

STATEMENT OF BASIS AND PURPOSE
FOR Artificial Recharge Extraction Rules

This "Statement of Basis and Purpose" has been prepared to elaborate on and clarify the reason for and the intent of the Denver Basin Aquifer and Nontributary Groundwater Aquifer Artificial Recharge Extraction Rules. References to the Denver Basin Rules, the Statewide Nontributary Ground Water Rules, the Division of Water Resources Well Measurement Program Standard, and the Water Well Construction Rules are supported by a copy of those rules, which were entered as exhibits at the hearing.

RULE 1 TITLE

The title of the rules reflects their purpose of providing for extraction of water artificially recharged into a Denver Basin Aquifer or Nontributary Groundwater Aquifer. The short title adequately describes the rules and does not conflict with any other know title.

RULE 2 AUTHORITY

Section 37-80-102(1)(g), C.R.S. (2017)¹ gives the State Engineer general authority to promulgate rules for the Division of Water Resources. Section 37-80-102(k), C.R.S. grants the power and authority to the State Engineer to enforce rules and regulations which address the administration of the water of the State of Colorado. Section 37-90-138, C.R.S. grants authority to the State Engineer to regulate the drilling and construction of all wells in the State to the extent necessary to protect the water resources of the State. Section 37-90-137(9)(d), C.R.S specifically directs the State Engineer to promulgate rules addressing the permitting and use of water artificially recharged water into the Denver Basin Aquifers by July 1, 1995 and Nontributary Groundwater Aquifers by July 1, 2018. These rules were drafted by expanding on the 1995 version of the Denver Basin Extraction Rules to include extraction from Nontributary Groundwater Aquifers outside of the Denver Basin. These rules only apply outside of the Designated Ground Water Basins.

RULE 3 SCOPE AND PURPOSE

¹ All references in this document are to C.R.S. (2017) unless otherwise noted.

The purpose of these rules and regulations is to enable the State Engineer to account for and administer the orderly extraction of water which has been artificially recharged into any of the Denver Basin Aquifers and Nontributary Groundwater Aquifers, and to prevent injury to existing water users and water rights holders.

These rules are limited to the permitting and extraction of artificially recharged waters from existing wells or from wells constructed specifically for extraction of artificially recharged water.

The naturally occurring waters of the Denver Basin Aquifers and Nontributary Groundwater Aquifers are essentially nonrenewable by natural processes. The life of this valuable resource can be prolonged by artificial recharge using surface water or other groundwater available during periods of low demand or excess capacity.

Water recharged into the Denver Basin Aquifers and Nontributary Groundwater Aquifers may be extracted during periods of drought, or may be left in the aquifer, resulting in lower rates of decline in local or regional water levels, thus maximizing the conjunctive use of the waters of the state.

RULE 4 DEFINITIONS

Some of the terms used in these rules are defined by statute in Section 37-90-103, C.R.S. Other terms are defined in the Denver Basin Rules, 2 CCR 402-6, and the Statewide Nontributary Ground Water Rules, 2 CCR 402-7. They have the identical meaning as in the cited references and are not repeated in this rule. The remaining terms are defined so that their meaning is clearly understood.

RULE 5 GENERAL RULES

Rule 5 contains general provisions setting out the responsibilities and liabilities of owners of recharged water and applicants for permits to extract artificially recharged water. This rule also identifies the State Engineer's authority to enter upon the well owner's property for the purpose of inspecting wells and extraction facilities, and to require well identification and measuring devices (meters).

Rule 5.1 addresses the nature of the artificially recharged water to provide for proper administration of the artificial recharge extraction process within the larger framework of water rights administration. Water artificially recharged into the Denver Basin Aquifers and Nontributary Groundwater Aquifers must be specifically decreed for artificial recharge purposes, must be fully reusable or fully

consumable water at the time of injection, or must otherwise be legally and physically available for storage for subsequent extraction, such as surface water diverted for storage by artificial recharge during times of a "free river".

Rules 5.2 and 5.3 address the responsibility and liability of the owner of the recharged water with regard to injury to other water rights and compliance with all applicable statutes and rules.

Rules 5.4 through 5.7 describe the State Engineer's authority with regard to the construction, metering and identification of wells to be used for the extraction of artificially recharged water. The provisions of these rules are similar to the State Engineer's authority over the construction of wells to withdraw naturally occurring groundwater.

Rule 5.8 requires the submittal of supporting documentation in a format specified by the State Engineer.

RULE 6 PERMIT TO EXTRACT ARTIFICIALLY RECHARGED WATER

Rule 6 describes the supporting documentation which must accompany an application for a permit to extract, and sets out a notice requirement. This rule also specifies the fee for a permit to extract, and addresses some extraction well site location limitations.

Rule 6.1 requires that, prior to extraction, the owner, or authorized agent of the owner of artificially recharged water obtain a permit to extract from the State Engineer. The permit evaluation process will allow the State Engineer to determine that the water proposed for extraction has been lawfully injected, and is physically and legally available to the owner for extraction. Extraction may be accomplished through an existing, permitted well which may have been previously authorized to withdraw naturally occurring groundwater.

Rule 6.2 describes documentation which must be submitted in support of an application for a permit to extract through an existing well. The documentation requested will identify other holders of rights to groundwater in the same aquifer which might be affected by extraction, the hydrological conditions of the aquifer prior to extraction, and the locations and amounts of water previously injected into the aquifer.

In order to properly evaluate the availability of the recharged water to the applicant, and the potential for impacts to existing groundwater users and water rights holders, the State Engineer must be informed of the hydrologic and

hydrogeologic conditions of the aquifer prior to the injection of water, and prior to and during the extraction of the artificially recharged water. Evaluation of this documentation will guide the State Engineer in a determination as to whether to deny or approve the application and to develop protective terms and conditions to protect the aquifer and existing water rights holders. Based on data provided by Willows Water District, which was collected during the Denver Basin Aquifer Recharge Demonstration Project, it appears that any effects on the aquifer as a result of recharge and extraction would be minimal beyond several thousand feet from the extraction site. Therefore, providing notice to any person authorized to withdraw water from the same aquifer within one (1) mile of the proposed extraction site will reach any person likely to be affected by the proposed extraction.

Rule 6.3 describes the documentation which must be submitted in support of an application for a permit to extract through the construction of a new well. In addition to the extraction of artificially recharged water, the permit may also authorize the withdrawal of naturally occurring groundwater pursuant to 37-90-137(2) or 37-90-137(4), C.R.S. The requirements for supporting documentation in this circumstance are the same as for an application for a permit to extract through an existing well as described in Rule 6.2.

Rule 6.4 requires that an applicant for a permit to extract give notice of that application to owners of all decreed rights to groundwater from the same aquifer and owners of all permitted or registered wells located within one (1) mile of the proposed extraction site and authorized to withdraw water from the same aquifer. This rule establishes a process which allows those holders of water rights or owners of permitted or registered wells to object to the proposed extraction within a reasonable time. Rule 6.4 assures that water rights holders in the same aquifer within one (1) mile of the proposed extraction site have the opportunity to provide input to the evaluation process. The basis for the one (1) mile distance is described above related to Rule 6.2.

Rule 6.5 establishes the fee for filing an application to extract artificially recharged water, and relates that fee to fees for filing applications for permits to divert naturally occurring groundwater.

Rules 6.6 requires the State Engineer, upon finding that the application for a permit to extract meets the requirements of all applicable statutes and rules and regulations, and a determination that the proposed extraction will not injure existing water rights, to issue the permit, subject to terms and conditions to prevent injury to other holders of rights to groundwater in the same aquifer. Lacking a timely objection submitted pursuant to Rule 6.4, the State Engineer

must act on an application within forty-nine (49) days of its receipt, which parallels the requirements for action on applications for water well permits.

Rule 6.7 requires that the applicant consider the hydrologic and hydrogeologic conditions of the aquifer at the proposed extraction site(s) and to comply with any other applicable federal, state, and local regulations when selecting an extraction site. This rule also requires that all newly constructed wells comply with the Water Well Construction Rules, 2 CCR 402-2, and that the well be located within 200 feet of the approved location, and more than one (1) mile from any point of contact between the outcrop/subcrop of the aquifer and any natural stream, including its alluvium.

The requirement that a well be located within 200 feet of the actual permitted location parallels similar provisions for the construction of new and replacement water wells as well as guidelines of the Water Court for decreed points of diversion.

The one (1) mile distance was chosen based on an evaluation of the data provided by Willows Water District and described above in Rule 6.2. The requirement to locate an extraction well more than one (1) mile from any point of contact between the outcrop/subcrop of the aquifer and any natural stream, including its alluvium is necessary to eliminate or minimize the effect on natural streams in the area by the extraction of artificially recharged water

Rules 6.8 and 6.9 describe the process for extending permits to extract which may expire prior to construction and/or initiation of extraction.

Rule 6.10 reaffirms the validity of any authorizations to extract artificially recharged water which were granted prior to the effective date of the 1995 Denver Basin Extraction Rules or prior to the effective date of these rules in 2018, and allows the holder of such authorization to seek a new permit to extract pursuant to these rules if they so desire.

RULE 7 LIMITATIONS ON EXTRACTION

Rule 7 addresses the technical issues related to the complex geological and hydrological nature of the Denver Basin Aquifers and Nontributary Groundwater Aquifers. This rule recognizes that in most cases, the water extracted will not physically be the same water that was injected, particularly when water is extracted from a confined aquifer at a site some distance from the injection site or sites. In a pure technical sense, the effects of injecting water into a confined aquifer should be felt almost immediately throughout the aquifer, regardless of

the distance from the injection site. However, as a practical matter, there will be limits to the extent of measurable impact from recharge to a confined aquifer.

Rule 7.1 takes into consideration the practical limits on the ability to extract artificially recharged water from a confined aquifer. It is expected that owner/operators of recharge/extraction projects will primarily be municipalities and/or municipal service districts and that these projects will take place within the service boundaries or claimed consent areas of these entities. Consideration was given to the size and location of existing water providers in establishing a limit on the ability of extract water at a site some distance from an injection site. This rule includes a variance provision for an extraction well that was constructed in a confined aquifer, which has transitioned to an unconfined state.

Rule 7.1.1 is intended to provide some protection to owners of existing wells of record which are authorized to withdraw water from the same aquifer. This rule limits the ability of an owner of artificially recharged water from locating an extraction well within the cylinder of appropriation of an existing Pre-213 Well owned by someone other than the applicant. The cylinder of appropriation, as described in Rule 4.A.7 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7, is an administrative tool used by the State Engineer to identify an area which is underlain by a volume of water in a specific aquifer assignable to an existing water right, well permit, or well registration. In order to extend some protection to that identifiable volume of groundwater, extraction of artificially recharged water is limited to a site outside the radius of a cylinder of appropriation of an existing Pre-213 Well unless the owner of that well grants written permission to the Applicant.

Rule 7.2 addresses the limited extent of recharge of an unconfined aquifer, and the potential that water recharged into an unconfined aquifer may physically move some distance from the injection site. The rule does allow some flexibility for the owner of the recharged water to extract that water from a site other than the injection site as required by local hydrological conditions.

Rule 7.3 places a limit on the volume of artificially recharged water which can be extracted through any single extraction well. Because the potential exists for injection of large volumes of water before extraction is initiated. Rule 7.3 is necessary to limit the amount of artificially recharged water that may be extracted at through a single well, thereby reducing the possibility of well to well interference by dispersing the effects of extraction.

Rule 7.4 establishes the ability of the recharger/extractor to bank the artificially recharged water for an indefinite period of time, and makes the distinction

between banking of artificial recharged water and the banking of naturally occurring groundwater. The intent of this rule is to encourage the owner/operator to view artificial recharge and subsequent extraction as a long term conjunctive use of the water resources of the state.

RULE 8 PERMIT AND DENIAL PROCEDURES

Rules 8.1 through 8.5 provide information on the submittal of permit applications and the distribution of approved permits and denied applications. These rules are needed to establish permitting procedures and operational guidelines for staff and the applicants.

In order to conform to existing statutes and rules addressing unpermitted wells, or wells with expired permits. Rule 8.6 requires that such wells be plugged and abandoned, or that the well owner obtain a new permit for the well.

RULE 9 RECORDS AND REPORTING REQUIREMENTS

Proper records are important for documenting the extraction and use of artificially recharged water. These reports become a part of the permanent record and are necessary to verify the quantities of artificially recharged water available for extraction and to protect existing water users.

Documents and well records submitted by the well owner or owner of artificially recharged water serve as evidence that sufficient artificially recharged is available and accessible for extraction.

Rule 9.5 requires that the owner of an extraction well serve notice to the State Engineer that the extraction process has been initiated.

RULE 10 VARIANCES

These rules address the minimum permit requirements for extraction wells. Some of the requirements may not be applicable in certain specific situations. Rule 10 is needed to allow a well owner or owner of recharged water to submit an alternate proposal to the State Engineer.

Rules 10.2 and 10.3 describe the notice of a request for a variance to nearby water rights holders/well owners and the written response of the State Engineer.

RULE 11 EMERGENCIES

In certain instances, well construction and/or extraction of artificially recharged water may necessary with a quick turnaround time. The State Engineer's Office will make a reasonable effort to respond to emergency requests quickly, but requires the issuance of a well permit prior to well construction or extraction of artificially recharged water.

RULE 12 SEVERABILITY

If any portion of these rules is found to be invalid, the remaining portions of the rules shall remain in force and not be affected.

RULE 13 REVISIONS

These rules may be revised in accordance with 24-4-103, C.R.S.

RULE 14 STATEMENT OF BASIS AND PURPOSE INCORPORATED BY REFERENCE

The rules are hereby adopted and shall become effective 20 days after publication in the Colorado Register.

Dated this 14th day of May, 2018



Kevin G. Rein
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Colorado Ground Water Commission