Section R18-9-803 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-804. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Amended effective February 20, 1980 (Supp. 80-1). Amended by adding subsections (I) and (J) effective June 8, 1981 (Supp. 81-3). Amended subsections (A), (F) and (H) effective October 2, 1986 (Supp. 86-5). Former Section R9-8-314 renumbered without change as Section R18-9-804 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-805. Repealed

Historical Note
Adopted effective April 18, 1979 (Supp. 79-2). Amended effective October 2, 1986 (Supp. 86-5). Former Section R9-8-315 renumbered without change as Section R18-9-805 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-806. Repealed

Historical Note
Adopted effective October 2, 1986 (Supp. 86-5). Former Section R9-8-317 renumbered without change as Section R18-9-806 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-807. Repealed

Historical Note
Former Section R9-8-321 renumbered without change as Section R18-9-807 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-808. Repealed

Historical Note
Former Section R9-8-323 renumbered without change as Section R18-9-808 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-809. Repealed

Historical Note
Former Section R9-8-324 renumbered without change as Section R18-9-809 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-810. Repealed

Historical Note
Former Section R9-8-325 renumbered without change as Section R18-9-810 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-811. Repealed

Historical Note
Former Section R9-8-326 repealed, new Section R9-8-326 adopted effective October 2, 1986 (Supp. 86-5). Former Section R9-8-326 renumbered without change as Section R18-9-811 (Supp. 87-3). First entry in Historical Note corrected to reflect Section numbers at time of rule repeal and adoption by changing R18-9-326 to R9-8-326 (Supp. 96-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-812. Repealed

Historical Note
Former Section R9-8-327 renumbered without change as Section R18-9-812 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-813. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Former Section R9-8-329 renumbered without change as Section R18-9-813 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-814. Repealed

Historical Note
Former Section R9-8-331 renumbered without change as Section R18-9-814 (Supp. 87-3). Amended effective October 19, 1989 (Supp. 89-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-815. Repealed

Historical Note
Former Section R9-8-332 renumbered without change as Section R18-9-815 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-816. Repealed

Historical Note
Former Section R9-8-351 renumbered without change as Section R18-9-816 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8,

2000 (Supp. 00-4).

R18-9-817. Repealed

Historical Note

Former Section R9-8-352 renumbered without change as Section R18-9-817 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-818. Repealed

Historical Note

Former Section R9-8-353 renumbered without change as Section R18-9-818 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-819. Repealed

Historical Note

Former Section R9-8-361 renumbered without change as Section R18-9-819 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

PART A. GENERAL PROVISIONS

R18-9-A801. Definitions

In addition to the definitions in A.R.S. § 49-201, the following terms apply to this Article:

1. "Action level" means a value or criterion established in an Advanced Water Purification (AWP) permit at a critical control point that, when exceeded, triggers a required response or action to prevent a potentially hazardous event and will involve actions or responses such as additional monitoring, treatment adjustments, public notification or other corrective responses or actions.
2. "Acute exposure threats" means the increased imminent risk of adverse health effects, including infectious diseases and toxic effects from short-term exposures to contaminants in water which triggers public notice pursuant to A.A.C. R18-4-119, which incorporates 40 CFR § 141.201 by reference.
3. "ADEQ" or "Department" means Arizona Department of Environmental Quality.
4. "Advanced Oxidation Process" or "AOP" means a set of chemical treatment processes whereby oxidation of organic contaminants occurs on a molecular level through reactions with hydroxyl radicals or similarly aggressive radical oxidant species.
5. "Advanced treated water" means water produced by an advanced water treatment facility (AWTF) and can be from one or more AWTFs.
6. "Advanced Water Purification" or "AWP" means the treatment or processing of treated wastewater to advanced treated water standards for the purpose of delivery to a drinking water treatment facility or a drinking water distribution system.
7. "Advanced Water Purification Responsible Agency" or "AWPRA" means the applicant or permittee, comprising one or more AWPRA Partners, responsible for compliance with the requirements of the AWP program for a particular AWP project and formed pursuant to R18-9-B805. An AWPRA must be a "person" under A.R.S. § 49-201(33).
8. "Advanced Water Purification Responsible Agency Partner" or "AWPRA Partner" means any entity that collects or provides treated wastewater to the AWP project, performs wastewater source control or treatment pursuant to this Article, or utilizes AWP project water as a source for delivery to a drinking water distribution system.
9. "Advanced Water Purification project" or "AWP project" means all facilities related to the advanced treatment of treated wastewater to drinking water standards operating under an AWP permit or demonstration permit.
10. "AWP project treatment train" means a treatment train designed to meet the requirements contained in this Article. In addition to the advanced water treatment facility (AWTF), portions of the water reclamation facility or drinking water treatment facility can be part of an AWP project treatment train.
11. "AWPRA facility" or "facility" means a drinking water treatment facility, advanced water treatment facility (AWTF), collection system, or wastewater treatment plant involved in the production of advanced treated water or finished water under this Article.
12. "Advanced Water Treatment Facility" or "AWTF" means a facility where treated wastewater is treated pursuant to the requirements of this Article.
13. "Alert level" means a value or criterion established in an AWP permit at a critical control point that, when exceeded, alerts an operator that a potential problem may require a response.
14. "Amendment" means a change to the permit language resulting from a modification event.
15. "Aquifer Protection Permit" or "APP" means an individual permit or a general permit issued under A.R.S. §§ 49-203, 49-241 through 49-252, and Articles 1, 2, and 3 of this Chapter.
16. "AWP" means Advanced Water Purification (See R18-9-A801(6)).
17. "Barrier" means a measure (technical, operational or managerial) implemented to control microbial or chemical constituents in advanced treated water.
18. "Best Management Practices" or "Best Practices" means a set of principles, guidelines and standards that an AWPRA follows to ensure high levels of quality, safety, efficiency and reliability. The principles, guidelines and standards in an AWP guidance document constitute Best Management Practice or Best Practice.
19. "Bioassay" means tests performed using live cell cultures or mixtures of cellular components in which the potency of a chemical or water concentrate is tested based on its effect on a measurable constituent, such as inhibition or the induction of a response (including carcinogenicity and mutagenicity). Bioassays can be used to measure synergistic, additive, and antagonistic interactions between compounds that may be present in a mixture.
20. "Blending" means the mixing of advanced treated water with another water source that will result in raw water augmentation or treated water augmentation directly to the distribution system. Blending does not apply to an Engineered Storage Buffer where storage of only advanced treated water takes place.
21. "Challenge test" means a study comparing a pathogen, surrogate parameter, or indicator compound concentration between the influent and effluent of a treatment process to determine the removal capacity of the treatment process. The concentration in the influent must be high

enough to ensure that a measurable concentration is detected in the effluent (i.e., filtrate detection limit).

22. "Chemical" means any substance, used in or produced by a reaction involving changes to atoms or molecules, that has a defined composition and which is either naturally occurring or manufactured.
23. "Chemical peak" means an abnormal increase in the level of a chemical that represents a potential human health hazard that is the result of intentional or unintentional illicit discharges of chemicals to the sewershed. Chemical peaks are different from normal facility variation in water quality.
24. "Compliance schedule" means a list of required items assigned by the Department to the Permittee to be completed in the AWP permit.
25. "Constituent of Concern" means a potentially harmful or difficult to treat substance that could cause treatment interference, pass-through, or a violation of a treatment technique requirement, action level or Maximum Contaminant Level in the advanced treated water or finished water. Constituents of concern include Tiers 1, 2, and 3 chemicals.
26. "Constituent" means any physical, chemical, biological, or radiological substance or matter found in water and/or wastewater.
27. "Continuous online analyzers" means a monitoring sensor or device that monitors continuously or in real time (intervals of 15 minutes or less) and is positioned directly in the process flow or sample line to measure treatment performance.
28. "Critical Control Point" means a point in the treatment train that is specifically designed to reduce, prevent, or eliminate process failure, and for which controls exist to ensure the proper performance of that process, verified via monitoring.
29. "Demonstration permit" means an AWP permit that does not include distribution of finished water to drinking water consumers.
30. "Department" means the Arizona Department of Environmental Quality.
31. "Direct integrity test" means a physical test applied to a membrane unit in order to identify and isolate integrity breaches, such as leaks that could result in contamination of the filtrate.
32. "Director" means the Director of the Arizona Department of Environmental Quality.
33. "Disinfection treatment process" means a treatment process that either physically or chemically eliminates or inactivates pathogenic microorganisms.
34. "Distribution" means the act of delivering finished water through a network of pipes or other constructed conveyances from a facility to a consumer for human consumption.
35. "Distribution system" means the infrastructure used to carry out distribution.
36. "Draft permit" means a preliminary draft of a permit upon which the Director has not yet made a final permit determination.
37. "Drinking Water Treatment Facility" means a water treatment facility that is designed and operated to meet the requirements of the Safe Drinking Water Act.
38. "Engineered Storage Buffer" means a storage facility used to provide retention time before advanced treated water is introduced into a drinking water treatment facility or distribution system.
39. "Enhanced Source Control" means a program that enables the AWPRA to prevent constituents of concern, including target chemicals, from negatively impacting the AWTF, or the water it produces, by controlling them at their source.
40. "Exceedance" means an increase in the concentration of a constituent of concern beyond an established level such as an MCL, alert level, or action level.
41. "Excursion" means a deviation from established water quality boundaries for a process or at any point in a treatment train.
42. "Failure" means a condition in which an excursion or loss of performance occurs in one or more of the unit processes that results in a treatment train to not meet a performance metric or deviate from an approved operational range for parameters, necessitating a shutdown of a specific train or the entire plant for compliance.
43. "Failure Response Time" means the maximum possible time from when a failure occurs in the treatment system to when the quality of the final product water is no longer affected by the failure. Failure response time is calculated as a sum of the sampling interval, sample turnaround time and system reaction time, with overall failure response time based on the treatment process with the highest individual failure response time.
44. "Filtration treatment process" means a treatment process that physically separates a constituent of concern from water.
45. "Finished water" or "finished drinking water" means water produced by an AWTF, or a drinking water treatment facility, and which is introduced into a distribution system or served for human consumption without additional treatment, except for measures required to uphold water quality within the distribution system.
46. "Full scale" means the complete implementation and operation of an AWP system that is designed to treat treated wastewater to advanced treated water or finished water standards and to meet the finished water demand of the community.
47. "Good engineering practice" means a set of principles, guidelines, and standards that engineers follow to ensure their work meets high levels of quality, safety, efficiency and reliability. The principles, guidelines, and standards in an ADEQ-issued AWP guidance document constitute good engineering practice.
48. "Health Advisory" or "HA" means an estimate of acceptable levels for a chemical substance in drinking water based on health effects information that is:
    a. Published by EPA;
    b. Established in credible peer-reviewed literature or state or Federal databases;
    c. Established by the Department; or
    d. Established by another state's drinking water program as a "notification level".
49. "Impactful non-domestic dischargers" means a non-domestic discharger that has been determined by the AWPRA to discharge in such a way that will or does significantly impact the AWPRA's treatment processes and may or does significantly impact public health. Such determinations are made through a significant impact analysis pursuant to R18-9-E824(C).

50. "Indicator compound" or "Indicator" or "Performance Based Indicator" means a chemical found in treated wastewater that serves as a representative substance for a particular group of trace organic compounds, embodying their physical, chemical, and biodegradation properties.
51. "Initial Source Water Characterization" or "ISWC" means baseline monitoring of chemicals and pathogens performed on the treated wastewater effluent of a Water Reclamation Facility pursuant to R18-9-C814.
52. "Interference" means a discharge which alone, or in conjunction with a discharge or discharges from other sources, both:
    a. Inhibits or disrupts the Water Reclamation Facility or the Advanced Water Treatment Facility, and
    b. Is the cause of a violation of any requirement of the AWP permit.
53. "Local limit" means a set of specific, local, relevant, and enforceable limits, control measures, and best management practices established to protect AWPRA Facilities from pass-through or interference that could result in a threat to public health.
54. "Log reduction value" means the measure of a treatment train's or a treatment process's ability to remove or inactivate microorganisms such as bacteria, protozoa and viruses. A log reduction value is the log reduction validated or credited for a treatment process or treatment train.
55. "Log reduction" means the logarithm base 10 of the ratio of the levels of a pathogenic organism or other contaminant before and after treatment or a reduction in the concentration of a contaminant or microorganism by a factor of 10. One log reduction corresponds to a 90-percent reduction from the original concentration.
56. "Maximum Contaminant Level" or "MCL" has the same meaning set forth in Title 18, Chapter 4, Article 1.
57. "Modification" means a change or changes to the treatment train or operations or any other component that will result in a change in the water quality of any process, unit of operation or to the advanced treated water or finished water.
58. "Municipal wastewater" means wastewater that contains predominantly domestic waste and may include commercial and industrial waste.
59. "Non-domestic sources" means both industrial and commercial sources.
60. "National Pretreatment Program" or "NPP" means the federal program referred to by this name under the Clean Water Act that is meant to protect infrastructure and receiving waters to a fishable and swimmable standard. The NPP is designed to reduce conventional and toxic pollutant levels discharged by industries and other nondomestic wastewater sources into municipal sewer systems and into the environment. The National Pretreatment Program's implementing regulations are found at Title 40 of the Code of Federal Regulations, Parts 122, 123, 124, and 403 and chapter I, subchapter N.
61. "National Pretreatment Program AWPRA" or "NPP AWPRA" means an AWPRA subject to R18-9-C813(B).
62. "Non-National Pretreatment Program AWPRA" or "Non-NPP AWPRA" means an AWPRA subject to R18-9-C813(C).
63. "Off-specification water" or "off-spec water" means water that has a quality that does not meet standards such as drinking water MCLs or other AWP programmatic requirements such as standards associated with surrogates or indicators.
64. "Operational barrier" means a barrier in the form of measures, including operations and monitoring plans, failure and response plans, as well as operator training and certification.
65. "Operational parameter" means a measurable property used to characterize or partially characterize the operation of a treatment process and must confirm the treatment barriers are intact to ensure the process is meeting the water quality and pathogen/chemical removal goals.
66. "Original drinking water" means drinking water that was being distributed prior to the introduction of advanced treated water or finished water.
67. "Oxidized wastewater" means wastewater that is treated to a level beyond simple removal of floating and suspended solids and meets the secondary treatment levels as described in R18-9-B204(B)(1).
68. "Ozone with biologically active filtration" or "Ozone/BAC" means an ozonation process immediately followed by biologically activated carbon.
69. "Pass-through" means the occurrence of a constituent of concern exiting Water Reclamation Facilities or Advanced Water Treatment Facilities in quantities or concentrations that have a significant potential to have serious adverse public health effects or to cause a violation of a treatment technique requirement, an action level or an MCL in the advanced treated water or finished water.
70. "Pathogen" means a microorganism such as bacteria, virus, or protozoa that can cause human illness.
71. "Pilot Study" or "Pilot train" or "Pilot" means a preliminary study and treatment train, of any scale representative to the full-scale facility, which is conducted to evaluate the feasibility, duration, cost, adverse events, and to improve upon the study design prior to performance of a full-scale project.
72. "Potentially impactful non-domestic discharger" means a non-domestic discharger that has been determined by the AWPRA to pose a potential to adversely impact treatment processes or the public health or which otherwise must be identified and tracked by the AWPRA pursuant to R18-9-E824(B)(4).
73. "Product water" means water exiting a specific treatment process or a combination of treatment processes.
74. "Public water system" has the same definition as the one incorporated by reference at A.A.C. R18-4-103 (40 CFR 141.2).
75. "Quantitative Polymerase Chain Reaction" or "qPCR" means a PCR-based technique that couples amplification of a target DNA sequence with quantification of the concentration of that DNA species in the reaction.
76. "Raw wastewater" means wastewater that is entering a Water Reclamation Facility via a sewage collection system and which has not undergone any centralized treatment. For the purposes of pathogen log removal, raw wastewater means wastewater prior to any point in a wastewater treatment process that may be credited for disinfection.
77. "Raw water augmentation" means introducing advanced treated water into the raw water supply upstream of a drinking water treatment facility.
78. "Real time monitoring" or "online monitoring" means treatment performance monitoring using instruments directly in the process flow or sample line that occurs

continuously or semi-continuously in intervals of 15 minutes or less.

79. "Recalcitrant Total Organic Carbon" or "rTOC" means the Total Organic Carbon (TOC) found in finished water, which once used or consumed becomes wastewater. rTOC is unlike anthropogenic TOC present in wastewater because it may not be effectively eliminated by the Water Reclamation Facility, which leaves it as a constituent of the TOC in the treated wastewater.
80. "Redundancy" means the use of multiple treatment barriers to attenuate the same type of constituent, so that if one barrier fails, performs inadequately, or is taken offline for maintenance, the overall system will still perform effectively, reducing risk.
81. "Reference Dose" or "RfD" means an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.
82. "Reference pathogens" means Enteric viruses (specifically norovirus), Giardia lamblia cysts, and Cryptosporidium oocysts.
83. "Reliability" means the ability of a treatment process or treatment train to consistently achieve the desired degree of treatment, based on its inherent redundancy, robustness, and resilience.
84. "Resilience" means the ability of a treatment train to adapt successfully and restore performance rapidly when failure occurs.
85. "Robustness" means the ability of an AWP system to address a broad variety of constituents and changes in the concentrations of the constituents in the source water and resist a failure.
86. "Safe Drinking Water Act" means the Safe Drinking Water Act (Pub. L. 93-523, as amended; 42 U.S.C. 300f et seq.).
87. "SCADA" or "SCADA System" means Supervisory Control and Data Acquisition system.
88. "Secondary treatment" means treated wastewater that meets the following treatment levels:
    a. Five-day biochemical oxygen demand (BOD5) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand (CBOD5) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
    b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
    c. pH maintained between 6.0 and 9.0 standard units; and
    d. A removal efficiency of 85 percent for BOD5, CBOD5, and TSS.
89. "Source water" means water that is characterized for chemical constituents and pathogens based on which treatment or source control is designed.
90. "Surrogate parameter" or "Surrogate" means a measurable chemical or physical property, microorganism, or chemical that has been demonstrated to provide a direct correlation with the concentration of an indicator compound or pathogen; that may be used to monitor the efficacy of constituent reduction by a treatment process; and/or that provides an indication of a treatment process failure.
91. "Target chemical" means any unregulated chemical causing a potential human health concern that may be present in the treated wastewater.
92. "Tier 1 chemicals" means contaminants regulated as Primary Drinking Water Maximum Contaminant Levels (MCLs) under 40 CFR Part 141 of the Safe Drinking Water Act, as incorporated by reference in R18-4-102, including MCLs and treatment techniques.
93. "Tier 2 chemicals" means AWP-specific contaminants pursuant to R18-9-E826 that are not regulated in the Safe Drinking Water Act, but may be present in treated wastewater and may pose human health concerns.
94. "Tier 3 chemicals" means Performance Based Indicators that are used to monitor the performance of AWP treatment trains.
95. "Total Organic Carbon" or "TOC" means the amount of organic carbon in a sample.
96. "Trace Organic Compounds" or "TOrCs" means a category of compounds such as pharmaceuticals, personal care products, and hormones.
97. "Treated wastewater" means any water or wastewater source of predominantly municipal origin coming from a Water Reclamation Facility and going to an Advanced Water Treatment Facility that has undergone treated wastewater characterization for either enhanced wastewater treatment or secondary wastewater treatment. For the purposes of the AWP program, treated wastewater originates from a Water Reclamation Facility that has liquid stream treatment processes that, at a minimum, are designed and operated to produce oxidized wastewater that achieves a defined source water quality for the purpose of additional treatment by an Advanced Water Treatment Facility.
98. "Treated water augmentation" means finished drinking water from an AWTF, permitted as a drinking water treatment facility, which is directly introduced into a distribution system for human consumption.
99. "Treatment barrier" means a barrier in constant operation, such as a physical barrier, that can be credited with treatment performance.
100. "Treatment interference" or "interference" means a discharge from a non-domestic source which, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the AWPRA's treatment processes or operations and has significant potential for adverse public health consequences or significant potential to cause a violation of an action level, treatment technique or an MCL in advanced treated water or finished water.
101. "Treatment mechanism" means a physical, chemical, or biological action within each treatment process that reduces the concentration of a pathogen or a chemical contaminant.
102. "Treatment process" means a sequence of physical, chemical, or biological procedures applied to municipal wastewater or treated wastewater to remove pathogens and/or chemical constituents.
103. "Treatment technique" means a required process intended to reduce the level of a contaminant in water and/or drinking water.
104. "Treatment train" means a grouping of physical, chemical, and biological treatment technologies or processes that conditions or treats water to achieve a specific water quality goal.

105. "Upset" means unintentional and temporary noncompliance with a performance metric resulting in an excursion or loss of performance in one or more of the unit processes.
106. "Water Reclamation Facility" or "Wastewater Treatment Plant" means an arrangement of devices and structures for collecting, treating, neutralizing, stabilizing, or disposing of domestic wastewater, industrial wastes, and biosolids. For the purposes of the AWP program, a wastewater treatment plant does not include industrial wastewater treatment plants or complexes whose primary function is the treatment of industrial wastes.
107. "10-4 cancer risk" means the concentration of a chemical in drinking water corresponding to an excess estimated lifetime cancer risk of 1 in 10,000.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-A802. Program Review; Incorporation by Reference; Quality Assurance/Quality Control Methodologies

A. The Department shall review the AWP program upon any significant update to the incorporated by reference material in the rule, any significant update to Tier 2 health advisory values, any emerging scientific developments impacting AWP treatment mechanisms, or otherwise at the Director's discretion.
1. During its review, the Department shall assess the program rules and components for adequacy against currently available data and best available science.
2. As a result of its review, the Department shall determine whether any rule should be amended or repealed, and whether any material incorporated by reference should be updated.

B. The following materials are incorporated by reference and applicable in this Article unless specifically stated otherwise. The materials include no future editions or amendments, and are on file with the Department and as indicated below:
1. Standard Methods for the Examination of Water and Wastewater, Section 5710 B, "Trihalomethane Formation Potential (THMFP)", 24th edition, 2023, available at https://www.standardmethods.org.
2. Standard Methods for the Examination of Water and Wastewater, Section 5710 C, "Simulated Distribution System Trihalomethanes (SDS-THM)", 24th edition, 2023, available at https://www.standardmethods.org.
3. Standard Methods for the Examination of Water and Wastewater, Part 1000, "Analytical and Data Quality Systems", 24th edition, 2023, available at https://www.standardmethods.org.
4. Standard Methods for the Examination of Water and Wastewater, Section 7020, "Quality System", 24th edition, 2023, available at https://www.standardmethods.org.
5. Standard Methods for the Examination of Water and Wastewater, Section 8020, "Quality Assurance and Quality Control in Laboratory Toxicity Tests", 24th edition, 2023, available at https://www.standardmethods.org.
6. Standard Methods for the Examination of Water and Wastewater, Section 9020, "Quality Assurance/Quality Control", 24th edition, 2023, available at https://www.standardmethods.org.
7. ASTM International, Designation D4194-23, "Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices", February 16, 2023, available at https://www.astm.org.
8. Federal Register, 87 FR 68066, "Contaminant Candidate List 5 - Exhibit 1b - Unregulated DBPs in the DBP Group on CCL 5", available at https://www.federalregister.gov.
9. 2018 Edition of the Drinking Water Standards and Health Advisories, U.S. EPA, available at https://www.epa.gov.
10. Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA, published January 2012, available at https://www.nepis.epa.gov.
11. Method 1615: Measurement of Enterovirus and Norovirus Occurrence in Water by Culture and RT-qPCR, published 2014, available at https://cfpub.epa.gov.
12. 40 CFR 261.21, "Characteristic of ignitability", published July 7, 2020, available at https://www.ecfr.gov.
13. "Considerations for Direct Potable Reuse Downstream of the Groundwater Recharge Advanced Water Treatment Facility", Brian Pecson, Shane Trussell, Elise Chen, Anya Kaufmann, and Rhodes Trussell, 2020.

C. Data collection, analysis, sampling, monitoring, reporting, and other related data quality assurance and quality control methodologies in this Article shall be conducted in accordance with the following applicable procedures in Standard Methods for the Examination of Water and Wastewater, 24th edition, 2023, available at standardmethods.org:
1. Part 1000, "Analytical and Data Quality Systems";
2. Section 7020, "Quality Control for Wastewater Samples";
3. Section 8020, "Quality Assurance and Quality Control in Laboratory Toxicity Tests"; and
4. Section 9020, "Interlaboratory Quality Control Guidelines".

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-A803. Applicability of the Safe Drinking Water Act

A. For the purposes of the Safe Drinking Water Act, treated wastewater is presumptively considered surface water. Nothing in this Section exempts a facility from applicable Safe Drinking Water Act requirements in 18 A.A.C. 4.

B. An AWTF that treats treated wastewater to advanced treated water standards for raw water augmentation may, at the Director's discretion, be considered part of a public water system for the purposes of compliance with the Safe Drinking Water Act and all applicable requirements of Title 18 of the Arizona Administrative Code.

C. An AWTF that treats treated wastewater to finished water standards for human consumption and distribution through pipes or other constructed conveyances is, or is part of, a public water system for the purposes of compliance with the Safe Drinking Water Act and all applicable requirements of Title 18 of the Arizona Administrative Code.

D. If the AWTF is considered a public water system under either subsections (B) or (C):
1. Permitting processes of this Article supersede the public water system permitting requirements in 18 A.A.C. 5, Article 5, where they conflict, and
2. Design requirements of this Article supersede the public water system design requirements in 18 A.A.C. 5, Article 5, where they conflict.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of

March 4, 2025 (Supp 25-1).

PART B. GENERAL PROGRAM REQUIREMENTS

R18-9-B804. Advanced Water Purification Operator Certification

A. Definitions. In addition to the definitions for this Article, the following terms apply to this Section:
1. "Advanced Water Purification Responsible Agency administrator" or "AWPRA administrator" means an individual appointed or authorized to exercise managerial control over a designated AWP project.
2. "Advanced Water Purification certified operator" or "AWP operator" means an individual who has passed the AWP validated examination, meets the advanced water treatment qualifying experience requirements and holds a current certificate, issued by the Department, in either:
   a. The field of drinking water treatment with at least a Grade 3 or Grade 4 drinking water treatment certification; or
   b. The field of wastewater treatment with at least a Grade 3 or Grade 4 wastewater treatment certification.
3. "Advanced water treatment qualifying experience" means at least one year of hands-on experience in the operation of a minimum of three advanced water treatment processes, all within a single advanced water treatment train.
4. "AWP validated examination" means an examination that is approved by the Department after being reviewed to ensure that the examination is based on the knowledge, skills, and abilities needed to operate an AWTF.
5. "Direct responsible charge" means an AWP operator who has overall responsibility for the day-to-day, hands-on operation of an AWTF.
6. "Direct responsible charge proxy" or "proxy" means an AWP shift operator who is designated by, and acts on behalf of, the operator in direct responsible charge when the operator in direct responsible charge is not onsite.
7. "AWPRA facility" or "facility" means a drinking water treatment facility, AWTF, collection system, or wastewater treatment plant involved in the production of advanced treated water.
8. "Onsite" means physically present at any AWPRA facility where a critical control point is operated and any AWPRA facility assigned treatment credits.
9. "Professional development hour" means one hour of participation in an organized educational activity related to engineering, biological or chemical sciences, a closely related technical or scientific discipline, or operations management.
10. "Qualifying experience" means experience, skill, or knowledge obtained through employment that is applicable to the technical or operational control of all or part of a facility (A.A.C. R18-5-101).
11. "Shift operator" means an AWP operator who is in direct charge of the operation of a treatment facility for a specified period of the day and must be present at the site during the duration of the shift.
12. "Shift" means an eight-hour period of time in one day.

B. Applicability. The rules in this subsection apply to owners and operators of AWPRA facilities in Arizona.

C. Certification Committee.
1. Upon the effective date of this Section the Director shall establish a certification committee which may, at the Department's request, make recommendations and provide the Department with technical advice and assistance related to the AWP operator certification.
2. The AWP operator certification committee shall consist of eleven members, appointed by the Director as follows:
   a. An employee of the Department who shall serve as the executive secretary and who is responsible for maintaining records of all meetings,
   b. A currently employed operator with both Grade 4 water treatment certification and AWP operator certification,
   c. A currently employed operator with both Grade 3 water treatment certification and AWP operator certification,
   d. A currently employed operator with both Grade 4 wastewater treatment certification and AWP operator certification,
   e. A currently employed operator with both Grade 3 wastewater treatment certification and AWP operator certification,
   f. A currently employed wastewater collection system operator with Grade 4 certification,
   g. A currently employed water distribution system operator with Grade 4 certification,
   h. A faculty member teaching environmental engineering in the water or wastewater fields at an Arizona university or community college,
   i. A professional engineer, registered and residing in Arizona, engaged in consulting in the field of environmental engineering,
   j. An elected or appointed municipal official,
   k. A representative of a wastewater treatment facility with a design flow of greater than 5 million gallons per day (MGD) and which participates in the National Pretreatment Program, and
   l. A representative of a wastewater treatment facility with a design flow of less than 5 MGD, which is not a participant in the National Pretreatment Program.
3. The certification committee shall meet at least twice a year. At the first meeting of each calendar year, the certification committee shall select, from among its members, a chairperson and other officers as necessary.
4. A certification committee member shall serve a term of three years.
5. A certification committee member may be reappointed, but a member shall not serve more than three consecutive terms.
6. A meeting quorum consists of the chairperson or the chairperson's designated representative, the executive secretary or the executive secretary's designated representative, and three other members of the committee.
7. In the event of a vacancy caused by death, resignation, or removal for cause, the Director shall appoint a successor for the unexpired term.

D. General Requirements.
1. An AWPRA shall ensure all of the following:
   a. All facilities receiving treatment credit pursuant to R18-9-E828 are operated by AWP operators,
   b. All facilities receiving treatment credit pursuant to R18-9-E828 have a full-time operator in direct responsible charge onsite for at least two full shifts per day,
   c. All facilities receiving treatment credit pursuant to R18-9-E828 have an operator in direct responsible

charge, or their proxy, onsite at all times during operation,

d. When any facilities receiving treatment credit pursuant to R18-9-E828 is operated by a direct responsible charge proxy, an operator in direct responsible charge must be reasonably available to provide immediate direction telephonically, if necessary,

e. An AWP operator makes all decisions about operational process control or system integrity regarding water quality or water quantity that affects public health,

f. An AWPRA administrator who is not an AWP operator may make a planning decision regarding water quality or water quantity if the decision is not a direct operational process control or system integrity decision that affects public health,

g. All critical control points at any facility receiving treatment credit pursuant to R18-9-E828 are operated by an AWP operator, and

h. The names of all current AWP operators are reported to the Department as a component of the Operations Plan submitted pursuant to R18-9-F836.

2. During the application period, or at any point thereafter, an AWPRA may submit a request to waive the requirement in subsection (1)(b) if an operations plan, or amended operations plan, submitted to ADEQ pursuant to R18-9-F836 demonstrates that alternative oversight by an operator in direct responsible charge nevertheless achieves an equivalent degree of operational oversight and treatment reliability.

3. If ADEQ grants the waiver request in subsection (D)(2), the operator in direct responsible charge is not required to be onsite for at least two full shifts per day, but shall be able to monitor operations over the facility onsite within the period specified in the operations plan.

4. If the owner of a facility replaces an AWP operator in direct responsible charge with another AWP operator, the facility owner shall notify the Department in writing within 10 days of the replacement.

5. An AWP operator shall notify the Department in writing within 10 days of the date the AWP operator either ceases to operate a facility or commences operation of another facility.

6. An AWP operator shall operate each facility in compliance with applicable state and federal law.

E. Certification.

1. The Department shall issue an AWP operator certificate to an applicant if the applicant:

a. Meets the experience requirements in subsection (K) for the applicable class and grade as outlined in this Section,

b. Passes a written advanced water treatment examination, and

c. Has not had an operator's certificate revoked in Arizona or permanently revoked in another jurisdiction.

2. To apply for AWP operator certification, an applicant shall submit to the Department the following information, as applicable, on a form approved by the Director:

a. The applicant's full name, Social Security number, and operator number or numbers,

b. The applicant's current mailing address, home and work telephone numbers and email address,

c. The applicant's place of employment, including the facility identification number,

d. The class and grade of the facility where the applicant is employed,

e. Proof of successful completion of the advanced water treatment examination and other applicable certificates, and

f. Documentation of the applicant's experience required under this Section.

F. Examination.

1. The Department shall provide examinations for certification of AWP operators. The Department may contract with third party examiners for administration of examinations. The Department shall ensure that a list of approved examiners is available upon request.

2. The Department shall validate all examinations before administration. Each examination shall include topics such as advanced treatment technologies, system maintenance, regulatory protocols, safety, mathematics, and general system management.

3. The examiner shall grade the examination and make the results available to the applicant and the Department within seven days of the date of the examination.

4. An applicant shall not be admitted to an examination without a valid picture I.D.

5. An individual must achieve a score of at least seventy percent on the examination in order to attain a passing grade.

6. For applicants with a Grade 3 or Grade 4 wastewater treatment operator certification, the examination shall include an additional component which tests knowledge equivalent to the Grade 3 drinking water treatment operator examination.

G. Certificate Renewal.

1. If the Department renews a certificate, the certificate is renewed for a three-year period, unless the AWP operator requests a shorter renewal term in writing.

2. An AWP operator may renew their certificate without retaking the exam in accordance with the following:

a. Prior to the end of their certificate period by submitting a renewal form; or

b. Following the expiration of the certification period, if the AWP operator submits a completed renewal form to the Department within 90 days of the expiration date.

3. To renew a certificate, an AWP operator shall complete and submit to the Department an AWP operator certificate renewal, on a form approved by the Director.

4. An AWP operator shall provide the following documentation to the Department, upon request, if necessary to verify:

a. Completion of at least 30 professional development hours accumulated during the certification period, of which at least 10 professional development hours directly relate to the specific job functions of the AWP operator, and

b. Verification, in writing, by the AWP operator's supervisor, or the entity that provides the education or training, of the AWP operator's completion of each professional development hour.

5. An AWP operator shall maintain documentation of completion of professional development hours for a minimum of five years.

6. As an alternative to the requirements of subsection (G)(2), an AWP operator may renew a certificate by taking and passing an AWP operator examination.

H. Certificate Expiration.
1. A certification is valid for three years and shall expire on the expiration date, which is the end of the certification period.
2. An expired certification may be reinstated if the renewal is submitted within 90 days of expiration date, in accordance with subsection (G)(2)(b).
3. A person with an expired certificate shall re-apply in accordance with subsections (F) and (G) in order to be certified as an AWP operator.
4. An AWP operator certificate is considered expired if the supporting certificate has been denied, expired, suspended, or revoked.

I. AWP Operator Certificate Denial, Suspension, Probation, and Revocation.
1. The Department may deny, suspend, or revoke an AWP operator certificate, and may place an AWP operator on probation.
2. The Department shall deny a certificate if the application is deficient, the applicant fails to obtain a passing score on the examination, or upon any other determination that the applicant has not met the requirements.
3. The Department may revoke or suspend a certificate, or place an AWP operator on probation, if the Department determines that the AWP operator:
   a. Operates a facility in a manner that violates federal or state law;
   b. Negligently operates a facility or negligently supervises the operation of a facility;
   c. Fails to comply with a Department order or court order;
   d. Obtains, or attempts to obtain, a certificate by fraud, deceit, or misrepresentation;
   e. Engages in fraud, deceit, or misrepresentation in the operation or supervision of a facility;
   f. Knowingly or negligently prepares a false or fraudulent report or record regarding the operation or supervision of a facility;
   g. Endangers the public health, safety, or welfare;
   h. Fails to comply with the terms or conditions of probation or suspension; or
   i. Fails to cooperate with an investigation by the Department including failing or refusing to provide information required by this Section.
4. The action the Department takes under subsection (I)(3) may be made at the Department's discretion upon an examination of the individual facts and circumstances, the number of findings the Department makes under subsection (I)(3), and upon consideration of other factors, such as but not limited to, additional aggravating circumstances not considered under subsection (I)(3).
5. In performing any action under this subsection, the Department shall comply with the requirements in A.R.S. Title 41, Chapter 6, Article 10 and A.A.C. Title 18, Chapter 1, Article 2.

J. Reciprocity. The Department shall issue a certificate to an applicant who holds a valid certificate from another jurisdiction, if the applicant:
1. Passes a written, validated AWP operator examination in Arizona or in another jurisdiction that administers an AWP examination that is substantially equivalent to the examination in Arizona and validated by the Department, and
2. Submits written evidence of the experience required under subsection (K).

K. Experience.
1. The Department shall consider the following criteria to determine whether an applicant has the qualifying experience required for AWP operator certification:
   a. The type of operator certification held by the applicant, and
   b. Years of qualifying experience as a certified operator for a specific grade of facility.
2. An applicant shall provide evidence of certification as one of the following:
   a. A Grade 3 drinking water operator;
   b. A Grade 4 drinking water operator;
   c. A Grade 3 wastewater operator; or
   d. A Grade 4 wastewater operator.
3. An applicant shall provide evidence of qualifying experience in the applicable facility class.
4. An applicant shall meet the following requirements for admission to an AWP operator certification examination:
   a. A Grade 3 drinking water operator shall have at least two years' experience operating a Grade 3 drinking water treatment facility.
   b. A Grade 4 drinking water operator shall have at least one year of experience operating a Grade 4 drinking water treatment facility.
   c. A Grade 3 wastewater operator shall have at least two years' experience operating a Grade 3 wastewater treatment facility.
   d. A Grade 4 wastewater operator shall have at least two years' experience operating a Grade 3 or Grade 4 wastewater treatment facility.
5. An applicant that meets the requirements and has passed the advanced water treatment examination shall be certified in accordance with the following:
   a. An applicant with Grade 3 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.
   b. An applicant with Grade 4 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP operator in direct responsible charge.
   c. An applicant with Grade 3 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.
   d. An applicant with Grade 4 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.
6. Advanced water treatment qualifying experience may be obtained through any of the following:
   a. Operating a pilot facility;
   b. Operating an AWP demonstration facility that is not distributing finished water for human consumption;
   c. Experiential reciprocity pursuant to subsection (J);
   d. An apprenticeship under an AWP operator on-site at an AWP facility including a pilot facility, demonstration facility, or AWTF; or
   e. Other experience approved by the Department.
7. Experience working at an AWTF shall count towards qualified experience at a Grade 4 drinking water plant.

L. Class and Grade Requirements.

1. Drinking Water Treatment and Distribution Systems.
   a. The Department shall classify a drinking water treatment facility receiving AWP treatment credits under R18-9-E828 as an AWTF.
   b. The Department shall grade water distribution system AWPRA partners pursuant to A.A.C. R18-5-115(B).
2. Wastewater Treatment and Collection Systems.
   a. A wastewater treatment facility receiving AWP treatment credits under R18-9-E828 shall be operated by an AWP operator and an operator certified at the appropriate grade, and no grade lower, for the class of the facility pursuant to Chapter 5, Article 1 of this Title. These operation requirements may be met by the same operator.
   b. Wastewater collection systems that collect and convey wastewater to a wastewater treatment facility that is ultimately used as a treated wastewater supply to an AWTF shall be classified pursuant to R18-5-114 of this Title.
   c. For a multi-facility system, the Department shall grade each facility in accordance with this subsection.

M. Transition.
1. Beginning two years from the effective date of the AWP programmatic rules in A.A.C. Title 18, Chapter 9, Article 8, all facilities receiving treatment credit pursuant to R18-9-E828 shall be operated by AWP operators certified in accordance with this Section.
2. During the two-year transition period, all AWTFs shall be operated by a Grade 4 certified drinking water operator who has completed appropriate training, approved by the Department.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B805. Advanced Water Purification Responsible Agency Formation; Joint Plan

A. An AWPRA shall be the entity responsible for complying with the requirements of this Article.
1. Only one AWPRA shall be designated for an AWP project.
2. An AWPRA must be a person under A.R.S. § 49-201(33).

B. Joint Plan. An AWPRA shall develop a Joint Plan describing all partner coordination procedures, including but not limited to, the following:
1. Partner Details.
   a. Identification of each partner associated with the AWP project throughout the project's expected operational life,
   b. A description of the roles and responsibilities of each partner, including designation of a lead partner responsible for fulfilling the requirements under the communication plan established in accordance with subsection (B)(4), and
   c. The legal authority of each partner to fulfill its roles and responsibilities.
2. Procedures to ensure that the AWPRA will have knowledge of the current treatment and water quality monitoring status of any water reclamation facility delivering treated wastewater as a source to the AWP project,
3. Procedures to ensure the enhanced source control program complies with the requirements in this Article, pursuant to R18-9-E824,
4. A communication plan ensuring the timely dissemination of information regarding both treated wastewater and advanced treated water or finished water quality status and monitoring among all partners,
5. Procedures to provide access to the AWPRA and all partner facilities, operations, and records for inspection at any time by the Department,
6. Procedures to execute cross-connection control requirements, pursuant to Chapter 4, Article 2 and R18-9-F832 of this Article,
7. Procedures to execute corrosion control requirements, pursuant to Chapter 4, Article 1 and R18-9-F832,
8. Procedures to notify partners and the Department of treatment failure incidents and all corresponding corrective actions taken,
9. A plan outlining all enforcement and corrective actions taken should a partner fail to meet the requirements of this Article or violate the Joint Plan, and
10. Procedures to address changes to the AWPRA partners, including the addition of new partners and the removal of existing partners, in accordance with the requirements of the AWP program.

C. The AWPRA and all partners shall sign the Joint Plan.

D. The Joint Plan shall include copies of all necessary agreements executed to facilitate the operation of the AWP project, including but not limited to, copies of permits, memorandums of understanding, joint powers agreements, or intergovernmental agreements.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B806. General Requirements

A. Delivery of advanced treated water or distribution of finished water is prohibited unless delivery or distribution approval is explicitly given to the AWPRA, either:
1. Through issuance of the AWP permit, if full-scale certification was completed and approved as part of the application; or
2. After satisfaction of the compliance schedule requirements pursuant to R18-9-C816(E).

B. Construction materials used at the AWTF, including materials used at AWPRA partner facilities, except for water reclamation facilities, that collect, treat, store, or distribute water for human consumption through pipes or other constructed conveyances, shall be lead-free as prescribed in A.R.S. § 49-353(B). This subsection shall not apply to leaded joints necessary for the repair of cast iron pipes.

C. Treated wastewater used to supply an AWP project shall be municipal wastewater in origin.

D. Confidentiality of Information. In accordance with A.R.S. § 49-205, any information submitted to the Director pursuant to this Article may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the Director may make the information available to the public without further notice. If a claim is asserted, the infor-

mation will be treated in accordance with the procedures in A.R.S. § 49-205.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B807. Inspections, Violations, and Enforcement

A. The Department shall conduct inspections of a permitted AWPRA facility as specified under A.R.S. § 41-1009 and according to sanitary survey requirements in A.A.C. Title 18, Chapter 4, if applicable.

B. Any person who violates a provision of Article 8 of this Chapter, applicable provisions in Chapters 4 and 5 of this Chapter, or a condition of an AWP permit or AWP demonstration permit is subject to the applicable enforcement actions established under A.R.S. Title 49.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B808. Recordkeeping

A. The AWPRA shall collect and retain the following information for at least ten years:
1. Copies of laboratory analyses and chain of custody forms,
2. The results of all analyses of chemicals and pathogens, including laboratory data, and
3. Copies of all plans and technical components prepared and submitted to the Department under the AWP permit application.

B. For the records described in subsections (A)(1) through (A)(3), a responsible agent of the AWPRA shall sign the following certification statement "I certify, under penalty of law, that the activities conducted pursuant to the requirements of Title 18, Chapter 9, Article 8 have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information to determine whether the applicable requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B809. Construction and Compliance with Plans

A. An AWPRA shall conform to all proposed plans and specifications when constructing any part of their pilot facility such that the facility accurately reflects the proposal as recorded.
1. Prior to issuance of an AWP permit or demonstration permit and when the pilot facility is the same as the proposed full-scale facility, any change in a proposed design that will affect advanced treated water or finished water quality, capacity, flow, or performance, shall be documented by the AWPRA applicant and submitted to the Department for review and approval in the form of revised plans and specifications, record drawings and a written statement regarding the reasons for the change.
2. The record drawings shall be drafted pursuant to R18-9-B810.

B. An AWPRA shall conform to all approved plans and specifications when constructing any part of their full-scale facility.
1. Following issuance of an AWP permit, any change in an approved design that will affect advanced treated water or finished water quality, capacity, flow, or performance, shall be submitted by the AWPRA to the Department for review and approval through a permit amendment.
2. Upon a change to an approved design, the AWPRA shall notify the Department and shall not proceed with any construction related to the design change without written approval from the Department, except in cases of emergency in which the AWPRA must act promptly to respond to an immediate and significant threat to human health and approval from the Department would unduly delay or prevent the AWPRA from addressing the threat. In instances of emergency, the AWPRA shall at the first available and safe moment, but not exceeding 30 days after the emergency:
   a. Notify the Department of the emergency,
   b. Detail the change made from the approved design, and
   c. Describe all response methods utilized during the emergency to protect advanced treated water quality.
3. An AWPRA's failure to notify and obtain the Department's approval of a change in an approved design is subject to enforcement as a permit violation pursuant to R18-9-B807.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B810. Record Drawings

A. An Arizona-registered professional engineer shall clearly and accurately record or mark, on a complete set of working project drawings, each deviation from the original plan, and a written summary of each deviation which shall include, but is not limited to:
1. A description of the deviation,
2. The reason for the deviation, and
3. The projected impact the deviation will have on advanced treated water quality. If an impact is identified, the description shall be accompanied by an explanation on how the AWPRA will address the impact to maintain compliance with advanced treated water quality standards.

B. The set of marked drawings and written summary of deviations becomes the record drawings, reflecting the project as actually built.

C. The professional engineer registered in Arizona shall sign, date, and place their engineer's seal on each sheet of the record drawings and written summary of deviations and submit them to the Department as part of the permit application. The record drawings shall be accompanied by an engineer's certificate of completion, signed by the professional engineer.

D. Quality control testing results and calculations shall be submitted with the engineer's certificate of completion together with field notes and the name of the individual witnessing the tests.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-B811. Outreach; Public Communications Plan

A. An AWPRA applicant/permittee shall develop a Public Communications Plan for the purpose of providing drinking water consumers in the service area with education, awareness, and transparency related to the AWP project.

B. Public Communications Plan. The Plan shall include, but is not limited to, the following:

1. Consumer Notification.
   a. An AWPRA applicant shall notify all drinking water consumers of its intention to apply for an AWP permit for treatment and delivery of advanced treated water or distribution of finished water as a drinking water source.
   b. An AWPRA applicant/permittee shall maintain communication with the consumers throughout all major program phases, including planning, application, operations, and post-operations.
   c. Throughout the planning phase, the AWPRA applicant shall:
      i. Communicate to the public through the use of a local, publicly-accessible repository in which the AWPRA posts information about the AWP project, contains a forum for public question and comment, and a place for responses. Such a repository shall be active at the time the AWPRA applicant submits an AWP project permit application to the Department, and shall be maintained for the lifetime of the project,
      ii. Provide at least one notification by mail or by another Department-approved method to all of its consumers prior to a public meeting related to the AWP project,
      iii. Schedule and hold at least one public meeting during the planning stage of the AWP project,
      iv. Communicate to the public through at least one additional Department-approved method in accordance with subsection (B)(2), and
      v. Provide all relevant information in all appropriate languages, as necessary, and provide contact information to the public on how a consumer may obtain translated written communications or request language assistance for written and oral communications.
   d. During the application phase, the AWPRA applicant shall schedule and hold at least one public meeting no less than six months prior to distributing finished water from the AWP project.
2. Acceptable Methods of Communication. Department-approved methods of communication include the following:
   a. Coverage through a local news outlet (e.g. television, newspaper, social media);
   b. Community event or events (e.g. setting up table/ booth);
   c. Local school or schools and school events;
   d. Providing opt-in email or text notifications to customers;
   e. Consumer confidence reports, water bill inserts, or other mail notification;
   f. Neighborhood association meeting or meetings and civic organizations; or
   g. Other methods may be accepted at the Director's discretion.
3. Community Engagement.
   a. An AWPRA applicant shall involve local government or govenrments throughout the AWP project phases, as necessary.
   b. An AWPRA applicant shall develop a list of all relevant stakeholders and interest-holders that they intend to communicate with. Such a list shall, at a minimum, include local health authorities and medical professionals, and may additionally include:
      i. City/town councils and boards;
      ii. Local elected officials;
      iii. Community organizations that represent disproportionately impacted communities;
      iv. Local environmental groups;
      v. Industry groups; or
      vi. Schools/school boards.
   c. An AWPRA applicant may conduct surveys, focus groups, or other means of collecting local information for the purpose of demonstrating community perception and opinion of the prospective AWP project introduction, and throughout all succeeding project phases.
4. Certification.
   a. An AWPRA applicant shall certify the Plan meets the minimum requirements in this Section.
   b. The certified Plan shall include details demonstrating compliance with the requirements of this Section, including, but not limited to:
      i. Access to the publicly-accessible repository, such as a web address,
      ii. Description of the methodology selected for communication,
      iii. The numbers of mailers sent to the public,
      iv. The number of government entities and other leaders engaged with,
      v. A description of the public meetings held including dates, times, and methods of notice, and
      vi. A description of any outreach conducted in other languages.
   c. An AWPRA applicant shall submit a draft Plan as a component of the AWP permit application pursuant to R18-9-C816.
   d. After being issued the AWP permit, and at least 30 days prior to distributing advanced treated water or delivering finished water, an AWPRA shall submit a certified final Plan to the Department pursuant to the compliance schedule set forth in their AWP permit.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

PART C. PRE-PERMIT AND PERMIT REQUIREMENTS

R18-9-C812. Pre-Application Conference; Project Advisory Committee

A. Upon request of the AWPRA applicant, the Department shall schedule and hold pre-application conference or conferences with the AWPRA applicant to discuss the requirements of this Article.

B. The Department may assemble a project advisory committee for the purpose of providing project-specific technical consultation to the Department throughout the application process.

1. The project advisory committee may be composed of appropriate experts selected by the Department to assist in review as necessary.
2. Experts may include, but are not limited to, toxicologists, State of Arizona licensed engineers, epidemiologists, microbiologists, chemists, and utility representatives.
3. Project advisory committee recommendations are advisory only.
4. Reviews by the project advisory committee shall be conducted within the applicable Licensing Time Frames in Chapter 1, Article 5 of this Title.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C813. Applicant Pathways Depending on National Pretreatment Program Applicability

A. An AWPRA applicant shall submit the application components in the order and format set forth in this Section, in addition to the order and format prescribed by the applicable rules within this Article.

B. National Pretreatment Program AWPRA. An AWPRA with all water reclamation facility partner or partners subject to the National Pretreatment Program may elect to either:
1. Submit the Initial Source Water Characterization Plan and the Pilot Study Plan to the Department for review and comment prior to the AWP permit application in the order and format set forth in R18-9-C814 and R18-9-C815; or
2. Submit the Initial Source Water Characterization Report and Piloting Report to the Department for approval as components of the AWP permit application pursuant to R18-9-C816.

C. Non-National Pretreatment Program AWPRA. An AWPRA with at least one water reclamation facility partner not subject to the National Pretreatment Program shall, throughout the pre-application period and in the order and format set forth in R18-9-C814 and R18-9-C815:
1. Submit the Initial Source Water Characterization Plan and the Pilot Study Plan to the Department for review and comment, and
2. Submit the Initial Source Water Characterization Report and Pilot Report to the Department for approval pursuant to R18-9-C816.

D. An AWPRA applicant that builds a pilot facility to full-scale and develops a Hybrid Pilot and Full-Scale Verification Plan, shall follow the submission requirements pursuant to R18-9-C815(A)(1)(c) and R18-9-F835(A)(1)(c) in lieu of the submission requirements in subsections (B) and (C).

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C814. Initial Source Water Characterization

A. An AWPRA applicant shall develop an Initial Source Water Characterization Plan and shall conduct initial monitoring of any treated wastewater proposed to be used as a source for an AWTF.

B. Initial Source Water Characterization Plan. An initial source water characterization monitoring plan, or Initial Source Water Characterization Plan, shall be developed and followed when conducting initial monitoring in accordance with this Section.
1. A Non-National Pretreatment Program AWPRA applicant shall submit the Initial Source Water Characterization Plan to the Department for review and comment prior to conducting initial source water monitoring under this Section. Along with the Initial Source Water Characterization Plan, the AWPRA applicant shall submit the following additional preliminary components to the Department for review and comment:
   a A draft Enhanced Source Control Plan prepared pursuant to R18-9-E824,
   b. A draft technical, managerial, and financial, or Technical, Managerial, and Financial Capacity Plan, prepared pursuant to R18-9-F833,
   c. A proposed pilot train designed pursuant to R18-9-C815, and
   d. A draft Public Communications Plan prepared pursuant to R18-9-B811.
2. A National Pretreatment Program AWPRA applicant may submit the Initial Source Water Characterization Plan to the Department for review and comment prior to conducting initial source water monitoring under this Section, or otherwise shall submit the Initial Source Water Characterization Plan and Report to the Department as a component of the AWP permit application prepared pursuant to R18-9-C816. An AWPRA applicant that elects to submit the Initial Source Water Characterization Plan to the Department for review and comment prior to conducting initial source water monitoring under this Section may also elect whether or not to submit the additional preliminary components listed in subsection (B)(1) to the Department for contemporaneous review and comment.

C. Monitoring. An AWPRA applicant shall conduct initial source water monitoring at all water reclamation facilities delivering treated wastewater as a source to an AWTF as applicable under R18-9-A802(C).
1. Monitoring shall be conducted at a location before any treatment process that will be used for a treatment credit in the AWP project and before the point of diversion to the AWTF.
2. Chemical Monitoring.
   a. The AWPRA applicant shall collect a minimum of twelve monthly composite samples representative of seasonal variability.
   b. If there is wide variability in a chemical concentration, meaning the coefficient of variation is greater than fifty percent, the AWPRA applicant shall reasonably increase the sampling interval in order to evidence this variability.
   c. The AWPRA applicant shall sample for the following chemicals, excluding those identified on the projected chemical treatment list developed in R18-9-E826:
      i. Tier 1 chemicals,
      ii. Tier 2 chemicals pursuant R18-9-E826(D), and
      iii. Any projected Tier 3 chemicals.
3. Pathogen Monitoring.
   a. The AWPRA applicant shall utilize reference pathogens to monitor pathogen treatment within the AWP project and establish log reduction requirements consistent with either a standard log reduction approach or a site-specific log reduction approach pursuant to R18-9-E828.
   b. Standard Log Reduction. If the AWPRA applicant selects the standard log reduction approach to patho-

gen control, no initial pathogen monitoring is required as part of initial source water characterization.

c. Site-Specific Log Reduction. If the AWPRA applicant selects the site-specific log reduction approach to pathogen control, the AWPRA applicant shall perform initial pathogen monitoring as part of initial source water characterization by following the prescribed sampling protocol pursuant to R18-9-E828(C).

D. In addition to the requirements of this Section, initial source water monitoring under an Initial Source Water Characterization Plan shall be conducted using good engineering practices. Methods for initial source water monitoring shall be approved if the AWPRA applicant can demonstrate that the methods are sufficiently detailed and robust for the purpose of characterizing the treated wastewater used as a source for an AWTF in such a manner that informs the proposed pilot and full-scale treatment train design and serves as an accurate representation of the collection system.

1. ADEQ shall develop and make available guidance on conducting initial source water monitoring under an Initial Source Water Characterization Plan.
2. An Initial Source Water Characterization Plan developed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

E. Report. An Initial Source Water Characterization Report shall be finalized within three years of the commencement of initial source water monitoring or at the Director's discretion. The Initial Source Water Characterization Report shall be prepared pursuant to R18-9-A802(C) and shall include, but is not limited to, the following:

1. The date, time, frequency and exact place of sampling,
2. The name of each individual who performed the sampling,
3. The procedures used to collect the samples,
4. The dates the sample analyses were completed,
5. The name of each individual or laboratory performing sample analysis,
6. The analytical techniques or methods used to perform the sampling and analysis,
7. The chain of custody records,
8. Any field notes relating to the information described under this subsection,
9. The sampling results which account for seasonal variability,
10. Corresponding laboratory data for all samples, and
11. A copy of the Initial Source Water Characterization Plan developed in subsection (B).

F. Report Submission.

1. A Non-National Pretreatment Program AWPRA applicant shall submit the Initial Source Water Characterization Report in subsection (E) to the Department for review and comment as a component of the Pilot Study Plan prepared pursuant to R18-9-C815. Additionally, a Non-National Pretreatment Program AWPRA applicant shall submit the Initial Source Water Characterization Report as a component of the AWP permit application prepared pursuant to R18-9-C816.
2. A National Pretreatment Program AWPRA applicant, if electing to submit a Pilot Study Plan to the Department for review and comment, may include the Initial Source Water Characterization Report in subsection (E) as a component, or otherwise shall submit the Initial Source Water Characterization Report as a component of the AWP permit application prepared pursuant to R18-9-C816.

G. The Department shall consider an AWPRA applicant's conformance with the initial source water characterization requirements in this Article as a component of the AWP permit application. The Director shall deny an AWP permit application if a determination is made that, under the Initial Source Water Characterization Plan, monitoring was improperly conducted or is otherwise insufficient to achieve the objectives of chemical and pathogen characterization, or if the Initial Source Water Characterization Report is incomplete or otherwise insufficient to demonstrate compliance with the Plan.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C815. Pilot Study

A. An AWPRA applicant shall develop a Pilot Study Plan and conduct piloting on a pilot treatment train.

1. If an AWPRA builds a pilot facility to full-scale, the AWPRA applicant may, instead, opt to conduct piloting and full-scale verification simultaneously. If the AWPRA pursues this option, the AWPRA shall:
   a. Consult with the Department, and
   b. Develop and submit a Hybrid Pilot and Full-Scale Verification Plan to the Department for review and comment prior to conducting piloting and full scale verification under this Section, R18-9-F835 and other requirements which are previously determined through consultation with the Department, and
   c. For the purposes of the permit application pursuant to R18-9-C816, submit the Hybrid Pilot and Full-Scale Verification Plan and a Hybrid Pilot and Full-Scale Verification Report in lieu of the submission requirements at R18-9-C816(A)(2)(g) and (h).
2. An operator of a pilot facility may be credited with advanced water treatment qualifying experience under R18-9-B804.

B. Pilot Study Plan. A Pilot Study Plan shall be followed when constructing the pilot treatment train and piloting in accordance with this Section.

1. A Non-National Pretreatment Program AWPRA applicant shall submit the Pilot Study Plan to the Department for review and comment prior to conducting piloting under this Section.
2. A National Pretreatment Program AWPRA applicant may submit the Pilot Study Plan to the Department for review and comment prior to conducting piloting under this Section, an approach recommended by the Department, or otherwise shall submit the Pilot Study Plan to the Department as a component of the AWP permit application prepared pursuant to R18-9-C816.
3. The Plan shall include, but is not limited to, the following:
   a. The pilot study objectives,
   b. A description of the proposed pilot treatment train,
   c. The design criteria for each treatment component pursuant to R18-9-F832,
   d. A design report and drawing,
   e. An explanation of the pilot train's representation of the scale and the performance of the proposed full-

scale AWTF and the selected treatment components therein,
f. A time period for which the pilot study will be conducted of no less than one year of continuous operation,
g. A monitoring plan which shall include, but is not limited to, the following:
i. The proposed monitoring, instrumentation, and any additional requirements pursuant to R18-9-A802(C),
ii. The proposed chemical critical control points designated pursuant to R18-9-E827(D),
iii. The proposed pathogen critical control points designated pursuant to R18-9-E828(D), and
iv. An advanced treated water sampling plan, and
h. The proposed Tier 3 chemical list and associated critical control points prepared pursuant to R18-9-E827,
i. The projected chemical treatment list prepared pursuant to R18-9-E826(F), and
j. A TOC Characterization Plan of all original drinking water sources, pursuant to the Trace Organics Removal Procedure under R18-9-F834(C)(1), if the AWPRA selects the Site-Specific TOC Management Approach.
4. The Initial Source Water Characterization Report prepared pursuant to R18-9-C814(E) shall be submitted as follows:
a. A Non-National Pretreatment Program AWPRA applicant shall submit the Initial Source Water Characterization Report as a component of the Pilot Study Plan, and
b. A National Pretreatment Program AWPRA applicant may submit the Initial Source Water Characterization Report as a component of the Pilot Study Plan, or otherwise shall submit the Initial Source Water Characterization Report as a component of the AWP permit application prepared pursuant to R18-9-C816.
5. The pilot treatment train shall be selected from, and optimized in accordance with, the projected chemical treatment list developed pursuant to R18-9-E826(F) and pathogen log reduction values established pursuant to R18-9-E828.
6. If a Pilot Study Plan includes the discharge of effluent and the facility is subject to the APP program, an APP application for permit coverage shall be submitted and effective before pilot train operation.

C. Piloting.
1. Pathogen and chemical removal shall be demonstrated during the pilot study by conducting sampling in accordance with the established monitoring plan developed in subsection (B)(3)(g).
2. Sampling shall be conducted at a minimum of two locations, the influent and effluent of the pilot treatment train, in accordance with the proposed critical control points.

D. Report. At the conclusion of piloting a Pilot Study Report shall be prepared and submitted to the Department as a component of the AWP permit application pursuant to R18-9-C816. The Pilot Study Report shall include, but is not limited to, the following:
1. A demonstration of the effectiveness, reliability, and consistency of the treatment components in achieving pathogen and chemical removal, as well as TOC management in accordance with the Pilot Study Plan under subsection (B),
2. A list of water reclamation facility operational parameters and ranges that produced the AWTF treated wastewater influent water quality.

E. The Department shall consider an AWPRA applicant's conformance with the pilot study requirements in this Article as a component of the AWP permit application. The Director shall deny an AWP permit application if a determination is made that, under the Pilot Study Plan, piloting was improperly conducted or is otherwise insufficient to achieve the objectives of the pilot study, or if the Pilot Study Report is incomplete or otherwise insufficient to demonstrate compliance with the Pilot Study Plan.

F. In addition to the requirements of this Section, the pilot study shall be conducted using good engineering practices. Methods for conducting the pilot study shall be approved if the AWPRA applicant can demonstrate that the methods sufficiently and consistently verify the performance of the chosen treatment components, provide the opportunity to evaluate the effectiveness of different types of treatment components, and inform the design of the full-scale AWP treatment train.
1. ADEQ shall develop and make available guidance on conducting an AWP pilot study.
2. An AWP pilot study conducted in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C816. Permit Application

A. An AWPRA applicant for an AWP permit shall provide the Department with the following information on an application form prescribed by the Director:
1. Application: Administrative Requirements.
a. The names and mailing addresses of all AWPRA partners,
b. The names and mailing addresses of the representative of the AWPRA and owners and operators of all AWPRA partner facilities,
c. The legal description, including latitude and longitude, of the location of all AWPRA partner facilities,
d. The expected operational life of the AWPRA partner facilities,
e. The permit number for any other federal or state environmental permit issued to any AWPRA partner for that facility or site,
f. A copy of the AWPRA's Joint Plan and corresponding agreements pursuant to R18-9-B805,
g. A copy of the certificate of disclosure required by A.R.S. § 49-109,
h. Evidence that the AWTF complies with applicable municipal or county zoning ordinances, codes, and regulations,
i. Certification in writing that the information submitted in the application is true and accurate to the best of the AWPRA applicant's knowledge, and
j. All applicable fees established in 18 A.A.C. 14.
2. Application: Technical Requirements.
a. Detailed completed or prospective construction plans of the site, presented in legible form and of

sufficient scale and detail to establish construction requirements and to facilitate effective review,

b. Record drawings pursuant to R18-9-B810,

c. Complete specifications to supplement the completed or prospective construction plans in subsection (A)(2)(a), including vendor data demonstrating validation information,

d. A design report which:

i. Describes the completed or prospective construction and the basis of design,

ii. Provides design data and other pertinent information that defines the work, and

iii. Establishes the adequacy of the design to meet the system demand and comply with the requirements of this Article, and

e. A Full-Scale Verification Plan, including data demonstrating scaling feasibility, prepared pursuant to R18-9-F835,

f. A draft Operations Plan prepared pursuant to R18-9-F836,

g. The Pilot Study Plan and Report prepared pursuant to R18-9-C815, if applicable under R18-9-C815(A)(1),

h. The Full-Scale Verification Report prepared pursuant to R18-9-F835, if applicable under R18-9-C835(A)(1),

i. A list of construction material used pursuant to R18-9-B806,

j. A demonstration of technical, managerial, and financial capacity pursuant to R18-9-F833,

k. An initial Enhanced Source Control Plan pursuant to the program developed in R18-9-E824,

l. The Initial Source Water Characterization Plan and Initial Source Water Characterization Report prepared pursuant to R18-9-C814,

m. A demonstration of compliance with all minimum design requirements pursuant to R18-9-F832,

n. The proposed pathogen and chemical action levels for ongoing monitoring pursuant to R18-9-A802(C),

o. The draft Public Communications Plan pursuant to R18-9-B811,

p. A Tier 2 analysis pursuant to R18-9-E826,

q. A Tier 3 Chemical list, associated critical control points and explanation pursuant to R18-9-E827,

r. Evidence of an APP authorizing any discharge from an AWTF that occurred, occurs or will occur during piloting, full-scale verification, operation or otherwise,

s. Demonstration that the AWPRA meets applicable A.A.C. Title 18, Chapter 4 and Chapter 5 requirements, and

t. Any other relevant information required by the Department to determine whether to issue a permit.

B. Draft Permit. The Department shall provide the AWPRA applicant with a draft of the AWP permit prior to publication of the Notice of Preliminary Decision pursuant to R18-9-D820.

C. Permit Issuance or Denial. The following requirements apply in addition to the requirements in R18-9-D823:

1. The Director shall issue an AWP permit, based upon the information obtained by or made available to the Department, if the Director determines that the AWPRA applicant is in compliance with this Article, and the applicable requirements in Chapter 4, Articles 1 and 2, and Chapter 5, Article 5.

2. The Director shall provide the AWPRA applicant with written notification of the final determination to issue or deny the permit within the overall licensing time-frame requirements under 18 A.A.C. 1, Article 5, Table 10 and the following:

a. The AWPRA applicant's right to appeal the final permit determination, including the number of days the applicant has to file a protest and the name and telephone number of the Department contact person who can answer questions regarding the appeals process,

b. If the AWP permit is denied under R18-9-D823, the reason for the denial with reference to the statute or rule on which the denial is based, and

c. The AWPRA applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

D. The Department shall only approve an AWP permit for an AWPRA applicant when all AWPRA partners are in compliance with this Chapter and applicable Chapter 4 and Chapter 5 requirements, or are making satisfactory progress towards compliance under a schedule previously approved by the Department.

E. Post-Permit Issuance Compliance Schedule.

1. The technical components listed in subsection (E)(2) are not required as part of the application in subsections (A) and (B) but are required prior to delivery of advanced treated water or distribution of finished water,

2. The following technical components shall be submitted in the time and manner set forth in a compliance schedule which shall be established by the Department under the AWP permit:

a. The final design documents including as-built construction and configuration reports of all engineered elements of the facility prepared pursuant to R18-9-B810 and any document changes from what was proposed in the pre-construction application requirements.

b. An Operations Plan prepared pursuant to R18-9-F836, including, but not limited to, a list of operators who are certified by the Department appropriately for all facilities within an AWP project, including any finished water distribution systems,

c. The Full-Scale Verification Report prepared pursuant to R18-9-F835,

d. A vulnerability assessment prepared pursuant to R18-9-F837,

e. Compliance with approved plans pursuant to R18-9-B809,

f. The final Public Communications Plan pursuant to R18-9-B811,

g. The final Enhanced Source Control Plan pursuant to the program developed in R18-9-E824,

h. An engineer's certificate of completion of the final inspection of the AWTF, signed, dated, and sealed by an Arizona-registered professional engineer in a format approved by the Department, and

i. Any other relevant information required by the Department.

3. Compliance schedule items under subsection (E)(2) may require a permit amendment.

F. If a compliance schedule is included as part of an AWP permit, delivery of advanced treated water or distribution of finished water is prohibited until all delivery or distribution-critical post-permit compliance schedule items pursuant to subsection (E) are met and any associated permit amendments are in effect.

G. All design plans, specifications, and design reports submitted under this Section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall demonstrate the following information to the Department for each person principally responsible for designing the facility:
1. Pertinent licenses or certifications held by the person,
2. Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility,
3. Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities, and
4. A verification letter from an independent party certifying the performance of a manufacturer's equipment or a product that the professional engineer is relying upon for treatment credits, along with the information required under subsections (G)(1), (2), and (3), for the independent party certifying the product.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C817. Demonstration Permit

A. An AWPRA may apply for an AWP demonstration permit for the purpose of showcasing the AWTF for public outreach, finished water tasting, and other related non-distribution purposes.

B. Introduction of advanced treated water into a drinking water distribution system for human consumption is prohibited under an AWP demonstration permit.

C. Demonstration Permit Application.
1. An AWPRA applying for an AWP demonstration permit shall comply with all requirements of this Article, and all application requirements pursuant to R18-9-C816, excluding the requirement to demonstrate full-scale verification.
   a. The piloting requirements in R18-9-C815 may be abbreviated at the Director's discretion, but may not be of a period of less than six months.
   b. If an applicant reports significant failures at a critical control point during abbreviated piloting, the Director may require other measures.
2. The AWPRA applicant applying for an AWP demonstration permit shall submit a preliminary application containing the information required in subsection (C)(1) to the Department on an application form prescribed by the Director.
3. The Department shall, based on the preliminary application and in consultation with the AWPRA applicant, provide the AWPRA applicant notice of any additional information that is necessary to complete the application.
4. An AWP operator shall operate the demonstration facility if the facility is utilized for the purpose of showcasing the AWTF for public outreach, finished water tasting, and other related non-distribution purposes.

D. All design plans, specifications, and design reports submitted under this Section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall make the following demonstration to the Department for each person principally responsible for designing the facility:
1. Pertinent licenses or certifications held by the person,
2. Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility, and
3. Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities.

E. Demonstration AWTFs shall only be built to pilot or full-scale.

F. Bench scale demonstration AWTFs are prohibited.

G. An operator of an AWP demonstration facility may be credited with advanced water treatment qualifying experience under R18-9-B804.

H. The public notice and public participation requirements in R18-9-D819 and R18-9-D820 apply to demonstration permits issued under this Section.

I. The permit suspension, revocation, denial, and termination requirements in R18-9-D823 apply to demonstration permits issued under this Section.

J. The permit term and permit renewal requirements in R18-9-D822 apply to demonstration permits issued under this Section.

K. All design plans, specifications, and design reports submitted under this Section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall demonstrate the following information to the Department for each person principally responsible for designing the facility:
1. Pertinent licenses or certifications held by the person,
2. Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility,
3. Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities, and
4. A verification letter from an independent party certifying the performance of a manufacturer's equipment or a product that the professional engineer is relying upon for treatment credits, along with the information required under subsections (K)(1), (2), and (3), for the independent party certifying the product.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-C818. Compliance Schedule

A. An AWPRA shall follow the compliance schedule established in the AWP permit.
1. If a compliance schedule provides that an action is required more than one year after the date of permit issuance, the schedule shall establish interim requirements and dates for their achievement.
2. If the time necessary for completion of an interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date.

3. An AWPRA shall submit to the Department a compliance schedule item report documenting that the required action was taken within the time period specified in the compliance schedule of the AWP permit.
4. After reviewing the compliance schedule activity, the Director may amend the AWP permit, based on changed circumstances relating to the required action.

B. Distribution of advanced treated water is prohibited until the Department approves all compliance schedule items established under the AWP permit pursuant to R18-9-C816(E).

C. The Department shall consider all of the following factors when setting any additional compliance schedule requirements not prescribed under R18-9-C816(E):
1. The impact on advanced treated water quality,
2. The impact on drinking water customers,
3. The requirements for permit amendment, and
4. Any other factors determined at the Director's discretion.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

PART D. GENERAL PERMIT REQUIREMENTS

R18-9-D819. Public Notice

A. AWP Permits.
1. The Department shall provide the entities specified in subsection (A)(2) with monthly written notification, by regular mail or electronically, upon the occurrence of any of the following:
   a. Receipt of AWP permit or demonstration permit applications;
   b. Preliminary and final determinations by the Director related to issuance or denial of an AWP permit or demonstration permit;
   c. Issuance of significant permit amendments;
   d. A determination made by the Director to revoke a permit; or
   e. Issuance of a permit renewal.
2. Entities.
   a. Each county department of health, environmental service department, or comparable department,
   b. A federal, state, local agency, or council of government, that may be affected by the permit action, and
   c. A person who requested, in writing, notification of the activities described in subsection (A)(1).

B. The Department shall additionally post the information referenced in subsections (A)(1) and (2) on the Department website: www.azdeq.gov.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-D820. Public Participation

A. Notice of Preliminary Decision.
1. The Department shall publish a notice of preliminary decision regarding the issuance or denial of a significant amendment or a final permit determination related to an AWP project on its website.
   a. Along with the public notice, the Department shall provide a copy of the draft permit along with a fact sheet for the AWP project.
   b. The AWPRA applicant or permittee of the AWP project shall publish the notice of preliminary decision regarding the issuance or denial of a significant amendment or a final permit determination in a mailer sent to all drinking water customers within their service area.
2. The Department shall accept written comments from the public before a significant amendment or a final permit determination is made. Written public comment is limited to the scope of the issuance or denial of a significant amendment or a final permit determination under subsection (A)(1).
3. The written public comment period begins on the publication date of the notice of preliminary decision and extends for a minimum of 30 days.

B. Public hearing.
1. The Department shall provide, at minimum, a 30-day notice and shall conduct a public hearing to address a notice of preliminary decision regarding a significant amendment or final permit determination if:
   a. Significant public interest in a public hearing exists; or
   b. Significant issues or information has been brought to the attention of the Department that have not been considered previously in the permitting process.
2. If, after publication of the notice of preliminary decision, the Department determines that a public hearing is necessary, the Department shall schedule a public hearing and publish notice of the public hearing on its website and the AWPRA applicant or permittee of the AWP project shall publish the notice of public hearing in a mailer sent to all drinking water customers within their service area.
3. The Department shall accept written public comment until the close of the hearing record.

C. The Department shall respond in writing to all comments submitted during the public comment period.

D. The Department shall notify an AWPRA applicant or permittee of a significant amendment or final permit determination through regular or electronic mail.
1. Simultaneously, and in the same manner, the Department shall provide a notice of the amendment or determination along with the summary of response to comments to any person who submitted comments or attended a public hearing on the significant amendment or final permit determination.
2. The AWPRA applicant or permittee of the AWP project shall publish the final determination regarding the issuance or denial of a significant amendment or a final permit determination in a mailer sent to all drinking water customers within their service area.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-D821. Permit Amendments

A. The Director may amend an AWP permit based upon a request or upon the Director's initiative.
1. A permittee shall submit a request for permit amendment in writing on a form prescribed by the Director with the applicable fee established in A.A.C. Title 18, Chapter 14, explaining the facts and reasons justifying the request.
2. The Department shall process amendment requests following the licensing time-frames established under A.A.C. Title 18, Chapter 1, Article 5, Table 10.

3. An amended permit supersedes the previous permit upon the effective date of the amendment.

B. Significant Amendment.
1. Significant AWP permit amendments may include, but are not limited to:
   a. Changes to the enhanced source control program that will result in a change in the water quality of any unit of operation or the advanced treated water,
   b. Any modification to the facility that will result in a change in the water quality of any unit of operation or the advanced treated water,
   c. Any change to the critical control points,
   d. Reductions to monitoring,
   e. Changes to any approved blending plans,
   f. Significant source water quality changes that will result in a change in the water quality of any unit of operation or the advanced treated water,
   g. The addition or removal of an AWPRA partner from the AWPRA, and
   h. Authorization to deliver advanced treated water or distribute finished water following completion of post-permit compliance schedule items.
2. An AWPRA shall submit, along with the detailed permit amendment request in subsection (A)(1), an explanation of the proposed modifications as well as the safeguards that the AWTF will implement to ensure that the quality of the water served will not be adversely affected by any modification.

C. Minor Amendment. Minor AWP permit amendments may include, but are not limited to:
1. Correcting typographical errors,
2. Changing non-technical administrative information,
3. Correcting minor technical errors, such as locational information and citations of law,
4. Increasing the frequency of monitoring or reporting,
5 Making changes in a recordkeeping retention requirement, and
6. Changes to the treatment train, monitoring equipment, or any other component that is not a replacement of, or substantially similar to the approved components, but will not result in a change in the advanced treated water.

D. The public notice and public participation requirements in R18-9-D819 and R18-9-D820 apply to a significant amendment. A minor amendment does not require public notice or public participation.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-D822. Permit Term; Permit Renewal

A. An AWP permit and demonstration permit are valid for five years from the date the permit is issued pursuant to R18-9-C816.

B. An AWPRA authorized under an AWP permit or demonstration permit shall submit an application for renewal on a form prescribed by the Director with the applicable fee established in A.A.C. Title 18, Chapter 14 at least 180 calendar days before the end of the permit term.
1. If an administratively complete application for renewal of an AWP permit or demonstration permit is not received by the Department prior to the end of the permit term, the AWP permit or demonstration permit expires.
2. If an administratively complete application for renewal of an AWP permit or demonstration permit is received by the Department prior to the end of the permit term, the AWP permit or demonstration permit term extends until a renewal determination is made.

C. The AWPRA shall demonstrate the following requirements to the Department in a renewal application submitted on a form prescribed by the Director:
1. Continued compliance throughout the most recent AWP permit term, or otherwise documentation of data related to any excursion from approved advanced treated water quality parameters,
   a. Excursions shall be monitored at all AWP project components including, but not limited to:
      i. The treatment process at the AWTF,
      ii. The treatment process at the WRF,
      iii. The collection system, and
      iv. Any non-domestic discharger regulated under the enhanced source control program, and
   b. If excursions are detected, the AWPRA shall demonstrate evidence of corrective actions taken in response to the excursion and data confirming that those corrective actions did not impact advanced treated water quality.
2. Facility design documents and as-built construction and configuration reports of all engineered elements of the facility which accurately represent the most current facility, pursuant to R18-9-B810, along with documentation of any compliance challenges with the approved facility design within the most recent AWP permit term,
3. Any proposed modification to an operation, treatment process, treatment configuration, or water quality parameter from the facility design most recently approved under an AWP permit shall result in preparation and submission the applicable, following documents to the Department:
   a. Detailed construction plans of the site and work to be done, presented in legible form and of sufficient scale, to establish construction requirements to facilitate effective review,
   b. Complete specifications to supplement the construction plans in subsection (C)(3)(a), including vendor data demonstrating validation information,
   c. A design plan that describes the proposed construction and basis of design, provides design data and other pertinent information that defines the work to be done, and establishes the adequacy of the design to meet the system demand and the requirements of this Article,
   d. A certificate of completion of a final inspection of the AWTF signed, dated, and sealed by an Arizona-registered professional engineer in a format approved by the Department,
   e. A Pilot Study Plan and report prepared pursuant to R18-9-C815,
   f. A list of construction material used pursuant to R18-9-B806, and
4. An updated Operations Plan, prepared pursuant to R18-9-F836, and revised, as necessary, which includes, but is not limited to:
   a. An updated list of operators who are certified by the Department appropriately for all facilities within an AWP project, including any finished water distribution systems, and

b. Documentation of any periods of operator absence within the most recent AWP permit term, and

5. An updated vulnerability assessment, prepared pursuant to R18-9-F837, along with documentation of any compliance challenges with the vulnerability mitigation approach previously adopted within the most recent AWP permit term,
6. An updated Public Communications Plan, prepared pursuant to R18-9-B811, along with documentation of any changes to the AWPRA's service area during the most recent AWP permit term that affected plan implementation,
7. An updated Enhanced Source Control Plan, prepared pursuant to the program developed in R18-9-E824, with documentation of any changes to the Plan within the most recent AWP permit term,
8. An updated technical, managerial, and financial demonstration, prepared pursuant to R18-9-F833, with documentation of any changes made to the previously approved demonstration in effect during the most recent AWP permit term,
9. Documentation of source water characterization in compliance with the approach under initial source water characterization pursuant to R18-9-C814, as applicable if changes to the sewershed occur which impact the source water characterization report in effect during the most recent AWP permit term,
10. A renewed demonstration of compliance with all minimum design requirements pursuant to R18-9-F832, and
11. An updated Monitoring Plan, prepared pursuant to R18-9-E829, including the proposed pathogen and chemical action levels.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-D823. Permit Suspension, Revocation, Denial, or Termination

A. The Director may, after notice and opportunity for hearing, suspend or revoke an AWP permit or demonstration permit upon a determination of any of the following:
1. The AWPRA failed to comply with any applicable provision of this Title or any permit condition;
2. The AWPRA misrepresented or omitted a fact, information, or data related to an AWP permit application or permit condition;
3. A permitted activity is causing or will cause a violation of the Safe Drinking Water Act or any requirement of this Article at the entry point to a distribution system for delivery to drinking water consumers;
4. A permitted AWP facility is causing or will cause imminent and substantial endangerment to public health or the environment;
5. The AWPRA failed to maintain the financial capability pursuant to R18-9-F833; or
6. The AWPRA failed to construct a facility within five years of permit issuance.

B. The Director may deny an AWP permit or demonstration permit upon a determination that the AWPRA applicant has:
1. Failed or refused to correct a deficiency in the permit application;
2. Failed to demonstrate that the facility and the operation will comply with the requirements of this Article and all applicable requirements in Chapter 4 and Chapter 5 of this Title. The Director shall base this determination on:
   a. The information submitted in the AWP permit application;
   b. Any information submitted to the Department following a public hearing; or
   c. Any relevant information that is developed or acquired by the Department; or
3. Provided false or misleading information.

C. The Director may terminate an AWP permit or AWP demonstration permit if the AWP project covered under the permit:
1. Is in substantial non-compliance with this Article or the Safe Drinking Water Act such that the continued operation of the facility presents a risk to public health or public safety that cannot be sufficiently abated or addressed through other enforcement mechanisms available to the Department under this Article;
2. Is determined to have provided false information to the Department, or certified false or misleading reports;
3. Is abandoned or no longer actively distributing or producing water under an AWP permit or demonstration permit; or
4. At the permit holder's request upon prior notification to the Department.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

PART E. CONSTITUENT CONTROL, MONITORING, AND REPORTING

R18-9-E824. Enhanced Source Control

A. Treated wastewater used to supply an AWP project shall originate from a water reclamation facility that has local authority to implement an enhanced source control program, including authority for oversight, enforcement, and inspection.

B. An AWPRA applicant shall develop, and an AWPRA permittee shall maintain, a locally authorized enhanced source control program which shall:
1. Operate pursuant to specific legal authority enforceable in State or local courts, including the ability to file civil and/or criminal complaints for program violations,
2. Identify, control, or eliminate constituents of concern discharged into the collection systems through the use of constituents of concern control methods including local ordinances and local limits,
3. Include a summary of local limits and other discharge control methods,
4. Include a list of potentially impactful non-domestic dischargers in the service area,
   a. A potentially impactful non-domestic discharger is a source that meets one or more of the following:
      i. The source is subject to the National Pretreatment Program pretreatment standards;
      ii. The source may adversely affect the AWTF operation including pass-through or interference;
      iii. The source has a potential to have serious adverse effects on public health;
      iv. The source has a potential to prevent the AWPRA from achieving requisite treatment standards for any contaminant regulated under this Article;

v. The source has a potential to cause a violation of a Tier 1 standard; or
vi. The source has otherwise been designated as potentially impactful by the water reclamation facility.

b. The potentially impactful non-domestic discharger list shall be:
i. Utilized to generate a list of impactful non-domestic dischargers, subject to additional control measures, in accordance with subsection (C),
ii. Reported to ADEQ every year through the annual report prepared pursuant to R18-9-E831,
iii. Continuously updated with newly introduced chemicals or new potentially impactful non-domestic dischargers, or as a result of any other event that causes a change within the collection systems impacting the advanced treated water quality,
iv. Verified through open and ongoing communication, as well as routine site visits with the identified potentially impactful non-domestic discharger. Verification may include inquiry into chemical use, potential discharges, and any potential or planned changes in operation that could impact the advanced treated water quality, and
v. Accompanied by collection system investigations to identify sources of Tier 1 or Tier 2 chemical peaks that have a significant impact on advanced treated water quality. These investigations shall occur at all necessary sewer lines, manholes, force mains, lift stations, and other collection system components.

5. Include a map of the collection system components, which shall be submitted to the Department and shall include locations of the potentially impactful non-domestic discharges in the collection system,
6. Include a list of all water reclamation facilities in the collection system that provide treated wastewater to the AWPRA as a source under the AWP program along with a description or map of their respective boundaries,
7. Include activities that protect the water reclamation facility or facilities and AWTF or AWTFs from pass-through or interference from constituents of concern which may include, but are not limited to, the creation of additional local limits or addressing routine monitoring activities,
8. Include a pollutant reduction and elimination plan that addresses both non-domestic and domestic dischargers with the goal of mitigating or eliminating constituents of concern prior to entry into the collection system. The plan shall include, at a minimum, the following:
a. A determination of whether targeted outreach is necessary. If necessary, targeted outreach shall include the development of targeted outreach programs for non-domestic dischargers determined to be impactful in accordance with subsection (C)(2),
b. Education and encouragement of non-domestic dischargers determined to not be impactful in accordance with subsection (C)(2) to participate in pollution prevention programs or environmental stewardship programs that reduce or eliminate the discharge of constituents of concern into the collection system, including the requirement to consider alternatives to constituent of concern usage,
c. A public outreach program for domestic dischargers, and
d. Notification and public hearings on the AWP program and significant program developments,
9. Include a septage hauler control program that tracks and monitors loads and includes a load sampling program which shall retain all load sampling results for a minimum of five years,
10. Implement a program to receive early warning for the purpose of attaining advanced notice of an incoming constituents of concern peak. An early warning system shall include, at a minimum, the following:
a. Online monitoring instrumentation that evaluate data in real time located either in the influent to the water reclamation facility, in the collection system, or at the discharging entity that measures constituents of concern or surrogate parameter or parameters and that indicates potential treatment interference, pass-through, or a violation of an AWP action level,
b. A process for notification to the AWPRA of any discharge that can potentially result in the release of contaminants above local limits established pursuant to subsection (B)(3),
c. Cooperation with local county public health departments, as necessary, to track constituents of concern peaks from disease outbreaks or other impactful health events,
d. A response plan developed pursuant to subsection (B)(12),
e. A plan for routine calibration of early warning system equipment with the goal of reliable performance,
f. A plan for rapid response and addressing of equipment failure, and
g. Other early warning measures required by the Department, which are necessary to protect the operations of the AWPRA project treatment or prevent contamination of the advanced treated water, based on a review of application components submitted to the Department for review, and on the availability of such measures,
11. Be audited at least every five years by an independent party to assess the effectiveness of the enhanced source control program in controlling the discharge of contaminants,
12. Include a clear and comprehensive response plan to address constituents of concern exceedances. The response plan shall be created in partnership with all relevant AWPRA partners. The plan shall include, at a minimum, the following:
a. A procedure for addressing constituents of concern peaks with the potential to impact advanced treated water quality,
b. An investigation and identification of the exceedance source, or if no source is identified, the initiation of a collection system sampling program,
c. The designation of the leading facility responsible for communication with the AWPRA partners,
d. A procedure for when and how to notify the Department upon a constituent of concern exceedance,
e. A procedure for the bypass and/or shutdown of the AWTF, if necessary,

f. An effective training program ensuring the understanding of the response plan by the responsible personnel,
g. A review of the operation and calibration records for online meters and any relevant analytical methods upon the detection of a constituent of concern exceedance, and
h. Submission of a memorandum of understanding or other contractual agreement between all entities necessary to effectuate the response plan, and

13. Prohibit the discharge of any of the following to the water reclamation facility:
a. Pollutants which create a fire or explosion hazard, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR Part 261.21,
b. Pollutants which will cause corrosive structural damage including discharges with a pH lower than 5.0, unless the treatment works are designed to accommodate such discharges,
c. Solid or viscous pollutants in amounts which will cause obstruction to the flow resulting in interference,
d. Any pollutant, including oxygen demanding pollutants (biochemical oxygen demand, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause Interference,
e. Heat in amounts which will inhibit biological activity resulting in interference including heat in such quantities that the temperature at the water reclamation facility exceeds 40 °C (104 °F), unless the approval authority, upon request of the water reclamation facility, approves alternate temperature limits,
f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through,
g. Pollutants which result in the presence of toxic gas, vapors, or fumes in a quantity that may cause acute worker health and safety problems, and
h. Any trucked or hauled pollutants, except at discharge points designated by the water reclamation facility, and

14. Include local authority for the AWPRA to take the following actions to determine compliance of a potentially impactful non-domestic discharger with a local ordinance:
a. Receive and analyze all self-monitoring reports and notices submitted by potentially impactful non-domestic dischargers,
b. Randomly sample and analyze effluent from potentially impactful non-domestic dischargers and conduct surveillance and inspection activities needed to identify, independent of any information supplied by such users, occasional or continuing noncompliance with any local limit or requirement, and
c. Investigate instances of noncompliance with any enhanced source control ordinance when notice of any actual or probable noncompliance has been received by the AWPRA, and

15. Report all program elements in this subsection to the Department annually, pursuant to R18-9-E831, and

16. Include any other relevant information required by the Department.

C. Impactful Non-Domestic Dischargers List.
1. From the potentially impactful non-domestic dischargers list developed in subsection (B)(4), the AWPRA applicant shall develop a list of impactful non-domestic dischargers by conducting a significant impact analysis for each potentially impactful non-domestic discharger that considers, but is not limited to, the following factors:
a. Average wastewater discharged into the collection system,
b. Dilution of discharge within the collection system,
c. The nature of the discharge and its constituents,
d. The ability of downstream treatment processes to address the discharge, and
e. The effect the discharge will have on treatment processes and advanced treated water.
2. The AWPRA permittee shall subject the identified impactful non-domestic dischargers in the collection system to additional control measures including, but not limited to:
a. Locally established discharge limits,
b. Locally established monitoring, and
c. Targeted outreach.
3. The list shall be reported to ADEQ every year through the annual report prepared pursuant to R18-9-E831.

D. In addition to the requirements of this Section, an enhanced source control program shall be developed, conducted, and maintained using good engineering practices. Methods for developing, conducting, and maintaining an enhanced source control program shall be approved if the AWPRA applicant can demonstrate that the methods are sufficiently detailed and robust for the purpose of enhanced source control, pursuant to this Article.
1. ADEQ shall develop and make available guidance on developing, conducting, and maintaining an enhanced source control program.
2. An enhanced source control program developed, conducted, and maintained in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

E. An AWPRA shall form and maintain a source control committee that includes representatives from:
1. Each AWPRA partner that is part of the AWPRA's enhanced source control program, including each AWPRA partner that supplies treated wastewater to the AWP project or that owns and/or operates a water reclamation facility that provides treatment, and
2. Key non-domestic dischargers and others that discharge to the collection system chemicals that may pose a risk to public health.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E825. Tier 1 Chemical Control; Maximum Contaminant Levels

For the purposes of this Article, Tier 1 chemicals are the chemical contaminants that have "Primary Drinking Water Standards" under 40 CFR Part 141 as incorporated by reference in R18-4-102, including those with Safe Drinking Water Act-required Maximum Contaminant Levels or Treatment Techniques.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E826. Tier 2 Chemical Control; Advanced Water Purification-Specific Chemicals

A. An AWPRA shall conduct a Tier 2 analysis under this Section in order to determine Tier 2 chemicals, propose alert and action levels for Tier 2 chemicals at the AWTF, and to identify the chemical controls necessary to be implemented by the AWPRA in the following manner:

1. An AWPRA applicant shall conduct the analysis as a required technical component of their permit application for an AWP permit or an AWP demonstration permit, pursuant to R18-9-C816 and R18-9-C817, respectively.
2. Once permitted, an AWPRA shall conduct a new Tier 2 analysis under this Section:
   a. If the AWPRA is aware of, becomes aware of, or should reasonably be aware of:
      i. The identification of additional potentially impactful non-domestic dischargers pursuant to R18-9-E824(B)(4); or
      ii. Significant volumetric adjustments to an AWPRA water reclamation facility's total daily volume of treated wastewater that are likely to impact the expected concentration of any chemical pursuant to subsection (D); or
   b. If changes to any component of the permitted AWP project occur that will result in an exceedance of an action level; or
   c. At a minimum, every five years as a component of a permit renewal application pursuant to R18-9-D822.

B. Non-Domestic Dischargers List. The AWPRA applicant shall list all non-domestic dischargers in the collection system that are a direct or indirect source to an AWPRA water reclamation facility.

C. Chemical Inventory List. The AWPRA applicant shall generate a list of chemicals that are used, stored, or discharged by all non-domestic dischargers in the list from subsection (B). The AWPRA applicant shall add chemicals used at the water reclamation facility and the AWTF to the chemical inventory list.

D. Tier 2 Analysis. The AWPRA applicant shall conduct the following analysis for each chemical identified in the Chemical Inventory List in subsection (C):

1. Calculate the projected daily load for each chemical in the inventory list generated in subsection (C) for each non-domestic discharger in the list generated in subsection (B) as follows: Mass loading of contaminant (lb/day) = Flow (MGD) x Maximum Concentration (mg/L) x 8.34 (for unit conversion);
2. Calculate the projected total daily load of each chemical in the inventory list generated in subsection (C) for all non-domestic dischargers in the list generated in subsection (B), cumulatively, as follows: Total Contaminant Load (lb/day) = ∑ Mass loading (lb/day) for all dischargers;
3. Calculate the projected daily concentration of each chemical in the chemical inventory list in the treated wastewater by comparing the collection system's projected total daily load from subsection (D)(2) for each chemical in the chemical inventory list against the total influent flow of treated wastewater at the headworks of the proposed AWTF using the following formula:

$$Expected\ concentration\ (mg/L) = \frac{Total\ Contaminant\ Load\ (\frac{lb}{day})}{Total\ Influent\ Flow\ (MGD) \times 8.34}$$

4. For chemicals with one or more of the corresponding health advisory values in subsections (a)(i) through (v) established in the "2018 Edition of the Drinking Water Standards and Health Advisories Tables":
   a. Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the lowest health advisory value, from the following available values:
      i. One-day (mg/L),
      ii. Ten-day (mg/L),
      iii. DWEL (mg/L),
      iv. Life-time (mg/L),
      v. mg/L at 10-4 Cancer Risk.
   b. If the projected daily concentration exceeds the health advisory value, the chemical shall be a Tier 2 chemical.
5. For chemicals that do not have an established health advisory pursuant to subsection (D)(4) but do have a drinking water health advisory notification level or equivalent from a state drinking water program that was developed using a method that ADEQ approves and lists under subsection (a), below:
   a. Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the following corresponding state drinking water health advisory notification level or equivalent: Trimethylbenzene (1,2,4-) (CAS No. 95-63-6): 0.33 mg/L.
   b. If the projected daily concentration exceeds the health advisory notification level, the chemical shall be a Tier 2 chemical.
6. For chemicals that do not have an established health advisory pursuant to subsection (D)(4), nor a notification level in another state's drinking water program pursuant to subsection (D)(5):
   a. Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the corresponding Departmental health advisory value listed:
      i. Benz[a]anthracene (CAS No. 56-55-3): 0.06 mg/L,
      ii. Benzo[b]fluoranthene (CAS No. 205-99-2): 0.06 mg/L,
      iii. Benzo[g,h,i]perylene (CAS No. 191-24-2): 0.00001 mg/L,
      iv. Benzo[k]fluoranthene (CAS No. 205-99-2): 0.005 mg/L,
      v. Chrysene (CAS No. 218-01-9): 6 mg/L,
      vi. Dimethyl phthalate (CAS No. 131-11-3): 0.001 mg/L,
      vii. Indeno[1,2,3,-c,d]pyrene (CAS No. 193-39-5): 0.06 mg/L,
      viii. Phenanthrene (CAS No. 85-01-8): 0.0002 mg/L.
   b. If the projected daily concentration exceeds the Departmental health advisory value, the chemical shall be a Tier 2 chemical for ongoing monitoring purposes pursuant to R18-9-E829, but shall be

exempt from all compliance requirements under R18-9-E829(D) and the Projected Chemical Treatment List in subsection (F).

7. For chemicals that do not have an established health advisory pursuant to subsection (D)(4), nor a notification level in another state's drinking water program pursuant to subsection (D)(5), nor a Departmental health advisory value pursuant to subsection (D)(6), but do have a Reference Dose (RfD) or Cancer Slope Factor (CSF) in credible peer-reviewed literature or state or Federal databases:
   a. Consult with the Department and/or the Project Advisory Committee to determine a health advisory value.
   b. Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the corresponding health advisory determined in subsection (D)(7)(a).
   c. If the projected daily concentration exceeds the health advisory determined in subsection (D)(7)(a), the chemical shall be a Tier 2 chemical.
8. For chemicals that do not have an established health advisory pursuant to subsection (D)(4), nor a notification level in another state's drinking water program pursuant to subsection (D)(5), nor a Departmental health advisory value pursuant to subsection (D)(6), nor a health advisory determined pursuant to subsection (D)(7):
   a. An AWPRA applicant shall consult with the Department and/or the Project Advisory Committee to determine the health risk of the chemical through reasonably appropriate bioanalytical studies and/or bioassays.
   b. If the health risk in subsection (D)(8)(a) is determined to be significant, the chemical shall be a Tier 2 chemical.
   c. If the bioanalytical studies and/or bioassays conducted in subsection (D)(8)(a) are indeterminate, the chemical shall be removed through measures adopted by the AWPRA in its enhanced source control program pursuant to R18-9-E824.
9. Action and Alert Levels. An AWPRA applicant shall calculate and submit to the Department an action level and an alert level for each Tier 2 chemical.
   a. The action level for the Tier 2 chemicals established under subsection (D)(4) shall be set at the same value as the lowest applicable health advisory value in the "2018 Edition of the Drinking Water Standards and Health Advisories Tables":
      i. One-day (mg/L),
      ii. Ten-day (mg/L),
      iii. DWEL (mg/L),
      iv. Life-time (mg/L),
      v. mg/L at 10-4 Cancer Risk.
   b. The action level for the Tier 2 chemicals established under subsection (D)(5) shall be set at the same value as the corresponding health advisory notification level in subsection (D)(5)(a).
   c. The action level for the Tier 2 chemicals established under subsection (D)(7) shall be set at the same value as the corresponding health advisory determined in subsection (D)(7)(a).
   d. The action level for the Tier 2 chemicals established under subsection (D)(8) shall be set at a value that is reasonably protective of human health, reasonably utilizing the results of the bioanalytical studies or bioassays.
   e. The alert level shall be set reasonably below the action level.

E. Pass-Through or Interference Chemical List. The AWPRA applicant shall analyze the chemical inventory list in subsection (C) in order to identify chemicals that are known to or expected to pass-through or interfere with AWTF treatment processes. The AWPRA applicant shall generate a list to be used in subsection (F).

F. Projected Chemical Treatment List. Based on the Tier 1 MCLs, the Tier 2 chemicals identified in subsection (D)(4), (5), (7) and (8), and the pass-through or interference chemical list generated in subsection (E), the AWPRA applicant shall select an optimized pilot and full-scale AWTF treatment train and compile a list of chemicals that are projected to be treated by the selected treatment train.
   1. During the pilot study, pursuant to R18-9-C815, the AWPRA applicant shall demonstrate chemical control of all chemicals on the Projected Chemical Treatment List through treatment at the pilot treatment train.
   2. All chemicals that are not able to be controlled through treatment at the pilot or full-scale AWTF shall be controlled through measures adopted by the AWPRA in its enhanced source control program pursuant to R18-9-E824. The selected control measures shall be submitted to the Department along with the Enhanced Source Control Plan pursuant to R18-9-C816 and R18-9-C817.

G. An AWPRA shall maintain the lists of chemicals identified under subsections (C) and (E) and, if a new Tier 2 analysis conducted under subsection (D) results in a modification to any component of the AWP project, the AWPRA shall request an amendment to their AWP permit pursuant to R18-9-D821.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E827. Tier 3 Chemical Control; Performance-Based Indicators

A. An AWPRA applicant shall identify Tier 3 chemicals for the purpose of monitoring the efficacy of reduction by a treatment component at the pilot and full-scale treatment trains or to provide an indication of a process's failure.

B. Tier 3 chemicals are composed of performance-based indicators which the AWPRA applicant shall select based on the requirements of this Section.
   1. The AWPRA applicant shall monitor each performance-based indicator and demonstrate chemical removal for all selected treatment components in the treatment train.
   2. Performance based indicators may be grouped under a surrogate such that the AWPRA applicant may monitor removal of that surrogate in place of performance-based indicators if the following requirements are met:
      a. All performance-based indicators in the group share similar properties such that removal of the surrogate is adequately representative of every performance-based indicator in that group, and
      b. The AWPRA applicant demonstrates that the surrogate is directly correlated to the concentration of a performance-based indicator.

C. Performance based indicators. Each performance-based indicator shall be selected from pre-existing chemicals identified in the treated wastewater either through the Initial Source

Water Characterization report pursuant to R18-9-C814(E) or shall otherwise be introduced by the AWPRA applicant.

1. Pre-Existing. Performance based indicators selected from pre-existing chemicals identified in the treated wastewater shall be selected in accordance with, but not limited to, the following criteria:
   a. Concentration. To demonstrate adequate percentage of removal, a performance-based indicator shall have a median concentration at least five times greater than its method reporting limit, measured as the detection ratio.
   b. Prevalence. To adequately reflect treatment efficacy, the performance-based indicator shall have a consistent detection frequency of greater than 80% in the treated wastewater.
   c. Measurability. Measurements demonstrating concentration and prevalence pursuant to subsections (C)(1)(a) and (b) shall be made in accordance with established and appropriate analytical methods that are sufficiently precise and sensitive.
   d. Specificity. The performance-based indicator shall be removable by the targeted treatment process(es) it is intended to monitor and shall meet the prevalence and concentration criteria at the influent of the targeted treatment process pursuant to subsections (C)(1)(a) and (b).
   e. Sensitivity. The performance-based indicator shall be sufficiently sensitive such that the targeted treatment process achieves at least 75% removal when functioning as designed.
   f. Diversity. For all performance-based indicators selected from pre-existing chemicals, the AWPRA applicant shall demonstrate the following:
      i. Each chemical treatment process is monitored by at least one performance-based indicator, and
      ii. The treatment train as a whole is monitored by at least one performance-based indicator which is partially removed by each treatment process, but only removed to at least 75% if all treatment processes are functioning as intended.
2. Introduced. If no pre-existing chemicals are relevant as a performance-based indicator for a specific treatment process, the AWPRA applicant shall introduce a performance-based indicator for the purpose of testing the selected treatment process for requisite chemical removal in compliance with this Section. For each introduced performance-based indicator an AWPRA applicant shall:
   a. Reasonably demonstrate the selected treatment process performance, and
   b. Include an established procedure for introduction into the treatment train.

D. Critical Control Points. For each performance-based indicator, the AWPRA applicant shall designate critical control points where monitoring will occur in the pilot treatment train to indicate individual process performance. The AWPRA applicant may propose critical control points at only the treatment train influent and effluent points if all performance-based indicators are demonstrated to be sufficiently recalcitrant to upstream and downstream processes.

E. An AWPRA applicant shall include an initial Tier 3 chemical list along with proposed critical control points as a component of the Pilot Study Plan prepared pursuant to R18-9-C815.

F. In addition to the requirements of this Section, the Tier 3 chemical list compilation and monitoring shall be conducted using good engineering practices. Other methods for generating, designing, and conducting Tier 3 chemicals and monitoring shall be approved if the AWPRA applicant can demonstrate that the alternative methods are sufficiently detailed and robust for the purpose of monitoring the efficacy of reduction by a treatment process at the pilot or full-scale treatment train, or providing an indication of process failure.

1. ADEQ shall develop and make available guidance on Tier 3 chemical list compilation and monitoring.
2. A Tier 3 chemical list compiled and monitored in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E828. Pathogen Control

A. The AWP project shall be designed and constructed to achieve pathogen reduction by following the prescribed methods to determine log reduction values for enteric viruses, Giardia lamblia cysts, and Cryptosporidium oocysts, also referred to collectively as reference pathogens, as outlined in either subsection (B) or (C).

B. Standard Log Reduction. An AWPRA applicant choosing the standard log reduction approach shall design the AWP project to achieve the following cumulative validated treatment values from raw wastewater to finished water:

1. 13 log reduction for enteric viruses,
2. 10 log reduction for Giardia lamblia cysts, and
3. 10 log reduction for Cryptosporidium oocysts.

C. Site-Specific Log Reduction. An AWPRA applicant choosing a site-specific log reduction approach shall design the AWP project based on cumulative validated treatment values determined through reference pathogen monitoring pursuant to R18-9-C814(C)(3)(c) and the following:

1. Site-specific pathogen monitoring for the reference pathogens shall be conducted over a period of at least 24 months and shall include, at a minimum:
   a. One month of initial composite sampling consistent with the following requirements:
      i. One sample taken daily, and
      ii. The samples obtained in subsection (C)(1)(a)(i) shall be used, at the end of the first month, to identify the day of the week that yields the highest pathogen density.
   b. At least 23 months of pathogen monitoring consistent with the following requirements:
      i. One sample taken per month at the same day of the week throughout the sampling period as established in subsection (C)(1)(a), and
      ii. The sample obtained in subsection (C)(1)(b)(i) shall be taken consistently during the same week each month.
2. Any missed sample collected under subsections (C)(1)(a) or (b) shall result in an extension of the sampling period by another week or month as appropriate pursuant to R18-9-A802(C), and cannot be replaced with a sample from a different day,
3. Sampling shall occur at a location in the water reclamation facility treatment train before the first disinfection

treatment process and before treated wastewater transference to the AWTF,

4. Sample results below method reporting limit shall be reported at the method reporting limit of the analytical instrument for characterization calculations and be flagged as such,
5. Non-detects from laboratory analysis must be demonstrated with a large sample volume analysis,
6. An AWPRA applicant shall have a cumulative validated treatment of not less than 8 log for enteric viruses, 6 log for Giardia lamblia cysts, and 5.5 log for Cryptosporidium oocysts even if non-detects are demonstrated by the sampling program,
7. The highest sample concentration for each reference pathogen shall be used to calculate the required log removal targets,
8. Norovirus shall be used as the representative enteric virus for baseline virus enumeration.
   a. The AWPRA applicant shall utilize either qPCR or culture methods for analysis,
   b. All corresponding recovery-corrected data shall be documented for review, and
   c. The results shall be documented for review with accompanying quality assurance and quality control, and
9. Laboratory analysis of samples collected pursuant to this Section shall follow EPA qPCR or Culture Methods 1623.1, "Cryptosporidium and Giardia in Water by Filtration/IMS/FA" and 1615 "Measurement of Enterovirus and Norovirus Occurrence in Water by Culture and RT-qPCR" for Giardia lamblia cysts, Cryptosporidium oocysts and Norovirus. In addition, laboratories using these methods are required to follow general requirements and recommendations for quality assurance and quality control procedures in Section 9020, "Quality Assurance/Quality Control" of the Standard Methods For The Examination of Water and Wastewater, 24th Edition.

D. Critical Control Points. For each reference pathogen, the AWPRA applicant shall designate critical control points where monitoring will occur in the pilot plant and the full-scale plant in order to assess individual process performance.

1. Critical control point designation shall be accompanied by a comprehensive plan for monitoring and reporting, including, but not limited to, the following elements:
   a. Type of monitoring (i.e. online monitoring, continuous monitoring, grab samples, etc.),
   b. Frequency of monitoring (i.e. 15-minute, hourly, daily, weekly, etc.),
   c. Instantaneous flow rate and flow totalizing capability for the purpose of calculating residence times and responses,
   d. Demonstrated operational parameters confirming the treatment barriers are intact such as to ensure the process is meeting the water quality parameters and pathogen removal goals, and
   e. A list of the identified action levels and alert limits, accompanied by the corresponding responses for all critical control points, pursuant to R18-9-F836.
2. Critical control point monitoring shall occur at all validated treatment process locations.
3. The AWPRA applicant shall document the critical control point methods and the following elements as components of the Operations Plan prepared pursuant to R18-9-F836:
   a. All delay times from the pathogen sampling time, instrument analysis time, operator response time, as well as anticipated time to respond to a failure, and
   b. Automated shutdown procedures based on pathogen critical control point failure, along with a description of shutdown sequences, procedures, and timing.

E. In addition to the requirements of this Section, the pathogen monitoring shall be designed and conducted using good engineering practices. Methods for designing and conducting pathogen monitoring shall be approved if the AWPRA applicant can demonstrate they are sufficiently detailed and robust for the purpose of characterizing pathogens in a treated wastewater source.

1. ADEQ shall develop and make available guidance on designing and conducting pathogen monitoring.
2. Pathogen monitoring designed and conducted in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E829. Ongoing Monitoring Requirements

A. The AWPRA shall perform ongoing monitoring in compliance with the requirements of this Section, and shall:

1. Assure compliance with both pathogen control log reduction targets and chemical control limits for Tier 1, Tier 2, and Tier 3 at the AWTF treated wastewater influent and the advanced treated water effluent,
2. Assure continued process performance at critical control points,
3. Perform sampling on the advanced treated water prior to delivery pursuant to this Section, and
4. Perform additional sampling as necessary on the finished water prior to distribution pursuant to the requirements of the Safe Drinking Water Act.

B. Pathogen Control Monitoring. An AWPRA shall monitor in a manner proposed by the AWPRA and approved by the Director pursuant to R18-9-E828(D).

C. Tier 1 Chemical Control Monitoring.

1. The AWPRA shall monitor for all Tier 1 chemicals at a quarterly interval, except for Nitrite and Nitrate as Nitrogen and TOC, which shall be monitored pursuant to subsection (F) and R18-9-F834, respectively.
2. The AWPRA shall conduct Tier 1 monitoring at two locations relative to the AWTF:
   a. The treated wastewater, and
   b. The advanced treated water.
3. Violations of Tier 1 chemicals, except for TOC and Nitrogen, are the corresponding Safe Drinking Water Act-MCL values in the advanced treated water.
4. Nothing in this Section exempts the AWPRA from applicable Safe Drinking Water Act monitoring requirements.

D. Tier 2 Chemical Control Monitoring.

1. The AWPRA shall monitor for all Tier 2 chemicals monthly.
2. The AWPRA shall conduct Tier 2 monitoring at two locations relative to the AWTF:
   a. The treated wastewater, and
   b. The advanced treated water.
3. Compliance monitoring for Tier 2 chemicals occurs at the advanced treated water.

4. If a monitoring result for a Tier 2 chemical indicates an exceedance of an action level, the AWPRA shall collect a confirmation sample within 24 hours of the exceedance.
5. A Tier 2 action level is violated when the average of the initial sample and the confirmation sample exceeds the action level. Upon a violation, an AWPRA shall notify the Department and conduct any required response procedures pursuant to reporting under R18-9-E830, the Operations Plan under R18-9-F836 and subsections (D)(6) through (D)(9).
6. Basic Response Procedure. Upon a violation as described in subsection (D)(5), and with the goal of reducing the concentration of the exceeded chemical to a level below the action level, the AWPRA shall:
   a. Increase the monitoring frequency of the chemical to weekly, and
   b. Initiate an investigation of the source of the chemical, the cause of the elevated result, and the efficacy of the treatment process(es).
7. An AWPRA shall conduct the corresponding advanced response procedure in subsection (D)(8) if either of the following two results occur:
   a. A Tier 2 chemical with a non-cancer toxicological endpoint has a violation value of 10 times the action level; or
   b. A Tier 2 chemical considered to pose a cancer risk (corresponding to a lifetime cancer risk of 1x10-4) has a violation value of 100 times the action level.
8. Advanced Response Procedure.
   a. Under subsection (D)(7)(a), an AWPRA shall:
      i. Notify ADEQ within 24 hours of the notification of the result, and
      ii. Report the detection in the applicable public water system's annual consumer confidence report.
   b. Under subsection (D)(7)(b), an AWPRA shall:
      i. Cease delivery of advanced treated water immediately,
      ii. Notify ADEQ within 24 hours of the notification of the result,
      iii. Provide public notification if advanced treated water with those exceedances was distributed (if diverted, public notice is not required),
      iv. Report the result in the applicable public water system's annual consumer confidence report,
      v. Upon returning the advanced treated water to distribution, utilize treatment or blending to meet the chemical's action level, and
      vi. Propose corrective actions, such as rectifying changes to the treatment and operations of the AWTF, or installing new control measures for the treated wastewater source.
9. Reduced Monitoring Frequency Criteria. ADEQ may allow a decrease in the Tier 2 sampling frequency from monthly to quarterly, based on a review of the most recent two years of monthly analytical results showing that a chemical has not been detected.
   a. The monitoring frequency may be decreased from quarterly to annually following ADEQ approval, based on a review of the most recent three years of quarterly analytical results showing the chemical has not been detected.
   b. The monitoring frequency may be reverted to prior intervals at the Department's discretion.

E. Tier 3 Chemical Control Monitoring. The AWPRA shall monitor for all Tier 3 chemicals at the designated critical control points in the manner and timeframes proposed by AWPRA and approved by the Director pursuant to R18-9-E827 and R18-9-F836.

F. Ammonia and Nitrite and Nitrate as Nitrogen.
1. The AWPRA shall monitor for Ammonia and Nitrite and Nitrate as Nitrogen using continuous online analyzers.
2. The AWPRA shall conduct Ammonia, Nitrite and Nitrate monitoring at two locations relative to the AWTF:
   a. The treated wastewater influent, and
   b. The advanced treated water effluent.
3. The AWPRA shall demonstrate that all Ammonia has been removed at the advanced treated water effluent.
4. The AWPRA shall operate the facility in such a manner that:
   a. Nitrite measured as nitrogen does not exceed 1 mg/L at the advanced treated water location daily on an absolute basis, and
   b. Nitrate measured as nitrogen does not exceed 10 mg/L at the advanced treated water location daily on an absolute basis.
5. Any exceedance of 1 mg/L of nitrite and 10 mg/L of nitrate on an absolute basis, measured as Nitrogen daily, requires a public notification pursuant to A.A.C. R18-4-119.

G. Total Organic Carbon Monitoring. The AWPRA shall follow all TOC monitoring requirements established pursuant to R18-9-F834.

H. Water Reclamation Facility Operational Parameters.
1. The AWPRA applicant shall provide a list of water reclamation facility operational parameters and ranges that produced the AWTF treated wastewater influent water quality as components of:
   a. The Pilot Study Plan pursuant to R18-9-C815, and
   b. The AWP permit application pursuant to R18-9-C816.
2. At the water reclamation facility, the AWPRA shall monitor for the parameters identified in subsection (F) of this Section and process control parameters.
3. Any significant change in the operational parameters or their ranges must be approved through a permit amendment pursuant to R18-9-D821. For the purposes of this subsection, "significant change" means any operational change that will result in a change to the treated wastewater.

I. In addition to the requirements of this Section, ongoing monitoring shall be developed, proposed and conducted using best practices, proper sampling procedures, and reliable equipment. Similar monitoring program components shall be approved if the AWPRA can demonstrate that the method is sufficiently detailed and robust for the purpose of AWP ongoing monitoring pursuant to this Article.
1. ADEQ shall develop and make available guidance on AWP ongoing monitoring.
2. AWP ongoing monitoring conducted in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using best practices.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of

March 4, 2025 (Supp 25-1).

R18-9-E830. Reporting Requirements

A. An AWPRA shall conduct reporting pursuant to the applicable general reporting requirements throughout this Article and the specific reporting requirements in this Section. The AWPRA shall submit reports to the Department, on a form prescribed by the Director and pursuant to relevant specifications in the permit, through an AWP online portal on the Department's website.

B. Pathogen Reporting.
1. An AWPRA shall report ongoing pathogen monitoring results monthly.
2. An ongoing pathogen monitoring report shall include, but is not limited to, the following:
   a. A summary of the overall treatment train pathogen log reduction value performance,
   b. A summary of the individual treatment process performance monitoring data,
   c. The date, duration, and cause of each occurrence of log reduction value performance below the selected reference pathogen approach log reduction values in either R18-9-E828(B) or (C),
   d. A summary of excursions of operational parameters outside the Department approved operating envelope,
   e. Submission of calibration records for instruments that monitor pathogen critical control points quarterly,
   f. Dates and descriptions of major equipment and process failures and corrective actions, along with data confirming that the corrective actions did not impact the approved product water quality,
   g. A summary of any water quality complaints and reports of gastrointestinal illness received from customers,
   h. A summary of activities of the wastewater source control program to control pathogens, and
   i. Investigation or incident reports regarding cross-connection.
3. An AWPRA shall report other applicable pathogen monitoring requirements in the time and manner set forth in the AWP permit and R18-9-E828.

C. Tier 1 Reporting.
1. An AWPRA shall report ongoing Tier 1 chemical monitoring results quarterly.
2. An ongoing Tier 1 Chemical report shall include, but is not limited to, the following:
   a. A summary of the overall treatment train chemical control performance,
   b. A summary of chemicals detected as a result of monitoring conducted pursuant to R18-9-E829,
   c. Investigation or incident reports regarding cross-connection,
   d. A summary of activities of the wastewater source control program to control chemicals,
   e. Dates and descriptions of any major equipment and process failures and corrective actions, along with data confirming that the corrective actions did not impact the approved product water quality, and
   f. A summary of individual treatment process performance monitoring data.
3. An AWPRA shall report other applicable Tier 1 chemical monitoring requirements in the time and manner set forth in the AWP permit and R18-9-E829.
4. Nothing in this Section exempts the AWPRA from applicable Safe Drinking Water Act reporting requirements.

D. Tier 2 Reporting.
1. An AWPRA shall report Tier 2 chemical monitoring results monthly.
2. An ongoing Tier 2 chemical report shall include, but is not limited to, the following:
   a. A summary of overall treatment train chemical control performance,
   b. A summary of chemicals detected as a result of monitoring conducted pursuant to R18-9-E829,
   c. Investigation or incident reports regarding cross-connection,
   d. A summary of enhanced source control activities,
   e. Dates and descriptions of major equipment and process failures and corrective actions, along with data confirming that the corrective actions did not impact the approved product water quality, and
   f. A summary of individual treatment process performance monitoring data.
3. An AWPRA shall report other applicable Tier 2 chemical monitoring requirements in the time and manner set forth in the AWP permit and R18-9-E826.

E. Tier 3 Reporting. An AWPRA shall report Tier 3 chemical monitoring results in the time and manner set forth in the AWP permit and R18-9-E827.

F. Ammonia and Nitrite and Nitrate as Nitrogen Reporting.
1. An AWPRA shall report Ammonia and Nitrite and Nitrate as Nitrogen chemical monitoring results quarterly.
2. An ongoing Ammonia and Nitrite and Nitrate as Nitrogen report shall include, but is not limited to, the following:
   a. A summary of overall treatment train nitrogen species control performance,
   b. A summary of nitrogen species detected as a result of monitoring conducted pursuant to R18-9-E829,
   c. Investigation or incident reports regarding cross-connection,
   d. Dates and descriptions of major equipment and process failures and corrective actions, along with data confirming that the corrective actions did not impact the approved product water quality, and
   e. A summary of individual treatment process performance monitoring data.

G. TOC Reporting. An AWPRA shall report TOC monitoring results quarterly in accordance with the selected TOC management approach pursuant to R18-9-F834.

H. Water Reclamation Facility Operational Parameters Reporting. An AWPRA shall report the water reclamation facility operational parameter monitoring results monthly pursuant to R18-9-F832.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-E831. Annual Report

A. An AWPRA shall submit an annual report to the Department, postmarked no later than March 30th.

B. The report shall include the following information from the previous calendar year:
1. A summary of the compliance status of the AWP permit and/or demonstration permit including:
   a. A list of violation or violations,

b. Any off-spec water diversions, shutdowns, or corrective action or actions taken along with data confirming that the corrective actions did not impact the approved product water quality,
c. Required sampling and monitoring activities at critical control points, and
d. All other related AWP permit or regulation compliance items.
2. Any expected change or changes in quantity and quality of the treated wastewater,
3. A summary of any operational or technical challenges in meeting advanced treated water quality standards,
4. Any expected treatment changes and the impact on subsequent unit processes in the treatment train and the advanced treated water,
5. A verification of all required maintenance performed at each critical control point and any other process equipment, including evidence of instrumentation calibration,
6. Enhanced source control components, pursuant to R18-9-E824, including:
a. A summary of all sampling activities conducted at the AWPRA facilities,
b. A summary of any event resulting in upset, interference, or pass-through at any AWPRA facility,
c. A report documenting a review of established local limits along with any subsequent updates or changes by the AWPRA,
d. An update of the potentially impactful non-domestic discharger list and the impactful non-domestic discharger lists,
e. A description of any challenges under the enhanced source control program, and any proposed program changes,
f. A list of impactful non-domestic dischargers in noncompliance and any corrective actions taken, along with data confirming that the corrective actions did not impact the approved product water quality,
g. All outreach activities conducted,
h. All completed staff training related to enhanced source control, the National Pretreatment Program, or operation or maintenance of an AWPRA facility,
i. A list of any corrective or enforcement actions taken by the AWPRA against an AWPRA partner, and
j. A list of events identified through the early warning system and the actions taken to mitigate those events, and
7. The AWTF's TOC management annual approach. This includes, if applicable, the results of the annual site-specific TOC approach, including the lower value of the two site-specific procedures, and the reestablished alert and action levels pursuant to R18-9-F834, and
8. Any other information necessary to assist the Department in assessing challenges to program implementation.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

PART F. TECHNICAL AND OPERATIONAL REQUIREMENTS

R18-9-F832. Minimum Design Requirements

A. An AWPRA shall meet the minimum design criteria in this Section in designing and constructing a pilot treatment train and a full-scale treatment train under an AWP project.

B. Pathogen Control.
1. Under an AWP project, treated wastewater shall receive continuous pathogen treatment prior to delivery or distribution.
2. Pathogen log reduction credits will only be assigned for treatment barriers.
3. A treatment train shall contain at least one validated filtration treatment process and one validated disinfection treatment process targeting each of the three reference pathogens.
4. Each treatment process shall be credited with a minimum validated pathogen log reduction of 0.5 log reduction value.
5. Each treatment process shall not be credited with more than 6 validated pathogen log reduction credits.
6. Each treatment process may receive pathogen log reduction credits for one or more pathogens.
7. The treatment train, cumulatively, shall meet or exceed either the standard or site-specific log reduction targets for each reference pathogen pursuant to R18-9-E828.
8. An AWPRA shall maintain a pathogen monitoring strategy, which includes approved performance monitoring for surrogates, in order to receive log reduction values for a treatment process.
9. Each treatment process used to meet the requirements in this Section shall have the pathogen log reduction values validated for each reference pathogen.
a. An AWPRA may use a validation study or a previously-approved validation study report, in accordance with the protocol elements in subsection (B)(10).
b. A validation study protocol shall be prepared by a licensed Arizona engineer with experience in drinking water or wastewater treatment, specifically in evaluating pathogen control in public water supplies.
10. The validation study protocol shall:
a. Identify the treatment mechanism(s) of pathogen reduction by each treatment process,
b. Identify the pathogen(s) being addressed by the treatment process, or appropriate surrogate(s) for the pathogen(s), that are used in the validation study, which shall be the one(s) most resistant to the treatment mechanism(s),
c. Ensure that the pathogen(s) or surrogate(s) for the pathogen(s) are present in the test water in concentrations sufficient to demonstrate a pathogen log reduction,
d. Identify the factors that influence the pathogen reduction efficiency for the treatment mechanism(s) and includes at least:
i. Feed water characteristics such as temperature and pH,
ii. Hydraulic loading,
iii. Deterioration of components, and
iv. Integrity failure, and
e. Identify the surrogate and/or operational parameters that can be measured continuously and that will correlate with the reduction of the pathogen(s) or surrogate(s) for the pathogen(s),
f. Identify the validation methodology to demonstrate the pathogen log removal capability of the treatment process, which shall involve a challenge test to quantify the reduction of the target pathogen or

appropriate surrogate while concurrently monitoring the operational parameters to determine an operating envelope,

g. Describe the method to collect and analyze data to formulate evidence-based conclusions,

h. Describe the method to determine the alert and action levels and the operational monitoring and control strategy,

i. Describe the method to be used to calculate the log reduction value for the treatment process for each pathogen such that the validated log reduction value shall not exceed that achieved by 95 percent of the challenge test results when the treatment process is operating in compliance with the alert and action levels, and

j. Identify the circumstances that would require a re-validation or additional on-site validation.

11. The treatment train shall be continuously operated to achieve the log reduction value targets using validated treatment log reduction values and must conform to the Operations Plan pursuant to R18-9-F836.
12. The treatment train shall include UV disinfection with a dose of at least 300 mJ per cm2.
13. The SCADA system shall identify process failure to meet the alert and action levels and shall automatically discontinue the delivery of water to any distribution system if the treatment train does not meet the minimum design log reduction value target.
14. Treatment processes that are credited with pathogen log reductions must be continuously tracked with a SCADA system utilizing online monitoring for surrogates and/or operational parameters.
15. The treatment train shall be operated continuously in accordance with the Operations Plan pursuant to R18-9-F836 to achieve either the standard or site-specific pathogen reduction approaches pursuant to R18-9-E828.
16. Blending is not eligible to receive pathogen log reduction credit, nor validated treatment log reduction values.

C. Chemical Control.

1. Under an AWP project, treated wastewater shall receive continuous chemical treatment prior to delivery or distribution.
2. All treatment trains shall have at least three diverse and separate treatment processes, including, but not limited to:
   a. An AOP that meets the requirements set forth in subsection (D)(4), and
   b. A physical separation process.
3. Ozone/BAC processes shall be designed to provide no less than 1.0 log reduction of each of the following indicators: formaldehyde, acetone, carbamazepine, and sulfamethoxazole.
   a. The ozonation process shall be designed to provide a ratio of the applied ozone dose to the design feed water TOC concentration greater than 1.0. Alternative design ratios may be used if reduction of 1.0 log for the indicators carbamazepine, and sulfamethoxazole is demonstrated during the pilot as part of the design of the ozonation process.
   b. BAC shall be designed with an empty bed contact time of at least 15 minutes. Alternative times may be used if reduction of 1.0 log for the indicators formaldehyde and acetone is demonstrated during pilot scale as part of the design of the ozonation process.
   c. Both Ozone and the BAC processes must be individually validated at full-scale with the same level of removal for the four indicators listed in this subsection.
   d. At full-scale, the ozone/BAC process shall continually be monitored and recorded using surrogate and/or operational parameters with alert and action levels as approved under the Operations Plan, pursuant to R18-9-F836.
4. Each reverse osmosis membrane selected shall meet the criteria set forth in ASTM International, Designation D4194-23, “Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices”,
   a. For a reverse osmosis treatment process, an AWPRA shall propose the following elements in a plan submitted to the Department for approval in the permit application pursuant to R18-9-C816(A)(2)(d):
      i. Ongoing performance monitoring using at least one surrogate and/or operational parameter that is capable of being monitored and recorded continuously, and
      ii. Alarms indicating when the integrity of the reverse osmosis membrane has been compromised.
   b. The proposal shall identify:
      i. The chemical control point,
      ii. The surrogate(s) and/or operational parameter(s), and
      iii. The alert and action levels for the surrogate(s) and/or operational parameter(s) that indicate when the integrity has been compromised.
5. During full-scale operation of a reverse osmosis treatment process, the AWPRA shall:
   a. Continuously monitor and record the surrogate and/or operational parameter(s) that indicate when the integrity of the process has been compromised, and
   b. Record when the alert and action levels established are exceeded pursuant to R18-9-F836.

D. Other Requirements.

1. TOC Removal. An AWPRA shall select, achieve, and maintain an up-to-date TOC limit in the advanced treated water, along with the associated alert and action levels, pursuant to R18-9-F834(B) or (C).
2. Corrosion Control. An AWPRA shall establish corrosion control provisions in the design and operation of the AWTF in accordance with, but not limited to, the following requirements:
   a. Within six months of the introduction of advanced treated water as a new water source, or following any treatment changes at the AWTF affecting advanced treated water quality, an AWPRA shall control lead and copper pursuant to the requirements of A.A.C. R18-4-111,
   b. An AWPRA shall evaluate any anticipated corrosivity effects through corrosivity tests or evaluations which shall include, but are not limited to:
      i. Developing an understanding of factors affecting internal corrosion,
      ii. Determining the extent and magnitude of corrosion,
      iii. Assessing corrosion control alternatives,
      iv. Selecting a corrosion control strategy,
      v. Implementing a corrosion control program,

vi. Monitoring the effectiveness of the corrosion control program, and
vii. Optimizing the control program, if necessary, and

c. The Department may require an AWPRA to conduct additional corrosivity-related water quality monitoring,
d. In addition to the requirements of this Section, corrosion control shall be conducted using good engineering practices. Methods for corrosion control shall be approved if the AWPRA can demonstrate that the measures meet or exceed the criteria in this subsection.
i. ADEQ shall develop and make available guidance on conducting corrosion control.
ii. Corrosion control conducted in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

3. Nitrogen Management. An AWPRA shall choose one of the following three denitrification approaches:
a. Water Reclamation Facility Approach. An AWPRA applicant reliably denitrifying at the water reclamation facility(s) shall include at least two critical control points to monitor ammonia, nitrate and nitrite:
i. A critical control point at a designated, off-spec diversion point which is monitored using continuous online analyzers, and
ii. A critical control point for monitoring the advanced treated water in order to verify compliance with the Nitrite and Nitrate as Nitrogen Tier 1 MCL pursuant to R18-9-E829.
b. AWTF Approach. An AWPRA applicant removing nitrogen species at the AWTF shall demonstrate nitrogen removal to the Nitrite and Nitrate as Nitrogen Tier 1 MCL pursuant to R18-9-E829 through an AWTF treatment process configuration, and shall include multiple critical control points:
i. A critical control point for monitoring ammonia, nitrite, and nitrate at the treated wastewater influent in order to assess the ongoing treatability within the treatment train,
ii. A critical control point located at each treatment barrier in the design responsible for the removal of ammonia (if applicable), nitrite, and nitrate, and
iii. A critical control point for monitoring the advanced treated water in order to verify compliance with the Nitrite and Nitrate as Nitrogen Tier 1 MCL pursuant to R18-9-E829.
c. Alternative Approach. An AWPRA applicant shall demonstrate a design approach that effectively and reliably removes nitrogen species for the purposes of treatment train viability and water quality compliance with applicable MCLs.

4. AOP Treatment Process. An AWPRA applicant shall include an AOP treatment process in their pilot and full-scale treatment trains. Demonstration of AOP performance shall be achieved through one of the following two methods:
a. 1,4-Dioxane Indicator. AOP shall be validated to demonstrate that AOP can reliably achieve no less than 0.5 log reduction of the 1,4-dioxane indicator. If 1,4-dioxane is used as the AOP performance benchmark, it shall be monitored as a Tier 3 performance based indicator with an associated action level pursuant to R18-9-E827; or
b. Alternative Compound Indicator. An AWPRA applicant may propose an alternative compound to 1,4-dioxane for AOP performance if the following criteria are met:
i. Alternative indicators shall demonstrate resistance to elimination through other treatment methods, including biological degradation, adsorption processes, Reverse Osmosis/Nanofiltration, and conventional oxidation techniques such as hypochlorite, chloramines, permanganate, or chlorine dioxide (e.g., 1,4-Dioxane),
ii. Each pilot study should involve spiking and measuring indicator compound removal. Spiking 1,4-Dioxane (i.e., reference compound) and calculating removal percentages to compare with other widely accepted compounds,
iii. In pilot testing, the final concentration of any indicator compound (post-AOP treatment) should exceed the minimum reporting limit,
iv. Operating conditions and critical monitoring parameter ranges from pilot testing shall be reported for Departmental verification and setting of monitoring parameter ranges,
v. An AWPRA applicant must identify AWTF-specific AOP challenges, such as the scavenging of hydroxyl radicals by carbonates, bicarbonates, nitrites, nitrate, bromides, Natural Organic Matter (NOM), pH and UV light absorption,
vi. If comprehensive pilot testing is not conducted (e.g., shorter timelines or limited scope), an AOP treatment process shall be demonstrated to achieve at least 0.5 log removal of 1,4-dioxane,
vii. Any process sequence proposed must be validated with a rigorous study, and
viii. Correlation with other trace organics that were considered in the study, “Considerations for Direct Potable Reuse Downstream of the Groundwater Recharge Advanced Water Treatment Facility”, along with a demonstration of an equivalent removal value for each of the trace organics.

5. AOP Validation Study Report. An AWPRA shall compile an AOP Validation Study Report which identifies:
a. The critical control points and/or surrogate(s) and/or operational parameter(s), and
b. Alert and action levels for the surrogate(s) and/or operational parameter(s) that indicate whether the minimum 0.5 log 1,4-dioxane reduction design criterion is being met.

6. At least one surrogate and/or operational parameter shall be capable of being monitored and recorded continuously and have associated alarms that indicate when the AOP is not operating as designed.
7. Failure Response Time. An AWPRA applicant must provide detailed design calculations identifying failure response time and specific means used to address failure response time.

a. Factors include, but are not limited to:
i. Level and redundancy of online instrumentation,
ii. Sophistication and speed of automated alarm responses, and
iii. Availability of operators and their response time.
b. Mitigation measures include, but are not limited to, engineered storage buffers which, when used, must be sized adequately to hold off-spec water for a time period no shorter than the failure response time.
c. If an AWPRA applicant proposes a treatment train configuration that is not followed by an engineered storage buffer, the following is required:
i. Appropriate process control for water quality assurance,
ii. Managerial control for demand is present,
iii. An operational barrier for pathogen control and chemical peaks attenuation.
d. If an engineered storage buffer is proposed, an AWPRA applicant shall justify the volume selected and account for short circuiting.

8. A treatment process configuration shall be designed to meet the Tier 1 limits utilizing, as a source, either:
a. The Tier 1 chemicals and concentrations pursuant to R18-9-C814(C)(2); or
b. The treated wastewater.
9. Cross-Connection. An AWPRA applicant shall develop, and the AWPRA permittee shall implement, cross-connection control measures which include, but are not limited to:
a. Cross-connection evaluations during design, construction, and operation of the AWTF,
b. Cross-connection control surveys, initially within one year of commencing full-scale operation, and ongoing annually thereafter,
c. Reporting of any cross-connection incidents identified during the cross-connection control surveys to the Department in the manner prescribed by the AWP permit, along with a detailed summary of the nature and cause of the problem, the resulting corrective actions taken, and data confirming that those corrective actions will not impact advanced treated water, and
d. A plan describing how the SCADA system communicates and interoperates with the SCADA systems of all AWPRA facilities in the AWP project.
10. Method Detection Limit. When there is no reliable analytical method that is technically feasible to measure a contaminant at an established health advisory concentration pursuant to R18-9-E826(D), the health advisory value shall be set at the lowest Method Detection Limit of the corresponding and most sensitive EPA-approved method.

E. An AWPRA shall meet the following minimum design criteria in designing and operating a full-scale water reclamation facility that delivers treated wastewater to an AWTF:
1. An AWPRA water reclamation facility shall have secondary treatment that utilizes oxidation processes that remove biodegradable organic matter and suspended solids,
2. An AWPRA water reclamation facility shall meet discharge limit requirements for:
a. Biological Oxygen Demand (BOD),
b. Total Suspended Solids (TSS), and
c. pH pursuant to subsection (B)(1) of R18-9-B204, and
3. An AWPRA water reclamation facility shall meet a minimum solids retention time (SRT) of 15 days. A reduction in SRT may be requested and approved by the Department if wastewater characterization demonstrates that over all seasons (represented by 12 monthly values) the proposed SRT is consistent with nitrogen reduction and COCs.
4. An AWPRA water reclamation facility shall meet the requirements for Total Nitrogen (TN) in the APP program. The TN requirements in R18-9-B204 shall be followed in order to discharge any treated wastewater or treated off-spec wastewater which cannot be supplied to the AWTF,
5. An AWPRA water reclamation facility shall be operated to produce treated wastewater of consistent quality in accordance with approved engineering design reports and the water reclamation facility operations plan. The AWPRA shall provide to the water reclamation facility a list of operational parameters, such pH, SRT, Hydraulic retention time (HRT), Dissolved Oxygen (DO), BOD, cBOD and others for the water reclamation facility.

F. In addition to the requirements of this Section, treatment process configurations shall be designed using good engineering practices. Treatment process configurations shall be approved if the AWPRA applicant can demonstrate that the treatment process configuration meets or exceeds the minimum design criteria in this Section.
1. ADEQ shall develop and make available guidance on designing treatment process configurations.
2. Treatment process configurations designed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-F833. Technical, Managerial, and Financial Demonstration

A. An AWPRA applicant shall submit the following to the Department as a demonstration of technical, managerial, and financial capacity:
1. Technical Capacity. An AWPRA applicant's technical demonstration shall include, but is not limited to:
a. A demonstration of the availability of an existing water source or contingency plans for an alternative source in the event of AWTF failure,
b. Comprehensive technical and engineering specifications for the AWTF, including, but not limited to, the following:
i. Design and treatment capacity,
ii. Demonstration of sufficient AWP source water quantity and quality,
iii. Demonstration of technical capability to implement an enhanced source control program,
iv. Information on storage and distribution processes,
v. A cross-connection control plan,
vi. A corrosion control plan, and

vii. Manufacturer specifications showing the life span of AWTF components, and
c. An ongoing monitoring plan, including, but not limited to, the following:
i. Online compliance monitoring for critical control points, and
ii. Performance monitoring and compliance monitoring for advanced treated water, and
d. A demonstration of the ability to respond to emergency situations including water quality excursions,
e. Documentation that the AWTF will be operated by a certified AWP operator pursuant to R18-9-B804, and
f. An operations plan, pursuant to R18-9-F836, including, but not limited to:
i. Maintenance requirements per the manufacturer's specification, and
ii. Repair and replacement protocols.
2. Managerial Capacity. An AWPRA applicant's managerial demonstration shall include, but is not limited to:
a. Documentation of ownership, management, and organization information, including, but not limited to:
i. An organizational chart, and
ii. Job descriptions and responsibilities, and
b. Information or copies of contractual agreements between AWPRA partners or any other entity associated with an AWP Project, including but not limited to:
i. Sewer collection systems,
ii. Water Reclamation Facilities,
iii. Source water conveyance systems,
iv. Advanced Water Treatment Facilities,
v. Water distribution systems,
vi. Blending Facilities,
vii. Sale prices of source water,
viii. Quality of source water,
ix. Duration of agreement, and
x. Compliance and reporting responsibilities, and
c. Documentation of groundwater or surface water discharge permits or recycled water permits addressing potential discharges from an AWTF in contingency situations, including, but not limited to, off-spec water disposal,
d. Operational information, including, but not limited to:
i. Certified operator credentials,
ii. The number of available operators,
iii. A training plan for staff,
iv. Technical competency,
v. Technical knowledge and implementation, and
vi. An Operations Plan, pursuant to R18-9-F836, and
e. An outline of tools and procedures employed in the management of the facility, including, but not limited to:
i. An asset management and maintenance plan, and
ii. A computerized maintenance management system.
3. Financial Capacity. An AWPRA applicant's financial demonstration shall include, but is not limited to:
a. Projecting the capital cost of the project,
b. Identifying ongoing cost, including, but not limited to:
i. Operation and maintenance costs,
ii. Capital replacement costs,
iii. Energy costs,
iv. Personnel costs, and
v. 20-year lifecycle cost of equipment, and
c. A five-year financial projection, including, but not limited to, planning and management of continuous funding sources to cover the costs of the AWP project,
d. Performing financial audits and bond rating, and
e. Performing rate studies or assessment of impact fees.

B. In addition to the requirements of this Section, technical, managerial, and financial capacity shall be demonstrated using best practices. Similar technical, managerial, and financial demonstration approaches shall be approved if the Department determines that the alternate technical, managerial, and financial demonstration meets or exceeds the technical, managerial, and financial criteria listed above.
1. ADEQ shall develop and make available guidance on developing a technical, managerial, and financial demonstration.
2. A technical, managerial, and financial demonstration developed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using best practices.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-F834. Total Organic Carbon Management

A. An AWPRA shall select, achieve, and maintain an up-to-date TOC limit in the advanced treated water using one of the two approaches described in subsections (B) and (C).
1. Upon AWTF operation, an AWPRA may switch between the two approaches each calendar year.
2. The TOC management annual approach shall be reported as part of the annual report pursuant to R18-9-E831.

B. Standard Approach or Limit.
1. An AWTF shall not exceed 2 mg/L of TOC in the advanced treated water.
2. The AWPRA shall monitor TOC using continuous online analyzers in the advanced treated water.

C. Site-Specific Approach or Limit. An AWPRA shall perform the two procedures described in subsections (C)(1) and (2). The site-specific TOC limit shall be the lower of the two preliminary TOC values obtained from these procedures.
1. Trace Organics Removal Procedure. The AWPRA shall submit a plan to characterize the TOC of all original drinking water sources that feed the collection system(s) that are used by the AWTF as a treated wastewater source. This plan shall be submitted for approval by the Department as part of the Pilot Study Plan pursuant to R18-9-C815(B)(3) and (D) and again in the permit application as part of the R18-9-C816(A)(2)(d) submittals.
a. Original Drinking Water TOC Characterization requires, but is not limited to, the following:
i. Use of Departmentally approved TOC sampling locations,
ii. Sampling for a minimum of one year,

iii. Sampling at weekly intervals,
iv. Calculation of the TOC at the 50th percentile (median), 75th percentile, and 95th percentile,
v. Establishment of a TOC alert level at the 75th percentile, and
vi. Establishment of the TOC action level at 1.5 × 95th percentile.

b. Upon the characterization of TOC in the original drinking water and approval from the Department, an AWPRA shall monitor for TOC in the advanced treated water using continuous online analyzers.

c. For the purposes of this subsection, the preliminary TOC value in mg/L for the Trace Organics Removal Procedure is the action level established in subsection (C)(1)(a)(vi).

2. Disinfection Byproducts Precursor Reduction Procedure.

a. Method 5710 C: "Simulated Distribution System Trihalomethanes (SDS - THM)"

i. The AWPRA shall apply 5710 C Method "Simulated Distribution System Trihalomethanes (SDS - THM)" to the advanced treated water in order to determine the total trihalomethane (THM) concentration.
ii. Testing and sampling shall be conducted monthly for one year.
iii. The AWPRA shall simultaneously sample for TOC in mg/L in the advanced treated water monthly for one year.
iv. If the average THM concentration is below the corresponding MCL for THM pursuant to R18-9-E825, the average TOC value from subsection (C)(2)(a)(iii) is the Method 5710C TOC value for the purposes of comparison in subsection (C)(2)(d).
v. If the average THM concentration is at or above the corresponding THM MCL pursuant to R18-9-E825, the AWPRA may not use the average TOC value from subsection (C)(2)(a)(iii) as the Method 5710C TOC value. The AWPRA may adjust components of their operation and repeat the steps in subsection (C)(2)(a) until an average THM concentration in the advanced treated water is below the corresponding THM MCL pursuant to R18-9-E825.

b. The AWPRA shall submit the following information on the conditions at the time Method 5710 C from subsection (C)(2)(a) was conducted to the Department as part of the Pilot Study Report pursuant to R18-9-C815(D) and again in the permit application as part of the R18-9-C816(A)(2)(d) submittals:
i. Temperature,
ii. pH,
iii. Disinfectant dose,
iv. Residual and reaction time within the distribution system, and
v. Other standard conditions as described in Section 5710 B "Trihalomethane Formation Potential (THMFP)".

c. CCL5 - Disinfectant Byproducts Sampling Method.
i. The AWPRA shall sample for the following disinfection byproducts in the advanced treated water, Formaldehyde (CAS No. 50-00-0) and N-Nitrosodimethylamine (NDMA) (CAS No. 65-75-9), which are the only disinfection byproducts that exist in both EPA's "Contaminant Candidate List 5 - Exhibit 1b - Unregulated DBPs in the DBP Group on CCL 5" and EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables".
ii. Sampling shall be conducted monthly for one year.
iii. The AWPRA shall simultaneously sample for TOC in mg/L in the advanced treated water monthly for one year.
iv. If the average sampling result for any one DBP is below the corresponding health advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables", the average TOC value from subsection (C)(2)(c)(iii) is the CCL5 DBP TOC value for the purposes of comparison in subsection (C)(2)(d).
v. If the average sampling result for any one DBP is at or above the corresponding health advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables", the AWPRA may not use the average TOC value from subsection (C)(2)(c)(iii) as the CCL5 DBP TOC value. The AWPRA may adjust components of their operation and repeat the steps in subsection (C)(2)(c) until the average sampling results from any one DBP is below the corresponding health advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables".

d. The lower of the two resultant TOC values in mg/L derived from the methods described in subsections (C)(2)(a) and (C)(2)(c) is the preliminary TOC value for the Disinfection Byproducts Precursor Reduction Procedure.

3. AWPRA's Site-Specific TOC Approach or Limit. The lower of the two preliminary TOC values in mg/L derived from the two procedures in (C)(1) and (2) is the AWPRA's site-specific TOC limit.

4. Once a site-specific TOC approach or limit is ascertained, an AWPRA shall establish a TOC action level and alert level based on that approach or limit, using the lower of the two values derived from subsections (C)(1) and (2). Upon the exceedance of a TOC action level, the AWPRA shall conduct one of the following two actions within 72 hours of becoming aware of the exceedance:
a. Stop conveying advanced treated water, investigate, identify, and correct the issue; or
b. Correct the issue with confirmation that advanced treated water TOC does not exceed the action level, and identify the issue.

5. Frequency of Site-Specific Procedures. AWPRA's re-selecting the site-specific TOC approach to begin a new calendar year shall repeat the two procedures in subsections (C)(1) and (2) in order to reestablish an up-to-date TOC action level and TOC alert level.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-F835. Full Scale Verification

A. An AWPRA applicant shall conduct Full-Scale Verification of the AWTF. The AWPRA applicant shall develop a Full-Scale Verification Plan for submission to the Department and shall perform full-scale verification testing of the AWTF in compliance with the Plan.
1. If an AWPRA builds a pilot facility to full-scale, the AWPRA applicant may, instead, opt to conduct piloting and full-scale verification simultaneously. If the AWPRA pursues this option, the AWPRA shall:
   a. Consult with the Department, and
   b. Develop and submit a Hybrid Pilot and Full-Scale Verification Plan to the Department for review and comment prior to conducting piloting and full scale verification under this Section, R18-9-C815, and other requirements which are previously determined through consultation with the Department, and
   c. For the purposes of the permit application pursuant to R18-9-C816, submit the Hybrid Pilot and Full-Scale Verification Plan and a Hybrid Pilot and Full-Scale Verification Report in lieu of the submission requirements at R18-9-C816(A)(2)(g) and (h).
2. An AWPRA applicant shall provide evidence of an APP authorizing any discharge from an AWTF that occurred, occurs or will occur during piloting, full-scale verification, operation or otherwise.

B. Full-Scale Verification Plan. A Full-Scale Verification Testing Plan shall be developed and shall include, but is not limited to, the following requirements:
1. Detailed Testing Plan. The AWPRA applicant shall outline the verification testing procedure for each process within the AWTF, including, but not limited to:
   a. Treatment technologies and processes,
   b. Continuous online analyzers,
   c. Critical control points,
   d. Alarm systems, and
   e. Data recording instruments.
2. Monitoring Plan. The AWPRA applicant shall develop a Monitoring Plan pursuant to R18-9-E829.
3. Alarm System and Shutdown Testing Plan. The AWPRA applicant shall develop a plan to test and verify the functionality of all alarms, shutdown mechanisms, and processes proposed to be utilized in the Operations Plan developed pursuant to R18-9-F836.
4. Advanced Treated Water Diversion Plan. The AWPRA applicant shall develop a plan to obtain all necessary permits and approvals from the Department or other authorities for the purpose of diverting advanced treated water during the full-scale verification testing period.

C. Testing. Full-scale verification testing shall be conducted in accordance with the Plan established in subsection (B) as well as the requirements in this subsection:
1. The minimum testing period for AWPRAs conducting full-scale verification shall be one year,
2. An AWPRA shall, throughout the testing period, divert all advanced treated water in a manner approved by the Department pursuant to the AWP permit,
3. Before testing occurs, an AWPRA applicant shall confirm with the Department that any water reclamation facility providing treated wastewater to the AWTF has been issued an amendment to their APP(s) for provision of treated wastewater to an AWTF, and shall confirm that copies of the amended permit(s) are recorded in the AWPRA's Joint Plan pursuant to R18-9-B805.

D. Report. At the conclusion of the full-scale verification testing period, the AWPRA shall prepare and submit, in accordance with the compliance schedule established in the AWP permit, a final Full-Scale Verification Report to the Department for approval. The Report shall, at a minimum, include all information related to full-scale verification testing performed pursuant to this Section, such as, but not limited to, the following components:
1. The date, time, frequency and exact place of sampling,
2. The name of each individual who performed the sampling,
3. The procedures used to collect the samples,
4. The dates the sample analyses were completed,
5. The name of each individual or laboratory performing sample analysis,
6. The analytical techniques or methods used to perform the sampling and analysis,
7. The chain of custody records,
8. Any field notes relating to the information described under this subsection,
9. The sampling results, and
10. Corresponding laboratory data for all samples.

E. An AWPRA shall not distribute advanced treated water to consumers until Departmental authorization is obtained.

Historical Note
New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-F836. Operations Plan

A. An AWPRA shall develop an Operations Plan in accordance with the compliance schedule established in the AWP permit which shall be followed throughout operation of the AWTF.

B. The Operations Plan shall include, but is not limited to, the following criteria:
1. A description of the operation of each treatment process and standard operating procedure,
2. Process schematics showing pathogen and chemical removal critical control points, alarms, and online analyzers, including all requirements pursuant to R18-9-E828(D),
3. A list of established alert levels and action levels at each critical control point,
4. A description of all inspection and maintenance protocols, schedules and other requirements for treatment process equipment,
5. A description of the ongoing monitoring requirements pursuant to R18-9-E829 and the reporting requirements pursuant to R18-9-E830,
6. The development of an emergency operations and response plan to identify and address upsets, failures, or emergency situations arising in the treatment train in an AWPRA facility that is responsible for producing advanced treated water. The emergency operations and response plan shall include, but is not limited to, the following requirements:
   a. Identification of upset conditions or emergency situations triggering a response under this subsection, including, but not limited to:
      i. Failure of critical control points,
      ii. Diversion of off-spec water,
      iii. Loss of source water to the AWTF,
      iv. Any exceedances of the alert levels and action levels, and

v. Failures which constitute an acute exposure threat, including failure to meet pathogen log reduction values pursuant to R18-9-E828, and failure to meet Nitrite and Nitrate as Nitrogen MCLs pursuant to R18-9-E829,

b. A decision-making procedure and the development of an off-spec water response to divert AWP process water or advanced treated water as a result of any treatment process failure or water quality deviation,

c. Any failure to achieve the minimum target log reduction must be documented and a summary of the causes and corrective action must be reported to the Department, and

i. The AWPRA shall take immediate action to discontinue the delivery of advanced treated water to the distribution system.

ii. The AWPRA shall notify the Department and any public water system that is receiving the AWP project water within 60 minutes.

d. Development of a timely response procedure in the event that advanced treated water violates a requirement of this Article, including, but not limited to:

i. Identification and investigation of the points of failure within the treatment train and at the AWTF,

ii. A procedure to resolve identified failures,

iii. Clear specifications regarding the time required for response to failures or exceedances, and

iv. A procedure for the utilization of automated systems equipped with triggers and alarms, as necessary,

v. Consideration of alternative water sources, as necessary, to ensure delivery of a continuous water supply, and

vi. Compliance with all applicable public notice requirements of the Safe Drinking Water Act, and

e. Development of a shutdown plan establishing shutdown and post-shutdown protocols, including, but not limited to:

i. A procedure for draining piping and tanks, as necessary, to prevent freezing or the accumulation of stagnant non-compliant water, and

ii. A procedure for managing post-shutdown conditions, and

7. A description of staffing requirements at the AWTF including, but not limited to, the following criteria:

a. The roles and responsibilities of all staff,

b. The status of, and requirements for, certified operators,

c. A description of the annual training and continuous education requirements for all staff, and

d. A description of any provisions for training new personnel, and

8. A description of the SCADA system utilized at the AWTF along with, but not limited to, the following additional SCADA requirements:

a. A description of how the system will assist the AWTF in achieving compliance, when necessary,

b. A description of how the SCADA system will communicate and interoperate with the SCADA systems of all AWPRA facilities that provide treatment pursuant to this Article,

c. Information on how the system acquires and utilizes monitoring data to inform operators, identify failures at critical control points, and respond to failures,

d. A procedure for testing the system,

e. A protocol/procedure to secure and protect the SCADA system from unauthorized access and cyberattack, and

f. Establishment of a SCADA system testing schedule, and

9. A description of the communication procedures between the AWPRA and all relevant treatment plant operators for situations including, but not limited to:

a. Normal operations, and

b. Upset conditions and emergency response protocols.

C. In addition to the requirements of this Section, an Operations Plan shall be developed using good engineering practices and best management practices. Similar Operations Plan criteria shall be approved if the AWPRA applicant can demonstrate that the Operations Plan components meet or exceed the criteria listed above.

1. ADEQ shall develop and make available guidance on developing an AWP Operations Plan.

2. An AWP Operations Plan developed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

D. An AWPRA shall submit the Operations Plan to the Department for approval as a compliance schedule item under the AWP permit.

E. An AWPRA shall update the Operations Plan as necessary following any modifications to the treatment process that affect the operational procedures of the AWTF. The updated Operations Plan shall be submitted to the Department for approval as a component of a permit amendment application.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

R18-9-F837. Vulnerability Assessment

A. An AWPRA shall conduct a vulnerability assessment for the AWP project for the purpose of identifying areas and processes with a potential to be vulnerable to attack, sabotage, or disruption.

B. The AWPRA shall consider and assess all potential hazards associated with contaminants in the municipal wastewater source.

C. The AWPRA shall develop an emergency response plan for identified hazards the AWP project may face.

D. The SCADA systems of all AWPRA facilities included in the AWP project that provide treatment pursuant to this Article shall be designed and operated such that they are secured and protected, both physically and electronically, from unauthorized access and cyberattack.

E. The AWPRA shall periodically review the vulnerability assessment along with the permit renewal pursuant to R18-9-D822, at a minimum, or at the Director's discretion. A vulnerability assessment update shall include the identification of any new hazards and the corresponding risk management controls the AWPRA will establish.

F. In addition to the requirements of this Section, a vulnerability assessment shall be conducted using Best Management Practices. Methods for conducting the vulnerability assessment

shall be approved if the AWPRA applicant can demonstrate that the method is sufficiently detailed and robust for the purpose of conducting a protective vulnerability assessment.

1. ADEQ shall develop and make available guidance on conducting an AWP vulnerability assessment.
2. An AWP vulnerability assessment conducted in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

Historical Note

New Section made by final rulemaking at 31 A.A.R. 1069 (April 4, 2025), with an immediate effective date of March 4, 2025 (Supp 25-1).

ARTICLE 9. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

Editor's Note: The recodification at 7 A.A.R. 2522 described below erroneously moved Sections into 18 A.A.C. 9, Article 9. Those Sections were actually recodified to 18 A.A.C. 9, Article 10. See the Historical Notes for more information (Supp. 01-4).

Article 9, consisting of Sections R18-9-901 through R18-9-914 and Appendix A, recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

PART A. GENERAL REQUIREMENTS

R18-9-A901. Definitions

In addition to the definitions in A.R.S. § 49-201 and 49-255, the following terms apply to this Article:

1. "Animal confinement area" means any part of an animal feeding operation where animals are restricted or confined including open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables.
2. "Animal feeding operation" means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:
   a. Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
   b. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
3. "Aquaculture project" means a defined managed water area that uses discharges of pollutants into that designated project area for the maintenance or production of harvestable freshwater plants or animals. For purposes of this definition, "designated project area" means the portion or portions of the navigable waters within which the permittee or permit applicant plans to confine the cultivated species using a method or plan of operation, including physical confinement, that on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvested within a defined geographic area.
4. "Border area" means 100 kilometers north and south of the Arizona-Sonora, Mexico border.
5. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
6. "CAFO" means any large concentrated animal feeding operation, medium concentrated animal feeding operation, or animal feeding operation designated under R18-9-D901.
7. "Concentrated aquatic animal production facility" means a hatchery, fish farm, or other facility that contains, grows, or holds aquatic animals in either of the following categories:
   a. Cold-water aquatic animals. Cold-water fish species or other cold-water aquatic animals (including the Salmonidae family of fish) in a pond, raceway, or other similar structure that discharges at least 30 days per year, but does not include:
      i. A facility that produces less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and
      ii. A facility that feeds the aquatic animals less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.
   b. Warm-water aquatic animals. Warm-water fish species or other warm-water aquatic animals (including the Ameiuride, Centrarchidae, and Cyprinidae families of fish) in a pond, raceway, or other similar structure that discharges at least 30 days per year, but does not include:
      i. A closed pond that discharges only during periods of excess runoff; or
      ii. A facility that produces less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.
8. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
9. "Discharge of a pollutant" means any addition of any pollutant or combination of pollutants to a navigable water from any point source.
   a. The term includes the addition of any pollutant into a navigable water from:
      i. A treatment works treating domestic sewage;
      ii. Surface runoff that is collected or channeled by man;
      iii. A discharge through a pipe, sewer, or other conveyance owned by a state, municipality, or other person that does not lead to a treatment works; and
      iv. A discharge through a pipe, sewer, or other conveyance, leading into a privately owned treatment works.
   b. The term does not include an addition of a pollutant by any industrial user as defined in A.R.S. § 49-255(4).
10. "Draft permit" means a document indicating the Director's tentative decision to issue, deny, modify, revoke and reissue, terminate, or reissue a permit.
    a. A notice of intent to terminate a permit is a type of draft permit unless the entire discharge is permanently terminated by elimination of the flow or by connection to a POTW, but not by land application or disposal into a well.

b. A notice of intent to deny a permit is a type of draft permit.
c. A proposed permit or a denial of a request for modification, revocation and reissuance, or termination of a permit, are not draft permits.

11. "EPA" means the U.S. Environmental Protection Agency.
12. "General permit" means an AZPDES permit issued under 18 A.A.C. 9, Article 9, authorizing a category of discharges within a geographical area.
13. "Individual permit" means an AZPDES permit for a single point source, a single facility, or a municipal separate storm sewer system.
14. "Land application area," for purposes of Article 9, Part D, means land under the control of an animal feeding operation owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied.
15. "Large concentrated animal feeding operation" means an animal feeding operation that stables or confines at least the number of animals specified in any of the following categories:
    a. 700 mature dairy cows, whether milked or dry;
    b. 1,000 veal calves;
    c. 1,000 cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow and calf pairs;
    d. 2,500 swine each weighing 55 pounds or more;
    e. 10,000 swine each weighing less than 55 pounds;
    f. 500 horses;
    g. 10,000 sheep or lambs;
    h. 55,000 turkeys;
    i. 30,000 laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
    j. 125,000 chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
    k. 82,000 laying hens, if the animal feeding operation uses other than a liquid manure handling system;
    l. 30,000 ducks, if the animal feeding operation uses other than a liquid manure handling system; or
    m. 5,000 ducks, if the animal feeding operation uses a liquid manure handling system.
16. "Large municipal separate storm sewer system" means a municipal separate storm sewer that is either:
    a. Located in an incorporated area with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census;
    b. Located in a county with an unincorporated urbanized area with a population of 250,000 or more, according to the 1990 Decennial Census by the Bureau of Census, but not a municipal separate storm sewer that is located in an incorporated place, township, or town within the county; or
    c. Owned or operated by a municipality other than those described in subsections (16)(a) and (16)(b) and that are designated by the Director under R18-9-A902(D)(2) as part of the large municipal separate storm sewer system.
17. "Manure" means any waste or material mixed with waste from an animal including manure, bedding, compost and raw materials, or other materials commingled with manure or set aside for disposal.
18. "Manure storage area" means any part of an animal feeding operation where manure is stored or retained including lagoons, run-off ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles.
19. "Medium concentrated animal feeding operation" means an animal feeding operation in which:
    a. The type and number of animals that it stables or confines falls within any of the following ranges:
        i. 200 to 699 mature dairy cows, whether milked or dry;
        ii. 300 to 999 veal calves;
        iii. 300 to 999 cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow and calf pairs;
        iv. 750 to 2,499 swine each weighing 55 pounds or more;
        v. 3,000 to 9,999 swine each weighing less than 55 pounds;
        vi. 150 to 499 horses;
        vii. 3,000 to 9,999 sheep or lambs;
        viii. 16,500 to 54,999 turkeys;
        ix. 9,000 to 29,999 laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
        x. 37,500 to 124,999 chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
        xi. 25,000 to 81,999 laying hens, if the animal feeding operation uses other than a liquid manure handling system;
        xii. 10,000 to 29,999 ducks, if the animal feeding operation uses other than a liquid manure handling system; or
        xiii. 1,500 to 4,999 ducks, if the animal feeding operation uses a liquid manure handling system; and
    b. Either one of the following conditions are met:
        i. Pollutants are discharged into a navigable water through a man-made ditch, flushing system, or other similar man-made device; or
        ii. Pollutants are discharged directly into a navigable water that originates outside of and passes over, across, or through the animal feeding operation or otherwise comes into direct contact with the animals confined in the operation.
20. "Medium municipal separate storm sewer system" means a municipal separate storm sewer that is either:
    a. Located in an incorporated area with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census; or
    b. Located in a county with an unincorporated urbanized area with a population of 100,000 or more but less than 250,000 as determined by the 1990 Decennial Census by the Bureau of the Census; or
    c. Owned or operated by a municipality other than those described in subsections (20)(a) and (20)(b) and that are designated by the Director under R18-9-A902(D)(2) as part of the medium municipal separate storm sewer system.
21. "MS4" means municipal separate storm sewer system.
22. "Municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains):

a. Owned or operated by a state, city, town county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
b. Designed or used for collecting or conveying stormwater;
c. That is not a combined sewer; and
d. That is not part of a POTW.

23. "Municipal separate storm sewer system" means all separate storm sewers defined as "large," "medium," or "small" municipal separate storm sewer systems or any municipal separate storm sewers on a system-wide or jurisdiction-wide basis as determined by the Director under R18-9-C902(A)(1)(g)(i) through (iv).
24. "New discharger" includes an industrial user and means any building, structure, facility, or installation:
    a. From which there is or may be a discharge of pollutants;
    b. That did not commence the discharge of pollutants at a particular site before August 13, 1979;
    c. That is not a new source; and
    d. That has never received a finally effective NPDES or AZPDES permit for discharges at that site.
25. "New source" means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
    a. After the promulgation of standards of performance under section 306 of the Clean Water Act (33 U.S.C. 1316) that are applicable to the source, or
    b. After the proposal of standards of performance in accordance with section 306 of the Clean Water Act (33 U.S.C. 1316) that are applicable to the source, but only if the standards are promulgated under section 306 (33 U.S.C. 1316) within 120 days of their proposal.
26. "NPDES" means the National Pollutant Discharge Elimination System, which is the national program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment and biosolids requirements under sections 307 (33 U.S.C. 1317), 318 (33 U.S.C. 1328), 402 (33 U.S.C. 1342), and 405 (33 U.S.C. 1345) of the Clean Water Act.
27. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. It does not mean:
    a. Sewage from vessels; or
    b. Water, gas, or other material that is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of this state, and if the state determines that the injection or disposal will not result in the degradation of ground or surface water resources. (40 CFR 122.2)
28. "POTW" means a publicly owned treatment works.
29. "Process wastewater," for purposes of Article 9, Part D, means any water that comes into contact with a raw material, product, or byproduct including manure, litter, feed, milk, eggs, or bedding and water directly or indirectly used in the operation of an animal feeding operation for any or all of the following:
    a. Spillage or overflow from animal or poultry watering systems;
    b. Washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities;
    c. Direct contact swimming, washing, or spray cooling of animals; or
    d. Dust control.
30. "Proposed permit" means an AZPDES permit prepared after the close of the public comment period (including EPA review), and any applicable public hearing and administrative appeal, but before final issuance by the Director. A proposed permit is not a draft permit.
31. "Pretreatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater before or instead of discharging or otherwise introducing the pollutants into a POTW.
32. "Production area," for purposes of Article 9, Part D, means the animal confinement area, manure storage area, raw materials storage area, and waste containment areas. Production area includes any egg washing or egg processing facility and any area used in the storage, handling, treatment, or disposal of animal mortalities.
33. "Raw materials storage area" means the part of an animal feeding operation where raw materials are stored including feed silos, silage bunkers, and bedding materials.
34. "Silviculture point source" means any discernible, confined, and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities that are operated in connection with silvicultural activities and from which pollutants are discharged into navigable waters. The term does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. For purposes of this definition:
    a. "Log sorting and log storage facilities" means facilities whose discharge results from the holding of unprocessed wood, for example, logs or round wood with or without bark held in self-contained bodies of water or stored on land if water is applied intentionally on the logs.
    b. "Rock crushing and gravel washing facilities" mean facilities that process crushed and broken stone, gravel, and riprap.
35. "Small municipal separate storm sewer system" means a separate storm sewer that is:
    a. Owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district,

flood control district or drainage district, or similar entity, an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharge to navigable waters.

b. Not defined as a "large" or "medium" municipal separate storm sewer system or designated under R18-9-A902(D)(2).

c. Similar to municipal separate storm sewer systems such as systems at military bases, large hospital or prison complexes, universities, and highways and other thoroughfares. The term does not include a separate storm sewer in a very discrete area such as an individual building.

36. "Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.
37. "Treatment works treating domestic sewage" means a POTW or any other sewage sludge or waste water treatment device or system, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices. For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works.
38. "Waste containment area" means any part of an animal feeding operation where waste is stored or contained including settling basins and areas within berms and diversions that separate uncontaminated stormwater.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-A902. AZPDES Permit Transition, Applicability, and Exclusions

A. Upon the effective date of EPA approval of the AZPDES program, the Department shall, under A.R.S. Title 49, Chapter 2, Article 3.1 and Articles 9 and 10 of this Chapter, administer any permit authorized or issued under the NPDES program, including an expired permit that EPA has continued in effect under 40 CFR 122.6.

1. The Director shall give a notice to all Arizona NPDES permittees, except NPDES permittees located on and discharging in Indian Country, and shall publish a notice in one or more newspapers of general circulation in the state. The notice shall contain:
   a. The name and address of the Department;
   b. The name of each individual permitted facility and its permit number;
   c. The title of each general permit administered by the Department;
   d. The name and address of the contact person, to which the permittee will submit notification and monitoring reports; and
   e. The name, address, and telephone number of a person from whom an interested person may obtain further information about the transition.
2. The Department shall provide the following entities with a copy of the notice:
   a. Each county department of health, environmental services, or comparable department;
   b. Each Arizona council of government, tribal government, the states of Utah, Nevada, New Mexico, and California, and EPA Region 9;
   c. Any person who requested, in writing, notification of the activity;
   d. The Mexican Secretaria de Medio Ambiente y Recursos Naturales; and
   e. The United States Section of the International Boundary and Water Commission.
3. If a timely application for a NPDES permit is submitted to EPA before approval of the AZPDES program, the applicant may continue the process with EPA or request the Department to act on the application. In either case, the Department shall issue the permit.
4. The terms and conditions under which the permit was issued remain the same until the permit is modified.

B. Article 9 of this Chapter applies to any "discharge of a pollutant." Examples of categories that result in a "discharge of a pollutant" and may require an AZPDES permit include:

1. CAFOs;
2. Concentrated aquatic animal production facilities;
3. Case-by-case designation of concentrated aquatic animal production facilities;
   a. The Director may designate any warm- or cold-water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to navigable waters. The Director shall consider the following factors when making this determination:
      i. The location and quality of the receiving waters of the United States;
      ii. The holding, feeding, and production capacities of the facility;
      iii. The quantity and nature of the pollutants reaching navigable waters; and
      iv. Any other relevant factor;
   b. A permit application is not required from a concentrated aquatic animal production facility designated under subsection (B)(3)(a) until the Director conducts an onsite inspection of the facility and determines that the facility should and could be regulated under the AZPDES permit program;
4. Aquaculture projects;
5. Manufacturing, commercial, mining, and silviculture point sources;
6. POTWs;
7. New sources and new dischargers;
8. Stormwater discharges:
   a. Associated with industrial activity as defined under 40 CFR 122.26(b)(14), incorporated by reference in R18-9-A905(A)(1)(d). The Department shall not consider a discharge to be a discharge associated with industrial activity if the discharge is composed entirely of stormwater and meets the conditions of no exposure as defined under 40 CFR 122.26(g), incorporated by reference in R18-9-A905(A)(1)(d);
   b. From a large, medium, or small MS4;
   c. From a construction activity, including clearing, grading, and excavation, that results in the disturbance of:
      i. Equal to or greater than one acre or;

ii. Less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre; but
iii. Not including routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility;

d. Any discharge that the Director determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to a navigable water, which may include a discharge from a conveyance or system of conveyances (including roads with drainage systems and municipal streets) used for collecting and conveying stormwater runoff or a system of discharges from municipal separate storm sewers.

C. Articles 9 and 10 of this Chapter apply to the following biosolids categories and may require an AZPDES permit:
1. Treatment works treating domestic sewage that would not otherwise require an AZPDES permit; and
2. Using, applying, generating, marketing, transporting, and disposing of biosolids.

D. Director designation of MS4s.
1. The Director may designate and require any small MS4 located outside of an urbanized area to obtain an AZPDES stormwater permit. The Director shall base this designation on whether a stormwater discharge results in or has the potential to result in an exceedance of a water quality standard, including impairment of a designated use, or another significant water quality impact, including a habitat or biological impact.
   a. When deciding whether to designate a small MS4, the Director shall consider the following criteria:
      i. Discharges to sensitive waters,
      ii. Areas with high growth or growth potential,
      iii. Areas with a high population density,
      iv. Areas that are contiguous to an urbanized area,
      v. Small MS4s that cause a significant contribution of pollutants to a navigable water,
      vi. Small MS4s that do not have effective programs to protect water quality, and
      vii. Any other relevant criteria.
   b. The same requirements for small MS4s designated under 40 CFR 122.32(a)(1) apply to permits for designated MS4s not waived under R18-9-B901(A)(3).
2. The Director may designate an MS4 as part of a large or medium system due to the interrelationship between the discharges from a designated storm sewer and the discharges from a municipal separate storm sewer described under R18-9-A901(16)(a) and (b), or R18-9-A901(20)(a) or (b), as applicable. In making this determination, the Director shall consider the following factors:
   a. Physical interconnections between the municipal separate storm sewers;
   b. The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in R18-9-A901(16)(a) and R18-9-A901(20)(a);
   c. The quantity and nature of pollutants discharged to a navigable water;
   d. The nature of the receiving waters; and
   e. Any other relevant factor.
3. The Director shall designate a small MS4 that is physically interconnected with a MS4 that is regulated by the AZPDES program if the small MS4 substantially contributes to the pollutant loading of the regulated MS4.

E. Petitions. The Director may, upon a petition, designate as a large, medium or small MS4, a municipal separate storm sewer located within the boundaries of a region defined by a stormwater management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in R18-9-A901(16), R18-9-A901(20) or R18-9-A901(35), as applicable.

F. Phase-ins.
1. The Director may phase-in permit coverage for a small MS4 serving a jurisdiction with a population of less than 10,000 if a phasing schedule is developed and implemented for approximately 20 percent annually of all small MS4s that qualify for the phased-in coverage.
   a. If the phasing schedule is not yet approved for permit coverage, the Director shall, by December 9, 2002, determine whether to issue an AZPDES permit or allow a waiver under R18-9-B901(A)(3) for each eligible MS4.
   b. All regulated MS4s shall have coverage under an AZPDES permit no later than March 8, 2007.
2. The Director may provide a waiver under R18-9-B901(A)(3) for any municipal separate storm sewage system operating under a phase-in plan.

G. Exclusions. The following discharges do not require an AZPDES permit:
1. Discharge of dredged or fill material into a navigable water that is regulated under section 404 of the Clean Water Act (33 U.S.C. 1344);
2. The introduction of sewage, industrial wastes, or other pollutants into POTWs by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with a permit until all discharges of pollutants to a navigable water are eliminated. This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through a pipe, sewer, or other conveyance owned by the state, a municipality, or other party not leading to treatment works;
3. Any discharge in compliance with the instructions of an on-scene coordinator under 40 CFR 300, The National Oil and Hazardous Substances Pollution Contingency Plan; or 33 CFR 153.10(e), Control of Pollution by Oil and Hazardous Substances, Discharge Removal;
4. Any introduction of pollutants from a nonpoint source agricultural or silvicultural activity, including stormwater runoff from an orchard, cultivated crop, pasture, rangeland, and forest land, but not discharges from a concentrated animal feeding operation, concentrated aquatic animal production facility, silvicultural point source, or to an aquaculture project;
5. Return flows from irrigated agriculture;
6. Discharges into a privately owned treatment works, except as the Director requires under 40 CFR 122.44(m), which is incorporated by reference in R18-9-A905(A)(3)(d);
7. Discharges from conveyances for stormwater runoff from mining operations or oil and gas exploration, production, processing or treatment operations, or transmission facilities, composed entirely of flows from conveyances or

systems of conveyances, including pipes, conduits, ditches, and channels, used for collecting and conveying precipitation runoff and that are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste product located on the site of the operations.

H. Conditional no exposure exclusion.

1. Discharges composed entirely of stormwater are not considered stormwater discharges associated with an industrial activity if there is no exposure, and the discharger satisfies the conditions under 40 CFR 122.26(g), which is incorporated by reference in R18-9-A905(A)(1)(d).
2. For purposes of this subsection:
   a. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and runoff.
   b. "Industrial materials or activities" include material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products.
   c. "Material-handling activities" include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, or waste product.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-A903. Prohibitions

A. The Director shall not issue a permit for a discharge to a WOTUS:

1. If the conditions of the permit do not provide for compliance with the applicable requirements of A.R.S. Title 49, Chapter 2, Article 3.1; 18 A.A.C. 9, Articles 9 and 10; and the Clean Water Act;
2. Before resolution of an EPA objection to a draft or proposed permit under R18-9-A908(C);
3. If the imposition of conditions cannot ensure compliance with the applicable water quality requirements from Arizona or an affected state or tribe, or a federally promulgated water quality standard under 40 CFR 131.31;
4. If in the judgment of the Secretary of the U.S. Army, acting through the Chief of Engineers, the discharge will substantially impair anchorage and navigation in or on any navigable water;
5. For the discharge of any radiological, chemical, or biological warfare agent, or high-level radioactive waste;
6. For any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act (33 U.S.C. 1288); and
7. To a new source or a new discharger if the discharge from its construction or operation will cause or contribute to the violation of a water quality standard. The owner or operator of a new source or new discharger proposing to discharge into a water segment that does not meet water quality standards or is not expected to meet those standards even after the application of the effluent limitations required under R18-9-A905(A)(8), and for which the Department has performed a wasteload allocation for the proposed discharge, shall demonstrate before the close of the public comment period that:
   a. There are sufficient remaining wasteload allocations to allow for the discharge, and
   b. The existing dischargers into the segment are subject to schedules of compliance designed to bring the segment into compliance with water quality standards.

B. The Director shall not issue a permit for a discharge to a non-WOTUS protected surface water:

1. If the permit or the conditions of the permit violate the restrictions listed in A.R.S. § 49-255.04; and
2. If the conditions of the permit do not provide for compliance with 18 A.A.C. 11, Article 2 and the applicable requirements of 18 A.A.C. 9, Article 9.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2). Amended by final rulemaking at 29 A.A.R. 296 (January 27, 2023), effective February 20, 2023 (Supp. 22-4).

R18-9-A904. Effect of a Permit

A. Except for a standard or prohibition imposed under section 307 of the Clean Water Act (33 U.S.C. 1317) for a toxic pollutant that is injurious to human health and standards for sewage sludge use or disposal under Article 10 of this Chapter, compliance with an AZPDES permit during its term constitutes compliance, for purposes of enforcement, with Article 9 of this Chapter. However, the Director may modify, revoke and reissue, suspend, or terminate a permit during its term for cause under R18-9-B906.

B. The issuance of a permit does not convey any property rights or exclusive privilege to the permittee.

C. The issuance of a permit does not authorize any injury to a person or property or invasion of other private rights, or any infringement of federal, state, or local law, or regulations.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-A905. AZPDES Program Standards

A. Except for subsection (A)(11), the following 40 CFR sections and appendices, amended as of April 15, 2023, as they apply to the NPDES program, are incorporated by reference, do not include any later amendments or editions of the incorporated matter, and are on file with the Department:

1. General program requirements.
   a. 40 CFR 122.7;
   b. 40 CFR 122.21, except 40 CFR 122.21(a) through (e) and (l);
   c. 40 CFR 122.22;
   d. 40 CFR 122.26, except 40 CFR 122.26(c)(2), and 40 CFR 122.26(e)(2);
   e. 40 CFR 122.29;
   f. 40 CFR 122.32;
   g. 40 CFR 122.33;

h. 40 CFR 122.34;
i. 40 CFR 122.35;
j. 40 CFR 122.62(a) and (b).

2. Procedures for Decision making.
   a. 40 CFR 124.8, except 40 CFR 124.8(b)(3); and
   b. 40 CFR 124.56.
3. Permit requirements and conditions.
   a. 40 CFR 122.41, except 40 CFR 122.41(a)(2) and (a)(3);
   b. 40 CFR 122.42;
   c. 40 CFR 122.43;
   d. 40 CFR 122.44;
   e. 40 CFR 122.45;
   f. 40 CFR 122.47;
   g. 40 CFR 122.48; and
   h. 40 CFR 122.50.
4. Criteria and standards for the national pollutant discharge elimination system. 40 CFR 125, subparts A, B, D, H, and I.
5. Toxic pollutant effluent standards. 40 CFR 129.
6. Secondary treatment regulation. 40 CFR 133.
7. Guidelines for establishing test procedures for the analysis of pollutants, 40 CFR 136.
8. Effluent guidelines and standards.
   a. General provisions, 40 CFR 401; and
   b. General pretreatment regulations for existing and new sources of pollution, 40 CFR 403 and Appendices A, D, E, and G.
9. Effluent limitations guidelines. 40 CFR 405 through 40 CFR 471.
10. Standards for the use or disposal of sewage sludge. 40 CFR 503, Subpart C.
11. The following substitutions apply to the material in subsections (A)(1) through (A)(10):
    a. Substitute the term AZPDES for any reference to NPDES;
    b. Except for 40 CFR 122.21(f) through (q), substitute R18-9-B901 (individual permit), and R18-9-C901 (general permit), for any reference to 40 CFR 122.21;
    c. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 122;
    d. Substitute R18-9-C901 for any reference to 40 CFR 122.28;
    e. Substitute R18-9-B901 (individual permit), and R18-9-C901 (general permit), for any reference to 40 CFR 122 subpart B;
    f. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 123;
    g. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 124;
    h. Substitute R18-9-1006 for any reference to 40 CFR 503.32; and
    i. Substitute R18-9-1010 for any reference to 40 CFR 503.33.

B. A person shall analyze a pollutant using a test procedure for the pollutant specified by the Director in an AZPDES permit. If the Director does not specify a test procedure for a pollutant in an AZPDES permit, a person shall analyze the pollutant using:
1. A test procedure listed in 40 CFR 136, which is incorporated by reference in subsection (A)(7);
2. An alternate test procedure approved by the EPA as provided in 40 CFR 136;
3. A test procedure listed in 40 CFR 136, with modifications allowed by the EPA and approved as a method alteration by the Arizona Department of Health Services under A.A.C. R9-14-610(B); or
4. If a test procedure for a pollutant is not available under subsection (B)(1) through (B)(3), a test procedure listed in A.A.C. R9-14-612 or approved under A.A.C. R9-14-610(C).

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4). Amended by final expedited rulemaking at 30 A.A.R. 28 (January 5, 2024), with an immediate effective date of December 15, 2023 (Supp. 23-4).

R18-9-A906. General Pretreatment Regulations for Existing and New Sources of Pollution

A. The reduction or alteration of a pollutant may be obtained by physical, chemical, or biological processes, process changes, or by other means, except as prohibited under 40 CFR 403.6(d), which is incorporated by reference in R18-9-A905(A)(8)(b). Appropriate pretreatment technology includes control equipment, such as equalization tanks or facilities, for protection against surges or slug loading that might interfere with or otherwise be incompatible with the POTW. However, if wastewater from a regulated process is mixed in an equalization facility with unregulated wastewater or with wastewater from another regulated process, the effluent from the equalization facility shall meet an adjusted pretreatment limit calculated under 40 CFR 403.6(e), which is incorporated by reference in R18-9-A905(A)(8)(b).

B. Pretreatment applies to:
1. Pollutants from non-domestic sources covered by pretreatment standards that are indirectly discharged, transported by truck or rail, or otherwise introduced into POTWs;
2. POTWs that receive wastewater from sources subject to national pretreatment standards; and
3. Any new or existing source subject to national pretreatment standards.

C. National pretreatment standards do not apply to sources that discharge to a sewer that is not connected to a POTW.

D. For purposes of this Section the terms "National Pretreatment Standard" and "Pretreatment Standard" mean any regulation containing pollutant discharge limits promulgated by EPA under section 307(b) and (c) of the Clean Water Act (33 U.S.C. 1317), which applies to Industrial Users. This term includes prohibitive discharge limits established under 40 CFR 403.5.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-A907. Public Notice Requirements

A. Individual permits.
1. The Director shall publish a notice that a draft individual permit has been prepared, or a permit application has been tentatively denied, and may publish all notices of these activities in one or more newspapers of general circulation where the facility is located, or to the Department's website. If the Department publishes notice of a draft individual permit on the website, it shall addition-

ally post on the website the draft permit and fact sheet for the duration of the public comment period. The notice shall contain:

a. The name and address of the Department;
b. The name and address of the permittee or permit applicant and if different, the name of the facility or activity regulated by the permit;
c. A brief description of the business conducted at the facility or activity described in the permit application;
d. The name, address, and telephone number of a person from whom an interested person may obtain further information, including copies of the draft permit, fact sheet, and application;
e. A brief description of the comment procedures, the time and place of any hearing, including a statement of procedures to request a hearing (unless a hearing has already been scheduled), and any other procedure by which the public may participate in the final permit decision;
f. A general description of the location of each existing or proposed discharge point and the name of the receiving water;
g. For sources subject to section 316(a) of the Clean Water Act, a statement that the thermal component of the discharge is subject to effluent limitations under the Clean Water Act, section 301 (33 U.S.C. 1311) or 306 (33 U.S.C. 1316) and a brief description, including a quantitative statement, of the thermal effluent limitations proposed under section 301 (33 U.S.C. 1311) or 306 (33 U.S.C. 1316);
h. Requirements applicable to cooling water intake structures at new facilities subject to 40 CFR 125, subpart I; and
i. Any additional information considered necessary to the permit decision.

2. The Department shall provide the applicant with a copy of the draft individual permit.
3. Copy of the notice. The Department shall provide the following entities with a copy of the notice:
   a. The applicant or permittee;
   b. Any user identified in the permit application of a privately owned treatment works;
   c. Any affected federal, state, tribal, or local agency, or council of government;
   d. Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources, the Arizona Historic Preservation Office, and the U.S. Army Corps of Engineers;
   e. Each applicable county department of health, environmental services, or comparable department;
   f. Any person who requested, in writing, notification of the activity; and
   g. The Secretaria de Medio Ambiente y Recursos Naturales and the United States Section of the International Boundary and Water Commission, if the Department is aware the effluent discharge is expected to reach Sonora, Mexico, either through surface water or groundwater.

B. General permits. If the Director considers issuing a general permit applicable to a category of discharge under R18-9-C901, the Director shall publish a general notice of the draft permit. The Director shall publish a notice that a draft individual permit has been prepared, or a permit application has been tentatively denied, and may publish all notices of these activities in one or more newspapers of general circulation where the facility is located, or to the Department's website. If the Department publishes notice of a draft individual permit on the website, it shall additionally post on the website the draft permit and fact sheet for the duration of the public comment period. The notice shall contain:

1. The name and address of the Department,
2. The name of the person to contact regarding the permit,
3. The general permit category,
4. A brief description of the proposed general permit,
5. A map or description of the permit area,
6. The website or any other location where the proposed general permit may be obtained, and
7. The ending date for public comment.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-A908. Public Participation, EPA Review, EPA Hearing

A. Public comment period.

1. The Director shall accept written comments from any interested person before a decision is made on any notice published under R18-9-A907(A) or (B).
2. The public comment period begins on the publication date of the notice and extends for 30 calendar days.
3. The Director may extend the comment period to provide commenters a reasonable opportunity to participate in the decision-making process.
4. If any data, information, or arguments submitted during the public comment period appear to raise substantial new questions concerning a permit, the Director may reopen or extend the comment period to provide interested persons an opportunity to comment on the information or arguments submitted. Comments filed during a reopened comment period are limited to the substantial new questions that caused its reopening.
   a. Corps of Engineers.
      i. If the District Engineer advises the Director that denying the permit or imposing specified conditions upon a permit is necessary to avoid any substantial impairment of anchorage or navigation, then the Director shall deny the permit or include the specified conditions in the permit.
      ii. A person shall use the applicable procedures of the Corps of Engineers Review and not the procedures under this Article to appeal the denial of a permit or conditions specified by the District Engineer.
      iii. If the conditions are stayed by a court of competent jurisdiction or by applicable procedures of the Corps of Engineers, those conditions are considered stayed in the AZPDES permit for the duration of that stay.
   b. If an agency with jurisdiction over fish, wildlife, or public health advises the Director in writing that the imposition of specified conditions upon the permit is necessary to avoid substantial impairment of fish,

shellfish, or wildlife resource, the Director may include the specified conditions in the permit to the extent they are determined necessary to carry out the provisions of the Clean Water Act.

B. Public hearing.
1. The Director shall provide notice and conduct a public hearing to address a draft permit or denial regarding a final decision if:
   a. Significant public interest in a public hearing exists, or
   b. Significant issues or information have been brought to the attention of the Director during the comment period that was not considered previously in the permitting process.
2. If, after publication of the notice under R18-9-A907, the Director determines that a public hearing is necessary, the Director shall schedule a public hearing and publish notice of the public hearing at least once, in one or more newspapers of general circulation where the facility is located. The notice for public hearing shall contain:
   a. The date, time, and place of the hearing;
   b. Reference to the date of a previous public notice relating to the proposed decision, if any; and
   c. A brief description of the nature and purpose of the hearing, including reference to the applicable laws and rules.
3. The Department shall accept written public comment until the close of the hearing or until a later date specified by the person presiding at the public hearing.

C. EPA review of draft and proposed permits.
1. Individual permits.
   a. The Department shall send a copy of the draft permit to EPA.
   b. If EPA objects to the draft permit within 30 days from the date of receipt of the draft permit, the EPA comment period is extended to 90 days from the date of receipt of the draft permit and the substantive review time-frame is suspended until EPA makes a final determination.
   c. If, based on public comments, the Department revises the draft permit, the Department shall send EPA a copy of the proposed permit. If EPA objects to the proposed permit within 30 days from the date of receipt of the proposed permit, the EPA comment period is extended to 90 days from the date of receipt of the proposed permit and the substantive review time-frame is suspended until EPA makes a final determination.
   d. If EPA withdraws its objection to the draft or proposed permit or does not submit specific objections within 90 days, the Director shall issue the permit.
2. General permits. The Director shall send a copy of the draft permit to EPA and comply with the following review procedure for EPA comments:
   a. If EPA objects to the draft permit within 90 days from receipt of the draft permit, the Department shall not issue the permit until the objection is resolved;
   b. If, based on public comments, the Department revises the draft permit, the Department shall send EPA a copy of the proposed permit. If EPA objects to the proposed permit within 90 days from receipt of the proposed permit, the Department shall not issue the permit until the objection is resolved;
   c. If EPA withdraws its objection to the draft or proposed permit or does not submit specific objections within 90 days, the Director shall issue the permit.

D. EPA hearing. Within 90 days of receipt by the Director of a specific objection by EPA, the Director or any interested person may request that EPA hold a public hearing on the objection.
1. If following the public hearing EPA withdraws the objection, the Director shall issue the permit.
2. If a public hearing is not held, and EPA reaffirms the original objection, or modifies the terms of the objection, and the Director does not resubmit a permit revised to meet the EPA objection within 90 days of receipt of the objection, EPA may issue the permit for one term. Following the completion of the permit term, authority to issue the permit reverts to the Department.
3. If a public hearing is held and EPA does not withdraw an objection or modify the terms of the objection, and the Director does not resubmit a permit revised to meet the EPA objection within 30 days of notification of the EPA objection, EPA may issue the permit for one permit term. Following the completion of the permit term, authority to issue the permit reverts to the Department.
4. If EPA issues the permit instead of the Director, the Department shall close the application file.

E. Final permit determination.
1. Individual permits. At the same time the Department notifies a permittee or an applicant of the final individual permit determination, the Department shall send, through regular mail, a notice of the determination to any person who submitted comments or attended a public hearing on the final individual permit determination. The Department shall:
   a. Specify the provisions, if any, of the draft individual permit that have been changed in the final individual permit determination, and the reasons for the change; and
   b. Briefly describe and respond to all significant comments on the draft individual permit or the permit application raised during the public comment period, or during any hearing.
2. General permits. The Director shall publish a general notice of the final permit determination in the *Arizona Administrative Register*. The notice shall:
   a. Specify the provisions, if any, of the draft general permit that have been changed in the final general permit determination, and the reasons for the change;
   b. Briefly describe and respond to all significant comments on the draft general permit raised during the public comment period, or during any hearing; and
   c. Specify where a copy of the final general permit may be obtained.
3. The Department shall make the response to comments available to the public.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-A909. Petitions

A. Any person may submit a petition to the Director requesting:
1. The issuance of a general permit;

2. An individual permit covering any discharge into an MS4 under 40 CFR 122.26(f), which is incorporated by reference in R18-9-A905(A)(1)(d); or
3. An individual permit under R18-9-C902(B)(1).

B. The petition shall contain:
1. The name, address, and telephone number of the petitioner;
2. The location of the facility;
3. The exact nature of the petition, and
4. Evidence of the validity of the petition.

C. The Department shall provide the permittee with a copy of the petition.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

PART B. INDIVIDUAL PERMITS

R18-9-B901. Individual Permit Application

A. Time to apply.
1. Any person who owns or operates a facility covered by R18-9-A902(B) or R18-9-A902(C), shall apply for an AZPDES individual permit at least 180 days before the date of the discharge or a later date if granted by the Director, unless the person:
   a. Is exempt under R18-9-A902(G);
   b. Is covered by a general permit under Article 9, Part C of this Chapter; or
   c. Is a user of a privately owned treatment works, unless the Director requires a permit under 40 CFR 122.44(m).
2. Construction. Any person who proposes a construction activity under R18-9-A902(B)(9)(c) or R18-9-A902(B)(9)(d) and wishes coverage under an individual permit, shall apply for the individual permit at least 90 days before the date on which construction is to commence.
3. Waivers.
   a. Unless the Director grants a waiver under 40 CFR 122.32, a person operating a small MS4 is regulated under the AZPDES program.
   b. The Director shall review any waiver granted under subsection (A)(3)(a) at least every five years to determine whether any of the information required for granting the waiver has changed.

B. Application. An individual permit applicant shall submit the following information on an application obtained from the Department. The Director may require more than one application from a facility depending on the number and types of discharges or outfalls.
1. Discharges, other than stormwater.
   a. The information required under 40 CFR 122.21(f) through (k);
   b. The signature of the certifying official required under 40 CFR 122.22;
   c. The name and telephone number of the operator, if the operator is not the applicant; and
   d. Whether the facility is located in the border area, and, if so:
      i. A description of the area into which the effluent discharges from the facility may flow, and
      ii. A statement explaining whether the effluent discharged is expected to cross the Arizona-Sonora, Mexico border.
2. Stormwater. In addition to the information required in subsection (B)(1)(c) and (B)(1)(d):
   a. For stormwater discharges associated with industrial activity, the application requirements under 40 CFR 122.26(c)(1);
   b. For large and medium MS4s, the application requirements under 40 CFR 122.26(d);
   c. For small MS4s:
      i. A stormwater management program under 40 CFR 122.34, and
      ii. The application requirements under 40 CFR 122.33.

C. Consolidation of permit applications.
1. The Director may consolidate two or more permit applications for any facility or activity that requires a permit under Articles 9 and 10 of this Chapter.
2. Whenever a facility or activity requires an additional permit under Articles 9 and 10 of this Chapter, the Director may coordinate the expiration date of the new permit with the expiration date of an existing permit so that all permits expire simultaneously. The Department may then consolidate the processing of the subsequent applications for renewal permits.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final expedited rulemaking at 30 A.A.R. 28 (January 5, 2024), with an immediate effective date of December 15, 2023 (Supp. 23-4).

R18-9-B902. Requested Coverage Under a General Permit

An owner or operator may request that an individual permit be revoked, if a source is excluded from a general permit solely because it already has an individual permit.
1. The Director shall grant the request for revocation of an individual permit upon determining that the permittee otherwise qualifies for coverage under a general permit.
2. Upon revocation of the individual permit, the general permit applies to the source.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B903. Individual Permit Issuance or Denial

A. Once the application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.

B. Permit issuance. If, based upon the information obtained by or available to the Department under R18-9-A907, R18-9-A908, and R18-9-B901, the Director determines that an applicant complies with A.R.S. Title 49, Chapter 2, Article 3.1 and Articles 9 and 10 of this Chapter, the Director shall issue a permit that is effective as prescribed in A.R.S. 49-255.01(H).

C. Permit denial.
1. If the Director decides to deny the permit application, the Director shall provide the applicant with a written notice of intent to deny the permit application. The written notification shall include:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The applicant's right to appeal the denial with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the denial, and the name and

telephone number of the Department contact person who can answer questions regarding the appeals process; and

c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

2. The Director shall provide an opportunity for public comment under R18-9-A907 and R18-9-A908 on a denial.
3. The decision of the Director to deny the permit application takes effect 30 days after the decision is served on the applicant, unless the applicant files an appeal under A.R.S. 49-255.01(H)(1).

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B904. Individual Permit Duration, Reissuance, and Continuation

A. Permit duration.
1. An AZPDES individual permit is effective for a fixed term of not more than five years. The Director may issue a permit for a duration that is less than the full allowable term.
2. If the Director does not reissue a permit within the period specified in the permit, the permit expires, unless it is continued under subsection (C).
3. If a permittee of a large or medium MS4 allows a permit to expire by failing to reapply within the time period specified in subsection (B), the permittee shall submit a new application under R18-9-B901 and follow the application requirements under 40 CFR 122.26(d), which is incorporated by reference in R18-9-A905(A)(1)(d).

B. Permit reissuance.
1. A permittee shall reapply for an individual permit at least 180 days before the permit expiration date.
2. Unless otherwise specified in the permit, an annual report submitted 180 days before the permit expiration date satisfies the reapplication requirement for an MS4 permit. The annual report shall contain:
   a. The name, address, and telephone number of the MS4;
   b. The name, address, and telephone number of the contact person;
   c. The status of compliance with permit conditions, including an assessment of the appropriateness of the selected best management practices and progress toward achieving the selected measurable goals for each minimum measure;
   d. The results of any information collected and analyzed, including monitoring data, if any;
   e. A summary of the stormwater activities planned for the next reporting cycle;
   f. A change in any identified best management practices or measurable goals for any minimum measure; and
   g. Notice of relying on another governmental entity to satisfy some of the permit obligations.

C. Continuation. An AZPDES individual permit may continue beyond its expiration date if:
1. The permittee has submitted a complete application for an AZPDES individual permit at least 180 days before the expiration date of the existing permit and the permitted activity is of a continuing nature; and
2. The Department is unable, through no fault of the permittee, to issue an AZPDES individual permit on or before the expiration date of the existing permit.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final expedited rulemaking at 30 A.A.R. 28 (January 5, 2024), with an immediate effective date of December 15, 2023 (Supp. 23-4).

R18-9-B905. Individual Permit Transfer

A. A permittee may request the Director to transfer an individual permit to a new permittee. The Director may modify, or revoke and reissue the permit to identify the new permittee, or make a minor modification to identify the new permittee.

B. Automatic transfer. The Director may automatically transfer an individual permit to a new permittee if:
1. The current permittee notifies the Director by certified mail at least 30 days in advance of the proposed transfer date and includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
2. The Director does not notify the existing permittee and the proposed new permittee of the Director's intent to modify, or revoke and reissue the permit. A modification under this subsection may include a minor modification specified in R18-9-B906(B).

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B906. Modification, Revocation and Reissuance, and Termination of Individual Permits

A. Permit modification, revocation and reissuance.
1. The Director may modify, or revoke and reissue an individual permit for any of the following reasons:
   a. The Director receives a written request from an interested person;
   b. The Director receives information, such as when inspecting a facility;
   c. The Director receives a written request to modify, or revoke and reissue a permit from a permittee as required in the individual permit; or
   d. After review of a permit file, the Director determines one or more of the causes listed under 40 CFR 122.62(a) or (b) exists.
      i. If the Director decides a written request is not justified under 40 CFR 122.62 or subsection (B), the Director shall send the requester a brief written response giving a reason for the decision.
      ii. The denial of a request for modification, or revocation and reissuance is not subject to public notice, comment, or hearing under R18-9-A907 and R18-9-A908(A) and (B).
2. If the Director tentatively decides to modify, or revoke and reissue an individual permit, the Director shall prepare a draft permit incorporating the proposed changes. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application.

a. Modified individual permit. The Director shall reopen only the modified conditions when preparing a new draft permit and process the modifications.
b. Revoked and reissued individual permit.
i. The permittee shall submit a new application.
ii. The Director shall reopen the entire permit just as if the permit had expired and was being reissued.

3. During any modification, or revocation and reissuance proceeding, the permittee shall comply with all conditions of the existing permit until a new final permit is issued.

B. Minor modifications.

1. Upon consent of the permittee, the Director may make any of the following modifications to an individual permit:
a. Correct typographical errors;
b. Update a permit condition that changed as a result of updating an Arizona water quality standard;
c. Require more frequent monitoring or reporting by the permittee;
d. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
e. Allow for a change in ownership or operational control of a facility, if no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director;
f. Change the construction schedule for a new source discharger. The change shall not affect a discharger's obligation to have all pollution control equipment installed and in operation before the discharge;
g Delete a point source outfall if the discharge from that outfall is terminated and does not result in a discharge of pollutants from other outfalls except under permit limits;
h. Incorporate conditions of a POTW pretreatment program approved under 40 CFR 403.11 and 40 CFR 403.18, which is incorporated by reference in R18-9-A905(A)(8) as enforceable conditions of the permit, and
i. Annex an area by a municipality.

2. Any modification processed under subsection (B)(1) is not subject to the public notice provision under R18-9-A907 or public participation procedures under R18-9-A908.

C. Permit termination.

1. The Director may terminate an individual permit during its term or deny reissuance of a permit for any of the following causes:
a. The permittee's failure to comply with any condition of the permit;
b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant fact;
c. The Director determined that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
d. A change occurs in any condition that requires either a temporary or permanent reduction or elimination of any discharge, sludge use, or disposal practice controlled by the permit, for example, a plant closure or termination of discharge by connection to a POTW.

2. If the Director terminates a permit during its term or denies a permit renewal application for any cause listed in subsection (C)(1), the Director shall issue a Notice of Intent to Terminate, except when the entire discharge is terminated.
a. Unless the permittee objects to the termination notice within 30 days after the notice is sent, the termination is final at the end of the 30 days.
b. If the permittee objects to the termination notice, the permittee shall respond in writing to the Director within 30 days after the notice is sent.
c. Expedited permit termination. If a permittee requests an expedited permit termination procedure, the permittee shall certify that the permittee is not subject to any pending state or federal enforcement actions, including citizen suits brought under state or federal law.
d. The denial of a request for termination is not subject to public notice, comment, or hearing under R18-9-A907 and R18-9-A908(A) and (B).

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final expedited rulemaking at 30 A.A.R. 28 (January 5, 2024), with an immediate effective date of December 15, 2023 (Supp. 23-4).

R18-9-B907. Individual Permit Variances

A. The Director may grant or deny a request for any of the following variances:

1. An extension under section 301(i) of the Clean Water Act (33 U.S.C. 1311) based on a delay in completion of a POTW;
2. After consultation with EPA, an extension under section 301(k) of the Clean Water Act (33 U.S.C. 1311) based on the use of innovative technology;
3. A variance under section 316(a) of the Clean Water Act (33 U.S.C. 1326) for thermal pollution, or
4. A variance under R18-11-122 for a water quality standard.

B. The Director may deny, forward to EPA with a written concurrence, or submit to EPA without recommendation a completed request for:

1. A variance based on the economic capability of the applicant under section 301(c) of the Clean Water Act (33 U.S.C. 1311); or
2. A variance based on water quality related effluent limitations under 302(b)(2) (33 U.S.C. 1312) of the Clean Water Act.

C. The Director may deny or forward to EPA with a written concurrence a completed request for:

1. A variance based on the presence of fundamentally different factors from those on which an effluent limitations guideline is based; and
2. A variance based upon water quality factors under section 301(g) of the Clean Water Act (33 U.S.C. 1311).

D. If the Department approves a variance under subsection (A) or if EPA approves a variance under subsection (B) or (C), the Director shall prepare a draft permit incorporating the variance. Any public notice of a draft permit for which a variance or modification has been approved or denied shall identify the applicable procedures for appealing the decision.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

PART C. GENERAL PERMITS

R18-9-C901. General Permit Issuance

A. The Director may issue a general permit to cover one or more categories of discharges, sludge use, or disposal practices, or facilities within a geographic area corresponding to existing geographic or political boundaries, if the sources within a covered category of discharges are either:
1. Stormwater point sources; or
2. One or more categories of point sources other than stormwater point sources, or one or more categories of treatment works treating domestic sewage, if the sources, or treatment works treating domestic sewage, within each category all:
   a. Involve the same or substantially similar types of operations;
   b. Discharge the same types of wastes or engage in the same types of sludge use or disposal practices;
   c. Require the same effluent limitations, operating conditions, or standards for sludge use or disposal;
   d. Require the same or similar monitoring; and
   e. Are more appropriately controlled under a general permit than under an individual permit.

B. Any person seeking coverage under a general permit issued under subsection (A) shall submit a Notice of Intent on a form provided by the Department within the time-frame specified in the general permit unless exempted under the general permit as provided in subsection (C)(2). The person shall not discharge before the time specified in the general permit unless the discharge is authorized by another permit.

C. Exemption from filing a Notice of Intent.
1. The following dischargers are not exempt from submitting a Notice of Intent:
   a. A discharge from a POTW;
   b. A combined sewer overflow;
   c. A MS4;
   d. A primary industrial facility;
   e. A stormwater discharge associated with industrial activity;
   f. A CAFO;
   g. A treatment works treating domestic sewage; and
   h. A stormwater discharge associated with construction activity.
2. For dischargers not listed in subsection (C)(1), the Director may consider a Notice of Intent inappropriate for the discharge and authorize the discharge under a general permit without a Notice of Intent. In making this finding, the Director shall consider:
   a. The type of discharge,
   b. The expected nature of the discharge,
   c. The potential for toxic and conventional pollutants in the discharge,
   d. The expected volume of the discharge,
   e. Other means of identifying the discharges covered by the permit, and
   f. The estimated number of discharges covered by the permit.
3. The Director shall provide reasons for not requiring a Notice of Intent for a general permit in the public notice.

D. Notice of Intent. The Director shall specify the contents of the Notice of Intent in the general permit and the applicant shall submit information sufficient to establish coverage under the general permit, including, at a minimum:
1. The name, position, address, and telephone number of the owner of the facility;
2. The name, position, address, and telephone number of the operator of the facility, if different from subsection (D)(1);
3. The name and address of the facility;
4. The type and location of the discharge;
5. The receiving streams;
6. The latitude and longitude of the facility;
7. For a CAFO, the information specified in 40 CFR 122.21(i)(1) and a topographic map;
8. The signature of the certifying official required under 40 CFR 122.22; and
9. Any other information necessary to determine eligibility for the AZPDES general permit.

E. The general permit shall contain:
1. The expiration date; and
2. The appropriate permit requirements, permit conditions, and best management practices, and measurable goals for MS4 general permits, under R18-9-A905(A)(1), R18-9-A905(A)(2), and R18-9-A905(A)(3) and determined by the Director as necessary and appropriate for the protection of navigable waters.

F. The Department shall inform a permittee if EPA requests the permittee's Notice of Intent, unless EPA requests that the permittee not be notified.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-C902. Required and Requested Coverage Under an Individual Permit

A. Individual permit requirements.
1. The Director may require a person authorized by a general permit to apply for and obtain an individual permit for any of the following cases:
   a. A discharger or treatment works treating domestic sewage is not in compliance with the conditions of the general permit;
   b. A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;
   c. Effluent limitation guidelines are promulgated for point sources covered by the general permit;
   d. An Arizona Water Quality Management Plan containing requirements applicable to the point sources is approved;
   e. Circumstances change after the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

f. Standards for sewage sludge use or disposal are promulgated for the sludge use and disposal practices covered by the general permit; or

g. If the Director determines that the discharge is a significant contributor of pollutants. When making this determination, the Director shall consider:

i. The location of the discharge with respect to navigable waters,

ii. The size of the discharge,

iii. The quantity and nature of the pollutants discharged to navigable waters, and

iv. Any other relevant factor.

2. If an individual permit is required, the Director shall notify the discharger in writing of the decision. The notice shall include:

a. A brief statement of the reasons for the decision,

b. An application form,

c. A statement setting a deadline to file the application,

d. A statement that on the effective date of issuance or denial of the individual permit, coverage under the general permit will automatically terminate,

e. The applicant's right to appeal the individual permit requirement with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the individual permit requirement, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and

f. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

3. The discharger shall apply for a permit within 90 days of receipt of the notice, unless the Director grants a later date. In no case shall the deadline be more than 180 days after the date of the notice.

4. If the permittee fails to submit the individual permit application within the time period established in subsection (A)(3), the applicability of the general permit to the permittee is automatically terminated at the end of the day specified by the Director for application submittal.

5. Coverage under the general permit shall continue until an individual permit is issued unless the permit coverage is terminated under subsection (A)(4).

B. Individual permit request.

1. An owner or operator authorized by a general permit may request an exclusion from coverage of a general permit by applying for an individual permit.

a. The owner or operator shall submit an individual permit application under R18-9-B901(B) and include the reasons supporting the request no later than 90 days after publication of the general permit.

b. The Director shall grant the request if the reasons cited by the owner or operator are adequate to support the request.

2. If an individual permit is issued to an owner or operator otherwise subject to a general permit, the applicability of the general permit to the discharge is automatically terminated on the effective date of the individual permit.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C903. General Permit Duration, Reissuance, and Continuation

A. General permit duration.

1. An AZPDES general permit is effective for a fixed term of not more than five years. The Director may issue a permit for a duration that is less than the full allowable term.

2. If the Director does not reissue a general permit before the expiration date, the current general permit will be administratively continued and remain in force and effect until the general permit is reissued.

B. Continued coverage. Any permittee granted permit coverage before the expiration date automatically remains covered by the continued permit until the earlier of:

1. Reissuance or replacement of the permit, at which time the permittee shall comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or

2. The date the permittee has submitted a Notice of Termination; or

3. The date the Director has issued an individual permit for the discharge; or

4. The date the Director has issued a formal permit decision not to reissue the general permit, at which time the permittee shall seek coverage under an alternative general permit or an individual permit.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C904. Change of Ownership or Operator Under a General Permit

If a change of ownership or operator occurs for a facility operating under a general permit:

1. Permitted owner or operator. The permittee shall provide the Department with a Notice of Termination by certified mail within 30 days after the new owner or operator assumes responsibility for the facility.

a. The Notice of Termination shall include all requirements for termination specified in the general permit for which the Notice of Termination is submitted.

b. A permittee shall comply with the permit conditions specified in the general permit for which the Notice of Termination is submitted until the Notice of Termination is received by the Department.

2. New owner or operator.

a. The new owner or operator shall complete and file a Notice of Intent with the Department within the time period specified in the general permit before taking over operational control of, or initiation of activities at, the facility.

b. If the previous permittee was required to implement a stormwater pollution prevention plan, the new owner shall develop a new stormwater pollution prevention plan, or may modify, certify, and implement the old stormwater pollution prevention plan if the old stormwater pollution prevention plan complies with the requirements of the current general permit.

c. The permittee shall provide the Department with a Notice of Termination if a permitted facility ceases operation, ceases to discharge, or changes operator status. In the case of a construction site, the permittee shall submit a Notice of Termination to the Department when:

i. The facility ceases construction operations and the discharge is no longer associated with construction or construction-related activities,
ii. The construction is complete and final site stabilization is achieved, or
iii. The operator's status changes.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C905. General Permit Modification and Revocation and Reissuance

A. The Director may modify or revoke a general permit issued under R18-9-A907(B), R18-9-A908, and R18-9-C901 if one or more of the causes listed under 40 CFR 122.62(a) or (b) exists.

B. The Director shall follow the procedures specified in R18-9-A907(B) and R18-9-A908 to modify or revoke and reissue a general permit.

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

PART D. ANIMAL FEEDING OPERATIONS AND CONCENTRATED ANIMAL FEEDING OPERATIONS

R18-9-D901. CAFO Designations

A. Two or more animal feeding operations under common ownership are considered a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

B. The Director shall designate an animal feeding operation as a CAFO if the animal feeding operation significantly contributes a pollutant to a navigable water. The Director shall consider the following factors when making this determination:
1. The size of the animal feeding operation and the amount of wastes reaching a navigable water;
2. The location of the animal feeding operation relative to a navigable water;
3. The means of conveyance of animal wastes and process wastewaters into a navigable water;
4. The slope, vegetation, rainfall, and any other factor affecting the likelihood or frequency of discharge of animal wastes and process wastewaters into a navigable water; and
5. Any other relevant factor.

C. The Director shall conduct an onsite inspection of the animal feeding operation before the making a designation under subsection (B).

D. The Director shall not designate an animal feeding operation having less than the number of animals established in R18-9-A901(19)(a) as a CAFO unless a pollutant is discharged:
1. Into a navigable water through a manmade ditch, flushing system, or other similar manmade device; or
2. Directly into a navigable water that originates outside of and passes over, across, or through the animal feeding operation or otherwise comes into direct contact with the animals confined in the operation.

E. If the Director makes a designation under subsection (B), the Director shall notify the owner or operator of the operation, in writing, of the designation.

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D902. AZPDES Permit Coverage Requirements

A. Any person who owns or operates a CAFO, except as provided in subsections (B) and (C), shall submit an application for an individual permit under R18-9-B901(B) or seek coverage under a general permit under R18-9-C901(B) within the applicable deadline specified in R18-9-D904(A).

B. If a person who owns or operates a large CAFO receives a no potential to discharge determination under R18-9-D903, coverage under an AZPDES permit described in this Part is not required.

C. The discharge of manure, litter, or process wastewater to a navigable water from a CAFO as a result of the application of manure, litter, or process wastewater by the CAFO to land areas under its control is subject to AZPDES permit requirements, except where it is an agricultural stormwater discharge as provided in section 502(14) of the Clean Water Act (33 U.S.C. 1362(14)). For purposes of this Section, an "agricultural stormwater discharge" means a precipitation-related discharge of manure, litter, or process wastewater from land areas under the control of a CAFO when the person who owns or operates the CAFO has applied the manure, litter, or process wastewater according to site-specific nutrient management practices to ensure appropriate agricultural use of the nutrients in the manure, litter, or process wastewater, as specified under 40 CFR 122.42(e)(1)(vi) through (ix).

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D903. No Potential To Discharge Determinations for Large CAFOs

A. For purposes of this Section, "no potential to discharge" means that there is no potential for any CAFO manure, litter, or process wastewater to enter into a navigable water under any circumstance or climatic condition.

B. Any person who owns or operates a large CAFO and has not had a discharge within the previous five years may request a no potential to discharge determination by submitting to the Department:
1. The information specified in 40 CFR 122.21(f) and 40 CFR 122.21(i)(1)(i) through (ix) on a form obtained from the Department, by the applicable date specified in R18-9-D904(A); and
2. Any additional information requested by the Director to supplement the request or requested through an onsite inspection of the CAFO.

C. Process for making a no potential to discharge determination.
1. Upon receiving a request under subsection (B), the Director shall consider:
   a. The potential for discharges from both the production area and any land application area, and
   b. Any record of prior discharges by the CAFO.
2. The Director shall issue a public notice that includes:
   a. A statement that a no potential to discharge request has been received;
   b. A fact sheet, when applicable;
   c. A brief description of the type of facility or activity that is the subject of the no potential to discharge determination;
   d. A brief summary of the factual basis, upon which the request is based, for granting the no potential to discharge determination; and

e. A description of the procedures for reaching a final decision on the no potential to discharge determination.

3. The Director shall base the decision to grant a no potential to discharge determination on the administrative record, which includes all information submitted in support of a no potential to discharge determination and any other supporting data gathered by the Director.

4. The Director shall notify the owner or operator of the large CAFO of the final determination within 90 days of receiving the request.

D. If the Director determines that the operation has the potential to discharge, the person who owns or operates the CAFO shall seek coverage under an AZPDES permit within 30 days after the determination of potential to discharge.

E. A no potential to discharge determination does not relieve the CAFO from the consequences of a discharge. An unpermitted CAFO discharging a pollutant into a navigable water is in violation of the Clean Water Act even if the Director issues a no potential to discharge determination for the facility. If the Director issues a determination of no potential to discharge to a CAFO facility but the owner or operator anticipates a change in circumstances that could create the potential for a discharge, the owner or operator shall contact the Director and apply for and obtain permit authorization before the change of circumstances.

F. When the Director issues a determination of no potential to discharge, the Director retains the authority to subsequently require AZPDES permit coverage if:

1. Circumstances at the facility change;
2. New information becomes available; or
3. The Director determines, through other means, that the CAFO has a potential to discharge.

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D904. AZPDES Permit Coverage Deadlines

A. Any person who owns or operates a CAFO shall apply for or seek coverage under an AZPDES permit and shall comply with all applicable AZPDES requirements, including the duty to maintain permit coverage under subsection (C).

1. Permit coverage deadline for an animal feeding operation operating before April 14, 2003.
   a. An owner or operator of an animal feeding operation that operated before April 14, 2003 and was defined as a CAFO before February 2, 2004 shall apply for or seek permit coverage or maintain permit coverage and comply with the conditions of the applicable AZPDES permit;
   b. An owner or operator of an animal feeding operation that operated before April 14, 2003 and was not defined as a CAFO until February 2, 2004 shall apply for or seek permit coverage by a date specified by the Director, but no later than February 13, 2006;
   c. An owner or operator of an animal feeding operation that operated before April 14, 2003 who changes the operation on or after February 2, 2004, resulting in the operation being defined as a CAFO, shall apply for or seek permit coverage as soon as possible, but no later than 90 days after the operational change. If the operational change will not make the operation a CAFO as defined before February 2, 2004, the owner or operator may take until April 13, 2006 or 90 days after the operation is defined as a CAFO, whichever is later, to apply for or seek permit coverage;
   d. An owner or operator of an animal feeding operation that operated before April 14, 2003 who constructs additional facilities on or after February 2, 2004, resulting in the operation being defined as a CAFO that is a new source, shall apply for or seek permit coverage at least 180 days before the new source portion of the CAFO commences operation. If the calculated 180-day deadline occurs before February 2, 2004 and the operation is not subject to this Article before February 2, 2004, the owner or operator shall apply for or seek permit coverage no later than March 3, 2004.
2. Permit coverage deadline for an animal feeding operation operating on or after April 14, 2003. An owner or operator who started construction of a CAFO on or after April 14, 2003, including a CAFO subject to the effluent limitations guidelines in 40 CFR 412, shall apply for or seek permit coverage at least 180 days before the CAFO commences operation. If the calculated 180-day deadline occurs before February 2, 2004 and the operation is not subject to this Article before February 2, 2004, the owner or operator shall apply for or seek permit coverage no later than March 3, 2004.
3. Permit coverage deadline for a designated CAFO. Any person who owns or operates a CAFO designated under R18-9-D901(B) shall apply for or seek permit coverage no later than 90 days after receiving a designation notice.

B. Unless specified under R18-9-D903(E) and (F), the Director shall not require permit coverage for a CAFO that the Director determines under R18-9-D903 to have no potential to discharge. If circumstances change at a CAFO that has a no potential to discharge determination and the CAFO now has a potential to discharge, the person who owns or operates the CAFO shall notify the Director within 30 days after the change in circumstances and apply for or seek coverage under an AZPDES permit.

C. Duty to maintain permit coverage.

1. The permittee shall:
   a. If covered by an individual AZPDES permit, submit an application to renew the permit no later than 180 days before the expiration of the permit under R18-9-B904(B); or
   b. If covered by a general AZPDES permit, comply with R18-9-C903(B).
2. Continued permit coverage or reapplication for a permit is not required if:
   a. The facility ceases operation or is no longer a CAFO; and
   b. The permittee demonstrates to the Director that there is no potential for a discharge of remaining manure, litter, or associated process wastewater (other than agricultural stormwater from land application areas) that was generated while the operation was a CAFO.

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D905. Closure Requirements

A. Closure.

1. A person who owns or operates a CAFO shall notify the Department of the person's intent to cease operations

without resuming an activity for which the facility was designed or operated.

2. A person who owns or operates a CAFO shall submit a closure plan to the Department for approval 90 days before ceasing operation. The closure plan shall describe:
   a. For operations that met the "no potential to discharge" under R18-9-D903, facility-related information based on the Notice of Termination form for the applicable general permit;
   b. The approximate quantity of manure, process wastewater, and other materials and contaminants to be removed from the facility;
   c. The destination of the materials to be removed from the facility and documentation that the destination is approved to accept the materials;
   d. The method to treat any material remaining at the facility;
   e. The method to control the discharge of pollutants from the facility;
   f. Any limitations on future land or water use created as a result of the facility's operations or closure activities;
   g. A schedule for implementing the closure plan; and
   h. Any other relevant information the Department determines necessary.

B. The owner or operator shall provide the Department with written notice that a closure plan has been fully implemented within 30 calendar days of completion and before redevelopment.

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

ARTICLE 10. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM - DISPOSAL, USE, AND TRANSPORTATION OF BIOSOLIDS

R18-9-1001. Definitions

In addition to the definitions in A.R.S. § 49-255 and R18-9-A901, the following terms apply to this Article:

1. "Aerobic digestion" means the biochemical decomposition of organic matter in biosolids into carbon dioxide and water by microorganisms in the presence of air.
2. "Agronomic rate" means the whole biosolids application rate on a dry-weight basis that meets the following conditions:
   a. The amount of nitrogen needed by existing vegetation or a planned or actual crop has been provided, and
   b. The amount of nitrogen that passes below the root zone of the crop or vegetation is minimized.
3. "Anaerobic digestion" means the biochemical decomposition of organic matter in biosolids into methane gas and carbon dioxide by microorganisms in the absence of air.
4. "Annual biosolids application rate" means the maximum amount of biosolids (dry-weight basis) that can be applied to an acre or hectare of land during a 365-day period.
5. "Annual pollutant loading rate" means the maximum amount of a pollutant that can be applied to an acre or hectare of land during a 365-day period.
6. "Applicator" means a person who arranges for and controls the site-specific land application of biosolids in Arizona.
7. "Biosolids" means sewage sludge, including exceptional quality biosolids, that is placed on, or applied to the land to use the beneficial properties of the material as a soil amendment, conditioner, or fertilizer. Biosolids do not include any of the following:
   a. Sludge determined to be hazardous under A.R.S. Title 49, Chapter 5, Article 2 and 40 CFR 261;
   b. Sludge with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry-weight basis);
   c. Grit (for example, sand, gravel, cinders, or other materials with a high specific gravity) or screenings generated during preliminary treatment of domestic sewage by a treatment works;
   d. Sludge generated during the treatment of either surface water or groundwater used for drinking water;
   e. Sludge generated at an industrial facility during the treatment of industrial wastewater, including industrial wastewater combined with domestic sewage;
   f. Commercial septage, industrial septage, or domestic septage combined with commercial or industrial septage; or
   g. Special wastes as defined and controlled under A.R.S. Title 49, Chapter 4, Article 9.
8. "Bulk biosolids" means biosolids that are transported and land-applied in a manner other than in a bag or other container holding biosolids of 1.102 short tons or 1 metric ton or less.
9. "Class I sludge management facility" means any POTW identified under 40 CFR 403.8(a) as being required to have an approved pretreatment program (including a POTW for which the Department assumes local program responsibilities under 40 CFR 403.10(e)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the regional administrator in conjunction with the Director or by the Director because of the potential for its sludge use or disposal practices to adversely affect public health or the environment.
10. *"Clean water act" means the federal water pollution control act amendments of 1972, as amended (P.L. 92-500; 86 Stat. 816; 33 United States Code sections 1251 through 1376).* A.R.S. 49-201(6).
11. "Coarse fragments" means rock particles in the gravel-size range or larger.
12. "Coarse or medium sands" means a soil mixture of which more than 50% of the sand fraction is retained on a No. 40 (0.425 mm) sieve.
13. "Cumulative pollutant loading rate" means the maximum amount of a pollutant applied to a land application site.
14. "Domestic septage" means the liquid or solid material removed from a septic tank, cesspool, portable toilet, marine sanitation device, or similar system or device that receives only domestic sewage. Domestic septage does not include commercial or industrial wastewater or restaurant grease-trap wastes.
15. "Domestic sewage" means waste or wastewater from humans or household operations that is discharged to a publicly or privately owned treatment works. Domestic sewage also includes commercial and industrial wastewaters that are discharged into a publicly-owned or privately-owned treatment works if the industrial or commercial wastewater combines with human excreta

and other household and nonindustrial wastewaters before treatment.

16. "Dry-weight basis" means the weight of biosolids calculated after the material has been dried at 105° C until reaching a constant mass.
17. "Exceptional quality biosolids" means biosolids certified under R18-9-1013(A)(6) as meeting the pollutant concentrations in R18-9-1005 Table 2, Class A pathogen reduction in R18-9-1006, and one of the vector attraction reduction requirements in subsections R18-9-1010(A)(1) through R18-9-1010(A)(8).
18. "Feed crops" means crops produced for animal consumption.
19. "Fiber crops" means crops grown for their physical characteristics. Fiber crops, including flax and cotton, are not produced for human or animal consumption.
20. "Food crops" means crops produced for human consumption.
21. "Gravel" means soil predominantly composed of rock particles that will pass through a 3-inch (75 mm) sieve and be retained on a No. 4 (4.75 mm) sieve.
22. "Industrial wastewater" means wastewater that is generated in a commercial or industrial process.
23. "Land application," "apply biosolids," or "biosolids applied to the land" means spraying or spreading biosolids on the surface of the land, injecting biosolids below the land's surface, or incorporating biosolids into the soil to amend, condition, or fertilize the soil.
24. "Monthly average" means the arithmetic mean of all measurements taken during a calendar month.
25. "Municipality" means a city, town, county, district, association, or other public body, including an intergovernmental agency of two or more of the foregoing entities created by or under state law. The term includes special districts such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity that has as one of its principal responsibilities, the treatment, transport, use, or disposal of biosolids.
26. *"WOTUS" means the waters of the United States as defined by section 502(7) of the clean water act (33 United States Code section 1362(7)).* A.R.S. § 49-201(53).
27. "Other container" means a bucket, bin, box, carton, trailer, pickup truck bed, or a tanker vehicle or an open or closed receptacle with a load capacity of 1.102 short tons or one metric ton or less.
28. "Pathogen" means a disease-causing organism.
29. *"Person" means an individual, employee, officer, managing body, trust, firm, joint stock company, consortium, public or private corporation, including a government corporation, partnership, association or state, a political subdivision of this state, a commission, the United States government or a federal facility, interstate body or other entity.* A.R.S. § 49-201(33).
30. "Person who prepares biosolids" means a person who generates biosolids during the treatment of domestic sewage in a treatment works, packages biosolids, or derives a new product from biosolids either through processing or by combining it with another material, including blending several biosolids together.
31. "pH" means the logarithm of the reciprocal of the hydrogen ion concentration.
32. "Pollutant" means an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after release into the environment and upon exposure, ingestion, inhalation, or assimilation into an organism, either directly from the environment or indirectly by ingestion through the food chain, could cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformities in either organisms or reproduced offspring.
33. "Pollutant limit" means:
    a. A numerical value that describes the quantity of a pollutant allowed in a unit of biosolids such as milligrams per kilogram of total solids,
    b. The quantity of a pollutant that can be applied to a unit area of land such as kilograms per hectare, or
    c. The volume of biosolids that can be applied to a unit area of land such as gallons per acre.
34. "Privately owned treatment works" means a device or system owned by a non-governmental entity used to treat, recycle, or reclaim, either domestic sewage or a combination of domestic sewage and industrial waste that is generated off-site.
35. "Public contact site" means a park, sports field, cemetery, golf course, plant nursery, or other land with a high potential for public exposure to biosolids.
36. "Reclamation" means the use of biosolids to restore or repair construction sites, active or closed mining sites, landfill caps, or other drastically disturbed land.
37. "Responsible official" means a principal corporate officer, general partner, proprietor, or, in the case of a municipality, a principal executive official or any duly authorized agent.
38. "Runoff" means rainwater, leachate, or other liquid that drains over any part of a land surface and runs off of the land surface.
39. "Sand" means soil that contains more than 85% grains in the size range that will pass through a No. 4 (4.75 mm) sieve and be retained on a No. 200 (0.075 mm) sieve.
40. *"Sewage sludge":*
    (a) Means solid, semisolid or liquid residue that is generated during the treatment of domestic sewage in a treatment works.
    (b) Includes domestic septage, scum or solids that are removed in primary, secondary or advanced wastewater treatment processes, and any material derived from sewage sludge.
    (c) Does not include ash that is generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings that are generated during preliminary treatment of domestic sewage in a treatment works. A.R.S. § 49-255(6)
41. "Sewage sludge unit" means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include navigable waters.
42. "Specific oxygen uptake rate (SOUR)" means the mass of oxygen consumed per unit time per unit mass of total solids (dry-weight basis) in biosolids.
43. "Store biosolids" or "storage of biosolids" means the temporary holding or placement of biosolids on land before land application.
44. "Surface disposal site" means an area of land that contains one or more active sewage sludge units.

45. "Ton" means a net weight of 2000 pounds and is known as a short ton.
46. "Total solids" means the biosolids material that remains when sewage sludge is dried at 103° C to 105° C.
47. "Treatment of biosolids" means the thickening, stabilization, dewatering, and other preparation of biosolids for land application. Storage is not a treatment of biosolids.
48. "Unstabilized solids" means the organic matter in biosolids that has not been treated or reduced through an aerobic or anaerobic process.
49. "Vectors" means rodents, flies, mosquitoes, or other organisms capable of transporting pathogens.
50. "Volatile solids" means the amount of total solids lost when biosolids are combusted at 550° C in the presence of excess air.
51. "Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration to support, and do under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, cienegas, tinajas, and similar areas.

Historical Note

New Section recodified from R18-13-1502 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4). Amended by final expedited rulemaking at 31 A.A.R. 989 (March 28, 2025), with an immediate effective date of March 7, 2025 (Supp. 25-1).

R18-9-1002. Applicability and Prohibitions

A. This Article applies to:
1. Any person who:
   a. Prepares biosolids for land application or disposal in a sewage sludge unit or in an incinerator,
   b. Transports biosolids for land application or incineration, or disposal in a sewage sludge unit,
   c. Applies biosolids to the land,
   d. Owns or operates a sewage sludge unit,
   e. Owns or leases land to which biosolids are applied, or
   f. Owns or operates an incinerator that fires sewage sludge,
2. Biosolids applied to the land or placed on a surface disposal site,
3. Land where biosolids are applied, and
4. A surface disposal site.

B. The land application of biosolids in a manner consistent with this Article is exempt from the requirements of the aquifer protection program established under A.R.S. Title 49, Chapter 2, Article 3 and 18 A.A.C. 9, Articles 1, 2, and 3.

C. Except as provided in subsection (D), the land application of biosolids in a manner that is not consistent with Articles 9 and 10 of this Chapter is prohibited.

D. The Department may permit the land application of biosolids in a manner that differs from the requirements in R18-9-1007 and R18-9-1008 if the land application is permitted under the aquifer protection permit program established under A.R.S. Title 49, Chapter 2, Article 3, and 18 A.A.C. 9, Articles 1, 2, and 3.

E. Surface disposal site.
1. Any person who prepares biosolids that are placed in a sewage sludge unit, or places biosolids in a sewage sludge unit, or who owns or operates a biosolids surface disposal site shall comply with 40 CFR 503, Subpart C, which is incorporated by reference in R18-9-A905(A)(9), and
   a. The pathogen reduction requirements in R18-9-1006, and
   b. The vector attraction reduction requirements in R18-9-1010.
2. In addition to the requirements under subsection (E)(1), any person who owns or operates a biosolids surface disposal site shall apply for, and obtain, a permit under 18 A.A.C. 9, Articles 1 and 2.

F. A person shall not apply bulk biosolids to the land or place bulk biosolids in a surface disposal site or fire sewage sludge in a sewage sludge incinerator if the biosolids are likely to adversely affect a threatened or endangered species as listed under section 4 of the Endangered Species Act (16 U.S.C. 1533), or its designated critical habitat as defined in 16 U.S.C. 1532.

G. A person incinerating biosolids shall comply with the requirements set out in 40 CFR Part 503, Subpart E, July 1, 2013 edition, which is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or may be obtained from the U.S. General Printing office at http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR.

Historical Note

New Section recodified from R18-13-1501 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4). Amended by final rulemaking at 21 A.A.R. 751, effective July 4, 2015 (Supp. 15-2).

R18-9-1003. General Requirements

A. A person shall not use or transport biosolids, apply biosolids to land, or place biosolids on a surface disposal site in Arizona, except as established in this Article.

B. The management practices in R18-9-1007 and R18-9-1008 do not apply if biosolids are exceptional quality biosolids.

C. The applicator shall obtain, submit to the Department, and maintain the information required to comply with the requirements of this Article.

D. The applicator shall not receive bulk biosolids without prior written confirmation of the filing of a "Request for Registration" under R18-9-1004.

E. The land owner or lessee of land on which bulk biosolids, that are not exceptional quality biosolids, have been applied shall notify any subsequent land owner and lessee of all previous land applications of biosolids and shall disclose any site restrictions listed in R18-9-1009 that are in effect at the time the property is transferred.

F. A person who prepares biosolids shall ensure that the applicable requirements in this Article are met when the biosolids are applied to the land or placed on a surface disposal site.

G. If necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids, the Department may impose, on a case-by-case basis, requirements for

the use or disposal of biosolids, including exceptional quality biosolids, in addition to, or more stringent than, the requirements in this Article. The Department shall notify the preparer, applier, or land owner of these requirements by letter and include the justification for the requirements and the length of time or applicability for the requirements.

Historical Note

New Section recodified from R18-13-1503 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1004. Applicator Registration, Bulk Biosolids

A. Any person intending to land-apply bulk biosolids in Arizona shall submit, on a form provided by the Department, a completed "Request for Registration."

B. An applicator shall not engage in land application of bulk biosolids, unless the applicator has obtained a prior written acknowledgment of the Request for Registration or a supplemental request from the Department.

C. The Request for Registration for all biosolids, except exceptional quality biosolids, shall include:

1. The name, address, and telephone number of the applicator and any agent of the applicator;
2. The name and telephone number of a primary contact person who has specific knowledge of the land application activities of the applicator;
3. Whether the applicator holds a NPDES or AZPDES permit, and, if so, the permit number;
4. The identity of the person, if different from the applicator, including the NPDES or AZPDES permit number, who will prepare the biosolids for land application; and
5. The following information, unless the information is already on file at the Department as part of an approved land application plan, for each site on which application is anticipated to take place:
   a. The name, mailing address, and telephone number of the land owner and lessee, if any;
   b. The physical location of the site by county;
   c. The legal description of the site, including township, range, and section, or latitude and longitude at the center of each site;
   d. The number of acres or hectares at each site to be used;
   e. Except for sites described in R18-9-1005(D)(2)(c), background concentrations of the pollutants listed in Table 4 of R18-9-1005 from representative soil samples;
   f. The location of any portion of the site having a slope greater than 6%; and
   g. Public notice. Proof of placement of a public notice announcing the potential use of the site for the application of biosolids when a site has not previously received biosolids, or when a site has not been used for land application for at least three consecutive years.
      i. The notice shall appear at least once each week for at least two consecutive weeks in the largest newspaper in general circulation in the area in which the site is located.
      ii. If a site is not used for land application for at least three consecutive years, the applicator shall renotice the site following the process described in subsection (C)(5)(g)(i) before its reuse.

D. The Request for Registration for exceptional quality biosolids shall include the information in subsections (C)(1) through (C)(4).

E. A responsible official of the applicator shall sign the Request for Registration.

F. The Department shall mail a written acknowledgment of a Request for Registration or supplemental request, within 15 business days of receipt of the request.

G. An applicator wishing to use a site that has not been identified in a Request for Registration shall file a supplemental request with the Department before using the new site. Public notice requirements under R18-9-1004(C)(5)(g) apply.

Historical Note

New Section recodified from R18-13-1504 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1005. Pollutant Concentrations

A. A person shall not apply biosolids with pollutant concentrations that exceed any of the ceiling concentrations established in Table 1.

B. A person shall not apply biosolids sold or given away in a bag or other container that are not exceptional quality biosolids to a site if any annual pollutant loading rate in Table 3 will be exceeded. A person shall determine annual application rates using the methodology established in Appendix A.

C. A person shall not apply bulk biosolids to a lawn or garden unless the biosolids are exceptional quality biosolids.

D. Unless using exceptional quality biosolids, a person shall not apply bulk biosolids to a site when:

1. The pollutant concentrations exceed the levels in Table 2, or
2. Any cumulative pollutant loading rate in Table 4 will be exceeded. A person shall determine compliance with the site cumulative pollutant loading rates using the following:
   a. By identifying all known biosolids application events and information relevant to a site since September 13, 1979.
   b. By calculating the existing cumulative level of the pollutants established in Table 4 using actual analytical data from the application events or if actual analytical data from application events before April 1996 are not available, background concentrations determined by taking representative soil samples of the site, if it is known that the site received biosolids before April 1996.
   c. Background soil tests are not required for those sites that have not received biosolids before April 23, 1996.

Table 1. Ceiling Concentrations

Pollutant	Ceiling concentrations (milligrams per kilogram) [1]
Arsenic	75.0
Cadmium	85.0
Chromium	3000.0
Copper	4300.0
Lead	840.0

Mercury	57.0
Molybdenum	75.0
Nickel	420.0
Selenium	100.0
Zinc	7500.0

(1) Dry-weight basis.

Table 2. Monthly Average Pollutant Concentrations

Pollutant	Concentration limits (milligrams per kilogram)(1)
Arsenic	41.0
Cadmium	39.0
Copper	1500.0
Lead	300.0
Mercury	17.0
Nickel	420.0
Selenium	100.0
Zinc	2800.0

(1) Dry-weight basis.

Table 3. Annual Pollutant Loading Rates

Pollutant	Annual pollutant loading rates (in kilograms per hectare)
Arsenic	2.0
Cadmium	1.9
Copper	75.0
Lead	15.0
Mercury	0.85
Nickel	21.0
Selenium	5.0
Zinc	140.0

Table 4. Cumulative Pollutant Loading Rates

Pollutant	Cumulative pollutant loading rates (in kilograms per hectare)
Arsenic	41.0
Cadmium	39.0
Copper	1500.0
Lead	300.0
Mercury	17.0
Nickel	420.0
Selenium	100.0
Zinc	2800.0

Historical Note
New Section recodified from R18-13-1505 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1006. Class A and Class B Pathogen Reduction Requirements

A. An applicator shall ensure that all biosolids applied to land meet Class A or Class B pathogen reduction requirements at the time the biosolids are:
1. Placed on an active sewage sludge unit unless the biosolids are covered with soil or other material at the end of each operating day, or
2. Land applied.

B. Biosolids that are sold or given away in a bag or other container for land application, or that are applied on a lawn or home garden, shall meet the Class A pathogen reduction requirements established in subsection (D).

C. Land on which biosolids with Class B pathogen reduction requirements are applied is subject to the use restrictions established in R18-9-1009.

D. Biosolids satisfy the Class A pathogen reduction requirements when the density of fecal coliform is less than 1000 Most Probable Number per gram of total solids (dry-weight basis), or the density of *Salmonella sp.* bacteria is less than three Most Probable Number per four grams of total solids (dry-weight basis), and any one of the following alternative pathogen treatment options is used:
1. Alternative 1. The pathogen treatment process meets one of the following time and temperature requirements:
   a. When the percent solids of the biosolids are seven percent or greater, the temperature of the biosolids shall be held at 50° C or higher for at least 20 minutes. The temperature and time period is determined using the equation in subsection (D)(1)(b), except when small particles of the biosolids are heated by either warmed gases or an immiscible liquid;
   b. When the percent solids of the biosolids are seven percent or greater, and small particles of the biosolids are heated by either warmed gases or an immiscible liquid, a temperature of 50° C or higher shall be held for 15 seconds or longer. The temperature and time period is determined using the following equation:

$$D = \frac{131,700,000}{10^{[0.1400t]}}$$

D = time in days, and
t = temperature in degrees Celsius;

   c. When the percent solids of the biosolids are less than seven percent, the temperature of the biosolids is 50° C or higher and the time period is 30 minutes or longer. The temperature and time period shall be determined using the following equation:

$$D = \frac{50,070,000}{10^{[0.1400t]}}$$

D = time in days, and
t = temperature in degrees Celsius; or

   d. When the percent solids of the biosolids are less than seven percent, and the time of heating is at least 15 seconds, but less than 30 minutes, the time and temperature is determined using the following equation:

$$D = \frac{131,700,000}{10^{[0.1400t]}}$$

D = time in days, and

t = temperature in degrees Celsius.

2. Alternative 2. The pathogen treatment process meets all the following parameters:
   a. The pH of the quantity of biosolids treated is raised to 12 or higher and held at least 72 hours;
   b. During the period that the pH is above 12, the temperature of the biosolids is held above 52° C for at least 12 hours; and
   c. At the end of the 72-hour period during which the pH is above 12, the biosolids are air dried to achieve a percent solids in the biosolids greater than 50%.
3. Alternative 3. The following conditions are met:
   a. The biosolids, before pathogen treatment and until the next monitoring event, have an enteric virus density less than one plaque-forming unit for four grams of total solids (dry-weight basis);
   b. The biosolids, before pathogen treatment and until the next monitoring event, have a viable helminth ova density less than one for four grams of total solids (dry-weight basis); and
   c. Once the density requirements in subsections (D)(3)(a) and (D)(3)(b) are consistently met after pathogen treatment and the values and ranges of the pathogen treatment process used are documented, the biosolids continue to be Class A with respect to enteric viruses and viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the previously documented values or ranges of values.
4. Alternative 4. The following requirements are met at the time the biosolids are used or disposed or at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land:
   a. The biosolids have an enteric virus density less than one plaque-forming unit for four grams of total solids (dry-weight basis), and
   b. The biosolids have a viable helminth ova density less than one for four grams of total solids (dry-weight basis).
5. Alternative 5. Composting.
   a. Use either the within-vessel or the static-aerated-pile composting method, maintaining the temperature of the biosolids at 55° C or higher for three days; or
   b. Use the windrow composting method, maintaining the temperature of the biosolids at 55° C or higher for at least 15 days. The windrow shall be turned at least five times when the compost is maintained at 55° C or higher.
6. Alternative 6. Heat drying. The biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content to 10% or lower by weight. During the process:
   a. The temperature of the sewage sludge particles shall exceed 80° C, or
   b. The wet bulb temperature of the gas as the biosolids leave the dryer shall exceed 80° C.
7. Alternative 7. Heat treatment. The quantity of liquid biosolids treated are heated to a temperature of 180° C or higher for at least 30 minutes.
8. Alternative 8. Thermophilic aerobic digestion. Liquid biosolids are agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the biosolids is 10 days at 55 ° to 60° C.
9. Alternative 9. Beta ray irradiation. Biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (approximately 20° C).
10. Alternative 10. Gamma ray irradiation. Biosolids are irradiated with gamma rays from certain isotopes, such as ^{60}Cobalt and ^{137}Cesium at dosages of at least 1.0 megarad at room temperature (approximately 20° C).
11. Alternative 11. Pasteurization. The temperature of the biosolids is maintained at 70° C or higher for at least 30 minutes.
12. Alternative 12. The Director shall approve another process if the process is equivalent to a Process to Further Reduce Pathogens specified in subsections (D)(5) through (D)(11), as determined by the EPA Pathogen Equivalency Committee.

E. Biosolids satisfy the Class B pathogen reduction requirements when the biosolids meet any one of the following options:
1. Alternative 1. The geometric mean of the density of fecal coliform in seven representative samples is less than either 2,000,000 Most Probable Number per gram of total solids (dry-weight basis), or 2,000,000 colony forming units per gram of total solids (dry-weight basis);
2. Alternative 2. Air drying. The biosolids are dried on sand beds or paved or unpaved basins for at least three months. During at least two of the three months, the ambient average daily temperature is above 0° C;
3. Alternative 3. Lime stabilization. Sufficient lime is added to the biosolids to raise the pH of the biosolids to 12 after at least two hours of contact;
4. Alternative 4. Aerobic digestion. The biosolids are agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature between 40 days at 20° C and 60 days at 15° C;
5. Alternative 5. Anaerobic digestion. The biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature between 15 days at 35° C to 55° C and 60 days at 20° C;
6. Alternative 6. Composting. Using the within-vessel, static-aerated-pile or windrow composting methods, the temperature of the biosolids is raised to 40° C or higher for five consecutive days. For at least four hours during the five days, the temperature in the compost pile exceeds 55° C; or
7. Alternative 7. The Director shall approve another process if it is equivalent to a Process to Significantly Reduce Pathogens specified in subsections (E)(2) through (E)(6), as determined by the EPA Pathogen Equivalency Committee.

Historical Note

New Section recodified from R18-13-1506 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1007. Management Practices and General Requirements

A. An applicator of bulk biosolids that are not exceptional quality biosolids shall comply with the following management practices at each land application site, except a site where bulk biosolids are applied for reclamation. The applicator shall not:
1. Apply bulk biosolids to soil with a pH less than 6.5 at the time of the application, unless the biosolids are treated

under one of the procedures in subsections R18-9-1006(D)(2), R18-9-1006(E)(3), or R18-9-1010(A)(6), or the soil and biosolids mixture has a pH of 6.5 or higher immediately after land application;

2. Apply bulk biosolids to land with slopes greater than 6%, unless the site is operating under an AZPDES permit or a permit issued under section 402 of the Clean Water Act (33 U.S.C. 1342);
3. Apply bulk biosolids to land under the following conditions:
   a. Bulk biosolids with Class A pathogen reduction. If the depth to groundwater is five feet (1.52 meters) or less;
   b. Bulk biosolids with Class B pathogen reduction.
      i. If the depth to groundwater is 10 feet (3.04 meters) or less; or
      ii. To gravel, coarse or medium sands, or sands with less than 15% coarse fragments, if the depth to groundwater is 40 feet (12.2 meters) or less from the point of application of biosolids;
4. Apply bulk biosolids to land that is 32.8 feet (10 meters) or less from navigable waters;
5. Store or apply bulk biosolids closer than 1000 feet (305 meters) from a public or semi-public drinking water supply well or no closer than 250 feet (76.2 meters) from any other water well;
6. Store or apply bulk biosolids within 25 feet (7.62 meters) of a public right-of-way or private property line unless the applicator receives permission to apply bulk biosolids from the land owner or lessee of the adjoining property;
7. Apply bulk biosolids at an application rate greater than the agronomic rate of the vegetation or crop grown on the site;
8. Apply domestic septage or any other bulk biosolids with less than 10% solids at a rate that exceeds the annual application rate, calculated in gallons per acre for a 365-day period by dividing the amount of nitrogen needed by the crop or vegetation grown on the land, in pounds per acre per 365-day period, by 0.0026;
9. Apply bulk biosolids to land that is flooded, frozen, or snow-covered, so that the bulk biosolids enter a wetland or other navigable waters, except as provided in an AZPDES permit or a permit issued under section 402 of the Clean Water Act (33 U.S.C. 1342);
10. Apply any additional bulk biosolids before a crop is grown on the site if the site has received biosolids containing nitrogen at the equivalent of the agronomic rate appropriate for that crop;
11. Exceed the irrigation needs of the crop of an application site;
12. To minimize odors, apply bulk biosolids within 1000 feet (305 meters) of a dwelling unless the biosolids are injected or incorporated into the soil within 10 hours of being applied; or
13. Store bulk biosolids within 1000 feet (305 meters) of a dwelling unless the applicator obtains permission from the dwelling owner or lessee to store the biosolids at a shorter distance from the dwelling. If the dwelling owner or lessee changes, the applicator shall obtain permission from the new dwelling owner or lessee to continue to store the bulk biosolids within 1000 feet of the dwelling or move the biosolids to a location at least 1000 feet from the dwelling.

B. If biosolids are placed in a bag or other container, the person who prepares the biosolids shall distribute a label or information sheet to the person receiving the material. This label or information sheet shall, at a minimum, contain the following information:

1. The identity and address of the person who prepared the biosolids;
2. Instructions on the proper use of the material, including agronomic rates and an annual application rate that ensures that the annual pollutant rates established in R18-9-1005 are not exceeded; and
3. A statement that application of biosolids to the land shall not exceed application rates described in the instructions on the label or information sheet.

Historical Note

New Section recodified from R18-13-1507 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1008. Management Practices, Application of Biosolids to Reclamation Sites

A. An applicator of bulk biosolids that are not exceptional quality biosolids shall comply with the following management practices at each land application site where the bulk biosolids are applied for reclamation. The applicator shall not:

1. Apply bulk biosolids unless the soil and biosolids mixture has a pH of 5.0 or higher immediately after land application;
2. Apply bulk biosolids to land with slopes greater than 6% unless:
   a. The site is operating under an AZPDES permit or a permit issued under section 402 (33 U.S.C. 1342) or 404 (33 U.S.C. 1344) of the Clean Water Act;
   b. The site is reclaimed as specified under A.R.S. Title 27, Chapter 5, and controls are in place to prevent runoff from leaving the application area; or
   c. Runoff from the site does not reach navigable waters;
3. Apply bulk biosolids to land under the following conditions:
   a. Bulk biosolids with Class A pathogen reduction. To land if the depth to groundwater is 5 feet (1.52 meters) or less;
   b. Bulk biosolids with Class B pathogen reduction.
      i. To land if the depth to groundwater is 10 feet (3.04 meters) or less; and
      ii. To gravel, coarse or medium sands, or sands with less than 15% coarse fragments if the depth to groundwater is 40 feet (12.2 meters) or less from the point of application of biosolids;
4. Apply bulk biosolids to land that is 32.8 feet (10 meters) or less from navigable waters;
5. Store or apply bulk biosolids closer than 1000 feet (305 meters) from a public or semi-public drinking water supply well, unless the applicator justifies and the Department approves a shorter distance, or apply bulk biosolids closer than 250 feet (76.2 meters) from any other water well;
6. Store or apply bulk biosolids within 1000 feet (305 meters) of a public right-of-way or private property line unless the applicator receives permission to apply bulk

biosolids from the land owner or lessee of the adjoining property;

7. Exceed a total of 150 dry tons per acre to any portion of a reclamation site if bulk biosolids are applied;
8. Apply bulk biosolids with less than 10% solids;
9. Apply bulk biosolids to land that is flooded, frozen, or snow-covered so that the bulk biosolids enter a wetland or other navigable waters, except as provided in an AZPDES permit or a permit issued under section 402 (33 U.S.C. 1342) or 404 (33 U.S.C. 1344) of the Clean Water Act;
10. Apply more water than necessary to control dust and establish vegetation; and
11. Apply bulk biosolids within 1000 feet (305 meters) of a dwelling unless the biosolids are injected or incorporated into the soil within 10 hours of being applied.
12. Store bulk biosolids within 1000 feet (305 meters) of a dwelling unless the applicator obtains permission from the dwelling owner or lessee to store the biosolids at a shorter distance from the dwelling. If the dwelling owner or lessee changes, the applicator shall obtain permission from the new dwelling owner or lessee to continue to store the bulk biosolids within 1000 feet of the dwelling or move the biosolids to a location at least 1000 feet from the dwelling.

B. The requirements of R18-9-1007(B) apply if biosolids placed in a bag or other container are used to reclaim a site.

Historical Note

New Section recodified from R18-13-1508 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1008 renumbered to R18-9-1009; new Section R18-9-1008 made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1009. Site Restrictions

A. The following site restrictions apply to land where biosolids, which do not meet the Class A pathogen reduction requirements established in R18-9-1006, are land-applied.

1. A person shall not:
   a. Harvest food crop parts that touch the biosolids, or biosolids and soil mixture, but otherwise grow above the land's surface for 14 months following application;
   b. Harvest food crop parts growing in or below the land's surface for 20 months following application if the biosolids remain unincorporated on the land's surface for four months or more;
   c. Harvest food crop parts growing in or below the land's surface for 38 months following application if the biosolids remain on the land's surface for less than four months before incorporation;
   d. Harvest food, feed, and fiber crops for 30 days after application;
   e. Graze animals on the land for 30 days after application; or
   f. Harvest turf to be used at a public contact site or private residence for one year after application.
2. A person shall restrict public access to:
   a. Public contact sites for one year after application, and
   b. Land with a low potential for public exposure for 30 days after application.

B. If the vector attraction reduction requirement is met using the method:

1. In R18-9-1010(C)(1) or R18-9-1010(C)(2), the requirements of subsection (A) apply to domestic septage applied to agricultural land, forests, or reclamation sites; or
2. In R18-9-1010(C)(3), the requirements of subsection (A)(1)(a) through (A)(1)(d) apply to domestic septage applied to agricultural land, forests, or reclamation sites.

C. Once application is completed at a site, the applicator shall, in writing, provide the land owner and lessee with the following information:

1. The cumulative pollutant loading at the site if it is greater than or equal to 90% of the available site capacity established in Table 4 of R18-9-1005;
2. Any restriction established in this Section that applies to the property and the nature of the restriction; and
3. The signature of a responsible official of the applicator on this document that includes the following statement: "I certify under penalty of law, that the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for false representations, including fines and imprisonment."

D. The land owner or lessee shall provide each applicator with a signature indicating receipt of the site restriction statement.

Historical Note

New Section recodified from R18-13-1509 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1009 renumbered to R18-9-1010; new Section R18-9-1009 renumbered from R18-9-1008 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1010. Vector Attraction Reduction

A. Except as provided in subsection (B), an applicator or person who prepares biosolids shall use one of the following vector attraction reduction procedures if biosolids are land-applied:

1. Reducing the mass of volatile solids by a minimum of 38% using the calculation procedures established in "Environmental Regulations and Technology -- Control of Pathogens and Vector Attraction in Sewage Sludge," EPA/625/R-92-013, published by the U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, 1999 edition. This material is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Department and the Office of the Secretary of State;
2. If the 38% volatile solids reduction cannot be met for anaerobically digested biosolids the reduction can be met by digesting a portion of the previously digested material anaerobically in a laboratory in a bench-scale unit for 40 additional days at a temperature between 30° C and 37° C. Vector attraction reduction is achieved if, at the end of the 40 days, the volatile solids in the material at the beginning of the period are reduced by less than 17%;
3. If the 38% volatile solids reduction cannot be met for aerobically digested biosolids, the reduction can be met by digesting a portion of the previously digested material, which has a percent solids of 2% or less, aerobically in a laboratory in a bench-scale unit for 30 additional days at 20° C. Vector attraction reduction is achieved if, at the end of the 30 days, the volatile solids in the material at the beginning of the period are reduced by less than 15%;

4. Treat the biosolids in an aerobic process during which the specific oxygen uptake rate (SOUR) is equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry-weight basis) at 20° C;
5. Treat the biosolids in an aerobic process for 14 days or longer, during which the temperature of the biosolids is higher than 40° C and the average temperature of the biosolids is higher than 45° C;
6. Raising the pH of the biosolids to 12 or higher by alkali addition and, without the addition of more alkali, remain at 12 or higher for two hours and at 11.5 or higher for an additional 22 hours;
7. The percent solids of the biosolids that do not contain unstabilized solids generated in a primary wastewater treatment process is equal to or greater than 75% based on the moisture content and total solids before mixing with other materials;
8. The percent solids of the biosolids containing unstabilized solids generated in a primary wastewater treatment process are equal to or greater than 90% based on the moisture content and total solids before mixing with other materials;
9. Injecting the biosolids below the surface of the land so that no significant amount of biosolids is present on the land surface one hour after injection. If the biosolids meet Class A pathogen reduction, injection shall occur within eight hours after being discharged from a Class A pathogen treatment process; or
10. Incorporating the biosolids into the soil within six hours after application. If the biosolids meet Class A pathogen reduction, application shall occur within eight hours after being discharged from a Class A pathogen treatment process.

B. Biosolids that are sold or given away in a bag or other container, or are applied to a lawn or home garden, shall meet one of the vector attraction reduction alternatives established in subsections (A)(1) through (A)(8).

C. For domestic septage, vector attraction reduction is met by one of the following methods:
1. By injecting as specified in subsection (A)(9);
2. By incorporating as specified in subsection (A)(10); or
3. By raising the pH of the domestic septage to 12 or higher through the addition of alkali and, without the addition of more alkali, holding the pH at 12 or higher for at least 30 minutes.

Historical Note
New Section recodified from R18-13-1510 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1010 renumbered to R18-9-1011; new Section R18-9-1010 renumbered from R18-9-1009 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1011. Transportation

A. A transporter of bulk biosolids into and within Arizona shall use covered trucks, trailers, rail-cars, or other vehicles that are leakproof.

B. A transporter of bulk biosolids in liquid or semisolid form, including domestic septage, into and within Arizona shall comply with the requirements in A.A.C. R18-13-310. A transporter of bulk biosolids in solid form into and within Arizona shall comply with the requirements in A.A.C. R18-13-310.

C. A transporter of biosolids shall clean any truck, trailer, rail-car, or other vehicle used to transport biosolids to prevent odors or insect breeding. A transporter shall clean any tank vessel used to transport commercial or industrial septage or restaurant grease-trap wastes, that is also used to haul domestic septage, before loading the domestic septage to ensure that mixing of wastes does not occur.

D. If bulk biosolids are spilled while being transported, the transporter shall:
1. Immediately pick up any spillage, including any visibly discolored soil, unless otherwise determined by the Department on a case-by-case basis;
2. Within 24 hours after the spill, notify the Department of the spill and submit written notification of the spill within seven days. The written notification shall include the location of the spill, the reason it occurred, the amount of biosolids spilled, and the steps taken to clean up the spill.

Historical Note
New Section recodified from R18-13-1511 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1011 renumbered to R18-9-1012; new Section R18-9-1011 renumbered from R18-9-1010 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4). A.C.C. citation corrected in subsection (B) at the request of the Department; Office file number M16-185 (Supp. 16-3).

R18-9-1012. Self-monitoring

A. Except as provided in subsection (B) the person who prepares the biosolids shall conduct self-monitoring events at the frequency listed in Table 5 for the pollutants listed in R18-9-1005, the pathogen reduction in R18-9-1006 and the vector attraction reduction requirements in R18-9-1010.

Table 5. Frequency of Self-monitoring

Amount of biosolids prepared (tons/metric tons per 365-day period[(1)])	Frequency
Greater than zero but less than 319.6/290	Once per year
Equal to or greater than 319.6/290 but less than 1,653/1,500	Once per quarter (Four times per year)
Equal to or greater than 1,653/1,500 but less than 16,530/15,000	Once per 60 days (Six times per year)
Equal to or greater than 16,530/15,000	Once per month (12 times per year)

[(1)] The amount of biosolids prepared in a calendar year (dry-weight basis).

B. If biosolids are stockpiled or lagooned, the person shall sample the biosolids for pathogen and vector attraction reduction before land application. A person shall sample in a manner that is representative of the entire stockpile or lagoon.

C. A person who prepares biosolids shall submit additional or more frequent biosolids samples, collected and analyzed during the reporting period, to the Department with the regularly-scheduled data required in subsection (A).

D. The Department may order the person who prepares biosolids or the applicator to collect and analyze additional samples to measure pollutants of concern other than those established in Table 1 of R18-9-1005.

E. The applicator, person who prepares biosolids, or a person collecting samples for the applicator or preparer for analysis shall obtain the samples in a manner that does not compromise the integrity of the sample, sample method, or sampling instru-

ment and shall be representative of the quality of the biosolids being applied during the reporting period.

F. A person responsible for sampling the biosolids shall track biosolids samples using a chain-of-custody procedure that documents each person in control of the sample from the time it was collected through the time of analysis.

G. The person who prepares biosolids or the applicator shall ensure that the biosolids samples are analyzed as specified by the analytical methods established in 40 CFR 503.8, July 1, 2001 edition, or by the wastewater sample methods and solid, liquid, and hazardous waste sample methods established in A.A.C. R9-14-612 and R9-14-613. The person who prepares the biosolids or the applicator shall ensure that the biosolids analyses are performed at a laboratory operating in compliance with A.R.S. § 36-495 et seq. The information in 40 CFR 503.8 is incorporated by reference, does not include any later amendments or editions of the incorporated matter and is on file with the Department and the Office of the Secretary of State.

H. The person who prepares the biosolids or the applicator shall monitor pathogen and vector attraction reduction treatment operating parameters, such as time and temperature, shall be monitored on a continual basis.

I. An applicator shall conduct and record monitoring of each site for the management practices established in R18-9-1007 and R18-9-1008.

J. A person shall maintain, as specified in R18-9-1013, and report to the Department as specified in R18-9-1014, all compliance measurements, including the analysis of pollutant concentrations.

Historical Note

New Section recodified from R18-13-1512 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1012 renumbered to R18-9-1013; new Section R18-9-1012 renumbered from R18-9-1011 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1013. Recordkeeping

A. A person who prepares biosolids shall collect and retain the following information for at least five years:

1. The date, time, and method used for each sampling activity and the identity of the person collecting the sample;
2. The date, time, and method used for each sample analysis and the identity of the person conducting the analysis;
3. The results of all analyses of pollutants regulated under R18-9-1005 and organic and ammonium nitrogen to comply with R18-9-1007(A)(7);
4. The results of all pathogen density analyses and applicable descriptions of the methods used for pathogen treatment in R18-9-1006;
5. A description of the methods used, if any, and the operating values and ranges observed in any pre-land application, vector attraction reduction activities required in R18-9-1010(A); and
6. For the records described in subsections (A)(1) through (A)(5), the following certification statement signed by a responsible official of the person who prepares the biosolids:

   "I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

B. An applicator of bulk biosolids, except exceptional quality biosolids, shall collect the following information for each land application site, and, except as indicated in subsection (B)(6), shall retain this information for at least five years:

1. The location of each site, by either street address or latitude and longitude;
2. The number of acres or hectares;
3. The date and time the biosolids were applied;
4. The amount of biosolids (in dry metric tons);
5. The biosolids loading rates for domestic septage and other biosolids with less than 10 percent solids in tons or kilograms of biosolids per acre or hectare and in gallons per acre and the biosolids loading rates for other biosolids in tons or kilograms of biosolids per acre or hectare;
6. The cumulative pollutant levels of each regulated pollutant (in tons or kilograms per acre or hectare). The applicator shall retain these records permanently;
7. The results of all pathogen density analyses and applicable descriptions of the methods used for pathogen treatment in R18-9-1006;
8. A description of the activities and measures used to ensure compliance with the management practices in R18-9-1007 and R18-9-1008, including information regarding the amount of nitrogen required for the crop grown on each site;
9. If vector attraction reduction was not met by the person who prepares the biosolids, a description of the vector attraction reduction activities used by the applicator to ensure compliance with the requirements in R18-9-1010;
10. A description of any applicable site restriction imposed by in R18-9-1009 if biosolids with Class B pathogen reduction have been applied and documentation that the applicator has notified the land owner and lessee of these restrictions;
11. For the records described in subsections (B)(1) through (B)(8), the following certification statement signed by a responsible official of the applicator of the biosolids:

    "I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."
12. The information in subsections (A)(1) through (A)(6) if the person who prepares the biosolids is not located in this state.

C. All records required for retention under this Section are subject to periodic inspection and copying by the Department.

D. If there is unresolved litigation, including enforcement, concerning the activities documented by the records required in this Section, the period of record retention shall be extended pending final resolution of the litigation.

Historical Note

New Section recodified from R18-13-1513 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1013 renumbered to R18-9-1014; new Section R18-9-1013 renumbered from R18-9-1012 and

amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1014. Reporting

A. A person who prepares biosolids for application shall provide the applicator with the necessary information to comply with this Article including the concentration of pollutants listed in R18-9-1005 and the concentration of nitrogen in the biosolids.

B. A transporter shall report spills to the Department under R18-9-1011(D).

C. A bulk applicator of biosolids other than exceptional quality biosolids shall provide the land owner and lessee of land application sites with information on the concentrations of the pollutants listed in R18-9-1005 and loading rates of biosolids applied to that site, and any applicable site restrictions under R18-9-1009.

D. A bulk applicator of biosolids other than exceptional quality biosolids shall report to the Department if 90% or more of any cumulative pollutant loading rate has been used at a site.

E. On or before February 19 of each year, any person land-applying bulk biosolids that are not exceptional quality biosolids shall, by letter or on a form provided by the Department, report to the Department the following applicable information for the previous calendar year:
1. The actual sites used; and
2. For each site used, the following information:
   a. The amount of biosolids applied (in tons or kilograms per acre or hectare);
   b. The application loading rates (in tons or kilograms per acre or hectare, and gallons per acre for domestic septage);
   c. The concentrations of the pollutants listed in R18-9-1005 (in milligrams per kilogram of biosolids on a dry-weight basis);
   d. The pathogen treatment methodologies used during the year and the results; and
   e. The vector attraction reduction methodologies used during the year and the results.

F. On or before February 19 of each year, a person preparing biosolids in a Class I Sludge Management Facility, POTW with a design flow rate equal to or greater than one million gallons per day, or POTW that serves 10,000 people or more, that are applied to land, shall, by letter or on a form provided by the Department, report to the Department all the following applicable information regarding their activities during the previous calendar year:
1. The amount of biosolids received if the preparer purchased or received the biosolids from another preparer or source;
2. The amount of biosolids produced (tons or kilograms);
3. The amount of biosolids distributed;
4. The concentrations of the pollutants listed in R18-9-1005 (in milligrams per kilogram of biosolids on a dry-weight basis);
5. The pathogen treatment methodologies used during the year, including the results; and
6. The vector attraction reduction methodologies used during the year, including the results.

G. All annual self-monitoring reports shall contain the following certification statement signed by a responsible official:

"I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Historical Note

New Section recodified from R18-13-1514 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1014 renumbered to R18-9-1015; new Section R18-9-1014 renumbered from R18-9-1013 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1015. Inspection

A person subject to this Article shall allow, during reasonable times, a representative of the Department to enter property subject to this Article, to:
1. Inspect all biosolids pathogen and vector treatment facilities, transportation vehicles, incinerators that fire sewage sludge, and land application sites to determine compliance with this Article;
2. Inspect and copy records prepared in accordance with this Article; and
3. Sample biosolids quality.

Historical Note

Renumbered from R18-9-1014 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 21 A.A.R. 751, effective July 4, 2015 (Supp. 15-2).

Appendix A. Procedures to Determine Annual Biosolids Application Rates

The following procedure determines the annual biosolids application rate (ABAR) that ensures that the annual pollutant loading rates in Table 3 of R18-9-1005 are not exceeded.

1. The relationship between the annual pollutant loading rate (APLR) for a pollutant and the ABAR is shown in the following equation.

   APLR = C x ABAR x 0.001

   APLR = Annual pollutant loading rate in kilograms of biosolids, per hectare, per 365-day period;
   C = Pollutant concentration in milligrams, per kilogram of total solids (dry-weight basis);
   ABAR = Annual biosolids application rate in metric tons, per hectare, per 365-day period (dry-weight basis); and
   0.001 = A conversion factor.
   metric ton = 1.102 short tons
   hectare = 2.471 acres
2. The ABAR is calculated using the following procedure:
   a. Analyze a biosolids sample to determine a concentration for each of the pollutants listed in Table 3 of R18-9-1005; and
   b. Using each of the pollutant concentrations from subsection (2)(a) and the APLRs from Table 3 of R18-9-1005, calculate a separate ABAR for each pollutant using the following equation:

      $$\text{ABAR} = \frac{\text{APLR}}{\text{C} \times 0.001}$$

   c. The ABAR for biosolids is the lowest value calculated in under subsection (2)(b) for any pollutant.

Historical Note

New Appendix recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).