COLORADO
Division of Water Resources
Department of Natural Resources

Board of Examiners of Water Well Construction
and Pump Installation Contractors

REVOKED JANUARY 1, 2026; SCROLL DOWN FOR ADDITIONAL INFORMATION

April 1, 2025

Policy 2025-1

CLARIFICATION OF THE GROUTING REQUIREMENTS FOR WELLS CONSTRUCTED WITH DRIVEN SURFACE CASING

Background

The Board of Examiners of Water Well Construction and Pump Installation Contractors ("Board" or "BOE") was created under section 37-91-103, C.R.S., and is tasked with adopting rules as necessary to protect the public health and the protection and preservation of groundwater resources provided in article 91, title 37, C.R.S. Well construction methods using driven surface casing or casing advance systems are allowed by the Water Well construction Rules 2 CCR 402-2. Such construction methods typically result in a very narrow to non-existent annulus outside of the steel casing leaving insufficient annular space to grout per the requirements of Rule 10.4.4. The annular space requirements in Rule 10.4.4 are intended for "open hole" drilling methods where casing is placed after drilling and grout is placed between the borehole and the outside of the casing. It is acknowledged that the majority of the requirements for grouting in Rules 10.4.5 through 10.4.8 are written for casing placed in an open borehole where grouting occurs in an annulus between the borehole wall and the outside of the casing.

Requirements for grouting between an interval below and above the base of the driven surface casing was first included in the 2000 version of the Construction Rules. Requirements to grout an interval overlapping the base of the driven surface casing in Type II and Type III aquifers has persisted through the current version of the Rules.

Rule 10.4.2.1 states:

> *Driven Surface Casing for wells in Type II and Type III aquifers- The annular space between surface casing that is driven and the production casing string must be grouted in accordance with the following requirements for Type II and Type III aquifers. Additional grouting below the base of the driven surface casing may be necessary to comply with the requirements for a particular type of aquifer. See Figure 3.*
>
> *a. For Type II aquifers (unconfined bedrock aquifers) with driven surface casing, the grout interval must extend from at least twenty (20) feet below to at least ten (10) feet above the base of the surface casing.*
>
> *b. For Type III aquifers (unconsolidated aquifers) with driven surface casing, the grout interval must extend from at least ten (10) feet below to at least ten (10)*

feet above the base of the surface casing. See Figure 3.

Rule 10.4.7.2.a for wells completed into Type III aquifers states:

> *In wells constructed with surface casing into Type III aquifers (unconsolidated aquifer), the annulus between the borehole wall and the surface casing must be grouted from a depth of at least nineteen (19) feet up to the depth required by Rule 10.5.2.1. If the surface casing is driven, grout must be placed between the production casing and driven casing from not less than ten (10) feet below to at least ten (10) feet above the base of the driven casing (see Figure 3). At least ten (10) feet of continuous grout is required.*

Rule 10.5.2.1.c states:

> *At or near the ground surface, the annulus between the borehole and the outermost casing must be sealed with at least the minimum amount of continuous cement grout required for the particular type of aquifer in which the well is constructed (see Rule 10.4), and considering whether a pitless adapter or unit will be installed. The top of the grout seal must not exceed the depths below ground level as set forth below:*
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> *c. Not less than ten (10) feet above the base of the surface casing that has been driven for a well in a Type II or Type III aquifer. If the well is constructed into a Type II aquifer, the grout interval must extend at least twenty (20) feet below the base of the surface casing. If the well is constructed into a Type III aquifer, the grout interval must extend at least ten (10) feet below the base of surface casing. See Rule 10.4.2.1.*

Those Rules define a required interval of grout overlapping the base of the driven surface casing. The Rules do not contain limitations or relief from the required grouted intervals defined in 10.4.2.1, 10.4.7.2.a and 10.5.2.1.c under any circumstances where driven surface casing is used.

Some contractors utilize a well construction method/sequence not specifically addressed or contemplated in the Construction Rules, where the steel surface casing is driven but grout is not placed in the intervals required by 10.4.2.1, 10.4.7.2.a and 10.5.2.1.c because the steel surface casing is either:

1. placed into a previously drilled open borehole, then driven to the depth necessary to support the formation, then grout is placed in the annulus between the drilled borehole and the driven casing to depths required by Rule 10.4.6.2 for wells completed in Type II aquifers or required by Rule 10.4.7 for wells completed in Type III aquifers; or
2. driven from the surface to the depth necessary to support the formation then the contractor overreams outside of the driven surface casing to create sufficient annulus to grout.

In such well construction methods, grouting of an adequately-sized annulus outside the driven steel casing could satisfy the grouting requirements of Rules 10.4.6, 10.4.6.2, 10.4.6.3, 10.4.7,

10.4.7.2.a, 10.5.2.1.a and/or 10.5.2.1.b and ostensibly accomplishes the intent of the Rules for an open hole construction method, but would remain in violation of Rules 10.4.2.1, 10.4.7.2.a and/or 10.5.2.1.c for not grouting the interval overlapping the base of the driven surface casing.

Furthermore, the Construction Rules do not expressly define a limit on the depth driven surface casing can penetrate from one aquifer or hydrogeologic unit into another prior to requiring a grout seal per Rules 10.4.2.1, 10.4.7.2.a and/or 10.5.2.1.c. Excessive penetration of driven surface casing from one aquifer into another without a grout seal could cause intermingling of water or the migration of contaminants along the outside of the driven casing. It is acknowledged that some penetration into the underlying formation is inevitable and necessary during drilling for contractors to log cuttings allowing confirmation of different material types. As with all drilling methods, the method of well construction must be protective of the groundwater resources as outlined in Rule 10.1 is required; therefore this policy is necessary to set a maximum limit on the penetration of driven surface casing below the interface between two aquifers or between an aquifer and a confining unit prior to requiring a grout seal.

Objective

This policy will provide clarification on circumstances where driven surface casing may be used without the requirements to grout the interval overlapping the base of the driven casing as required by Rules 10.4.2.1, 10.4.7.2.a and/or 10.5.2.1.c for Type II and Type III aquifer wells where the grouting requirements for open annulus intervals are otherwise followed.

This policy will also provide clarification for the maximum allowable penetration of driven surface casing below the interface between two aquifers/geologic units prior to grouting per the requirements of 10.4.2.1.a.

Policy

Driven surface casing must be associated with one or more grouted intervals to control the movement of water vertically through the annulus left by the drilling process. Unless the method of well construction results in the grouting of an open annulus between the steel casing and the borehole meeting the minimum depths, intervals and sizes required by Rule 10.4.4, 10.4.6, 10.4.7 and 10.5.2 and 10.5.3, the driven surface casing must be grouted in accordance with the requirements of Rules 10.4.2.1, 10.4.7.2.a and/or 10.5.2.1.c for Type II and Type III aquifer wells.

Centralizers must be used on all casing in required grouted intervals in accordance with the spacing and locations described in Rule 10.4.1.

Driven surface casing alone is not sufficient to isolate a Type III aquifer material from an underlying bedrock aquifer. For wells constructed into a Type II aquifer overlain by Type III aquifer, if the grout placed in an appropriately-sized (see Rule 10.4.4 and 10.5.3) open annulus outside the driven surface casing does not extend to or below the top of the bedrock and back up to the depth required by Rule 10.5.2, the requirements of Rules 10.4.2.1.a must be followed.

Unless an open annulus exists outside of the driven casing at the interface between the aquifers and the annulus is properly grouted per the requirements of the Well Construction Rules (as discussed in the paragraph above), the base of driven surface casing shall not extend more than 20

feet below the interface between two aquifers or between an aquifer and a confining unit prior to grouting per the requirements of Rule 10.4.2.1.a. In no case shall the driven casing penetrate through a confining layer. This policy does not eliminate the requirement to place grout seals from at least from the base of a confining layer for Type I aquifer wells up to the depths required by Rules 10.4.5, 10.4.8 and 10.5.2.1.

Approval

This policy may only be modified or revoked in writing by the Board of Examiners of Water Well Construction and Pump Installation Contractors.

Approved _____

Christoper J. Sanchez, P.G., Chairperson
Board of Examiners of Water Well Construction
and Pump Installation Contractors

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Policies Revoked by the Board
following the implementation of the 2026 Well Construction Rules

The Well Construction Rules were amended in May 2025 and have an effective date of January 1, 2026. Following the implementation of the 2026 Rules, several Policies will no longer be applicable because they have been incorporated into or addressed in the new Rules.

Policies revoked by the Board upon effective date of the Rules:

- 2003-3: Construction Standards for Wells in the Unconfined Sediments of the Alamosa Formation in the San Luis Valley
  - 2026 Rules cover under Rule 5.2.3.6
- 2016-1: Board Approval of Chemicals Used in Well Development and Rehabilitation
  - 2026 Rules cover under Rule 6.10.3
- 2017-2: Wells Constructed into Type 1 Aquifers (Confined) Overlain by a Type 3 Aquifer (Alluvial/Colluvial)
  - 2026 Rules cover under Rule 10.4.5
- 2017-3: Wells Constructed into Type 2 Aquifers within the Boundaries of the Southern High Plains Designated Basin
  - 2026 Rules cover under Rule 5.2.3.9
- 2018-2: Clarification of Rule 16.2, Grouting Requirement for Type 1 Aquifer Well Abandonment
  - 2026 Rules cover under Rule 16.2.1
- 2021-2: Wells Constructed in the Alluvial, Ogallala, and White River Aquifers Inside the Northern High Plains Designated Basin
  - 2026 Rules cover under Rule 5.2.3.8
- 2023-1: Portland-Limestone Cement (ASTM C-595, Type IL) as Replacement for Portland Cement (ASTM C-150)
  - 2026 Rules cover under Rule 10.5 and Table 2
- 2025-1: Grouting of Wells With Driven Surface Casing
  - 2026 Rules cover under Rule 10.4.2.1

The above listed Board Policies are hereby revoked by the Board, effective January 1, 2026.

Approved December 2, 2025

Christopher J. Sanchez, P.G., Chair
Board of Examiners of Water Well and
Ground Heat Exchanger Contractors