



IDAHO DEPARTMENT OF
WATER RESOURCES

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Governor Brad Little

Director Mathew Weaver

March 18, 2025

Re: Preliminary Order Requiring the Installation of Measuring Devices for Ground Water Diversions in Water District 129, Portneuf River Basin Area

Dear Water User,

The Idaho Department of Water Resources (“Department”) has issued the enclosed preliminary order (“preliminary order”) requiring the installation of measuring devices for ground water rights and diversions within Water District 129 (“WD129”). **The owners of affected ground water rights must install measuring devices on irrigation diversions by the start of the 2027 irrigation season and on non-irrigation diversions by January 1, 2027.** Please refer to pages 3 and 4 of the preliminary order for specific requirements, exceptions, deadlines, and related details.

The measurement requirements of the preliminary order do not apply to certain domestic and stockwater uses and diversions authorized to irrigate five acres or less and non-irrigation use with a total diversion rate of 0.24 cfs or less. See preliminary order item 2 for more details. Note: *A common or shared point of diversion serving multiple water rights must be measured if the sum of the authorized irrigated acres exceeds five or the total diversion rate of non-irrigation use exceeds 0.24 cfs (approximately 108 gallons per minute).*

Please reference the enclosed document “*Minimum Acceptable Standards for Open Channel and Closed Conduit Measuring Devices*” for information on types of measuring devices acceptable to the Department. This document and additional information related to water measurement are available on the Department’s website at <https://idwr.idaho.gov/water-data/water-measurement/>.

Pursuant to Idaho Code § 67-5243, the preliminary order will become a final order without further action of IDWR unless a party petitions for reconsideration or files a petition requesting a hearing stating the grounds contesting the preliminary order as explained in the enclosed information sheet.

If you have questions concerning this matter, please contact the IDWR State office (208-287-4800) or Eastern Regional office (208-525-7161).

Respectfully,

Brian Ragan
Water Compliance Bureau

Enclosures:

Preliminary Order Requiring Measuring Devices in Water District 129

Explanatory Information to Accompany a Preliminary Order

IDWR Minimum Acceptable Standards for Open Channel and Closed Conduit Measuring Devices

cc: James Cefalo, IDWR Eastern Regional Manager, and Kristin Evans, WD129 Watermaster

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF REQUIRING MEASURING)
DEVICES FOR GROUND WATER DIVERSIONS)
IN WATER DISTRICT 129, PORTNEUF RIVER)
BASIN AREA)
_____)

PRELIMINARY ORDER

BACKGROUND

On May 1, 2024, the Idaho Department of Water Resources (“Department”) issued a *Preliminary Order Creating Water District 129 and Modifying Water District 13T* (“Order”) creating the Portneuf River Basin Area Water District, also known as Water District 129 (“WD129”), to include ground water rights in Administrative Basin 29. The preliminary order became a final order fourteen days later as per Idaho Code § 67-5243(1)(b). The *Order* excluded “ground water rights for domestic and stockwater purposes, as defined by Idaho Code §§ 42-111 and 42-1401A(11) . . . [and] ground water rights administered by the Shoshone-Bannock Tribes and the United States pursuant to the 1990 Fort Hall Indian Water Rights Agreement.” *Order*, at 1.

LEGAL PROVISIONS

Idaho Code § 42-701 states, in pertinent part:

- (1) *The appropriators or users of any public waters of the state of Idaho shall maintain to the satisfaction of the director of the department of water resources suitable headgates and controlling works at the point where the water is diverted. Each device shall be of such construction that it can be locked and kept closed by the watermaster or other officer in charge, and shall also be of such construction as to regulate the flow of water at the diversion point. Each such appropriator shall construct and maintain, when required by the director of the department of water resources, a rating flume or other measuring device at such point as is most practical in such canal, ditch, wellhead or pipeline for the purpose of assisting the watermaster or department in determining the amount of water that may be diverted into said canal, ditch, wellhead or pipeline from the stream, well or other source of public water. Plans for such headgates, rating flumes or other measuring devices shall be approved by the department of water resources.*
- (2) *If an appropriator determines that installation and maintenance of a measuring device required by the director would be burdensome for his diversion, the appropriator may, upon approval of the director, execute an agreement with the director and submit to the director such information and technical data concerning the diversion and pumping facilities as the director determines necessary to establish the relationship of power usage to water withdrawal by any pump used to divert public water.*

- (3) *Any appropriator or user of the public waters of the state of Idaho that neglects or refuses to construct or maintain such headgates, controlling works, or measuring devices, or has not executed an agreement in lieu of a measuring device as provided in subsection (2) of this section, upon receiving ten (10) days' notice from the director of the department of water resources within which to begin and diligently pursue to completion the construction or installation of the required device or devices or to begin and diligently pursue to completion a remedy to such defects as exist in accordance with said notice, then the director of the department of water resources may order the duly qualified and acting watermaster of the water district to shut off and refuse to deliver at the point of diversion, the water owned by such appropriator or user until the user does construct and maintain such headgates, controlling works or measuring devices or remedy the defects which exist or the director may take action pursuant to section 42-1701B, Idaho Code, to enforce the requirement to construct, install or maintain such devices.*
- (4) *The appropriators or users of the public waters of the state of Idaho shall be given a reasonable time within which to complete construction of such headgates, controlling works or measuring devices, depending upon the size and extent thereof, when due diligence has been used in the prosecution of such work.*

CONCLUSIONS OF LAW

1. Idaho Code § 42-701(1) authorizes the Director to require the water users or appropriators of any public waters of the state to install and maintain suitable lockable headgates, controlling works, and measuring devices at the point where the water is diverted.
2. The Director has a clear legal duty to “distribute water in water districts in accordance with the prior appropriation doctrine.” I.C. § 42-602; *see also City of Blackfoot v. Spackman*, 162 Idaho 302, 309 (2017).
3. Adequate control and measurement of diversions within WD129 is necessary for the Director to comply with his clear legal duty to distribute water according to decreed, licensed, and permitted water rights.
4. Distribution of water within water districts shall be accomplished by watermasters appointed and supervised by the Director. Proper control and measurement of diversions will ensure:
 - a. The watermaster can distribute water consistent with the prior appropriation doctrine and protect senior priority water rights during times of water scarcity;
 - b. The diversion of water does not exceed the legal limits of the associated water right; and
 - c. The assessment of individual water users within the water district can be calculated based on the amount of water delivered.
5. It is necessary for the Director to require the installation of suitable measuring devices at points of diversion within WD129.

ORDER

IT IS HEREBY ORDERED that the holders of ground water rights in WD129 shall install measuring devices in accordance with the following provisions:

1. Except as noted in item 2 below, all ground water rights within WD129 shall install and maintain a measuring device of a type acceptable to the Department at each point of diversion or well.
2. The requirement to install measuring devices does not apply to the following ground water uses and diversions:
 - a. Domestic and stockwater uses as defined by Idaho Code §§ 42-111 and 42-1401A(11);
 - b. The sum of the authorized irrigated acres under the water rights sharing the same point of diversion is less than or equal to five acres; or
 - c. The sum of the authorized diversion rates under the water rights sharing the same point of diversion for any purpose other than irrigation is less than or equal to 0.24 cfs (approximately 108 gallons per minute).
3. This order shall become effective immediately for any new ground water diversions authorized after the date of this order, except those ground water uses or diversions exempted in item 2 above.
4. The Director or watermaster may require the installation of lockable controlling works on any diversion if such works are determined to be necessary for adequate administration and control of the diversion.
5. **Owners of irrigation wells or diversions that are required to be measured under this order shall install acceptable measuring devices by the start of the 2027 irrigation season.**
6. **Owners of non-irrigation wells or diversions that are required to be measured under this order shall install acceptable measuring devices by January 1, 2027.**
7. Measuring devices acceptable to the Department are identified in the Department's *Minimum Acceptable Standards and Requirements for Open Channel and Closed Conduit Measuring Devices* ("Minimum Acceptable Standards"), attached herein.
8. The Department may consider a request for a variance from the requirement to install measuring devices listed in the Department's Minimum Acceptable Standards. Variance requests must be received by the Department at least 90 days prior to the applicable deadline. Variance requests must be made using the Department's *Request for Variance: IDWR Approved Flow Meter Installation Requirement* form available on the Department's website. Acceptable variance requests may include the following methods or devices:
 - Development of a Power Consumption Coefficient ("PCC"), which is a ratio of power usage to water withdrawal. Acceptance of the PCC method may be provided *only for irrigation diversions that consist of one (1) well and one irrigation discharge point or*

one distinct flow and demand condition, and water levels do not change significantly during the irrigation season (example: a well diverting water to one center pivot only with no end gun, a well diverting water to one wheel line, or multiple wheel lines as long as the same multiple wheel lines are always on at the same time);

- Timing diversion with an hour meter (time clock) *for one well that discharges to an open ditch or pond where a) discharge is constant and not controlled by valves, and b) ground water levels do not change significantly during the annual season of use.*
 - Use of an acceptable functioning closed conduit flow meter installed prior to the date of this order; or
 - Measurement with a standard open channel measuring device installed in an open channel or ditch and the measuring device is read daily, or daily flows are recorded using a continuous recorder or data logger.
9. Existing meters that do not satisfy the established standard for accuracy or do not meet the manufacturer's installation requirements must be replaced with a meter on the Department's *List of Approved Closed Conduit Flow Meters* available on the Department's website.
10. If a water user cannot meet the installation deadlines in items 5 and 6 above, the Department may grant an extension of time. An extension request for each diversion must be received by the Department at least 90 days prior to the applicable installation deadline. Extension requests must be made using the Department's *Request for Extension of Time to Install IDWR Approved Flow Meter* available on the Department's website. Extension requests are considered on a case-by-case basis. Conditions that may qualify for an extension of time include the following:
- a. Delays caused by the requirements of other government entities; or
 - b. The diversion is unused.
11. The WD129 watermaster shall shut off and refuse to deliver water to any ground water user who does not have or who fails to maintain an adequate measuring device on a diversion after the installation deadlines, unless an extension or exemption has been approved by the Department.
12. The WD129 watermaster shall be responsible for the collection and annual reporting of all measurement data for the diversions within water district boundaries subject to this order. All diversions shall be reported to the Department using the Department's Water Management Information System ("WMIS") online database application.

Dated 18th day of March 2025.



Erik Boe
Water Compliance Bureau Chief

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was **not** held.)

The accompanying document is a "**Preliminary Order**" issued by the Idaho Department of Water Resources ("Department") pursuant to Idaho Code § 67-5243. **This preliminary order can and will become a final order without further action of the Department, unless a party petitions for reconsideration, petitions for review, or requests a hearing as further described below:**

PETITION FOR RECONSIDERATION

(See Idaho Code § 67-5243(3))

Any party may file a petition for reconsideration of this preliminary order with the Department within fourteen (14) days of the service date of this order as shown on the certificate of service. **Note: the petition must be received by the Department within this fourteen (14) day period.** The presiding officer will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law.

PETITION FOR REVIEW (EXCEPTIONS)

(See Idaho Code § 67-5245)

Within fourteen (14) days after: (a) the service date of this preliminary order, (b) the service date of a denial of a petition for reconsideration of this preliminary order, or (c) the failure within twenty-one (21) days of the presiding officer to act on a petition for reconsideration of this preliminary order, any party may petition the Director in writing to review any part of this preliminary order by filing exceptions, and any supporting brief, with the Department.¹ Any parties opposing the exceptions shall have fourteen (14) days from the service date of the exceptions to file a brief. If the Director determines that oral argument is to be heard, the Director will provide reasonable notice to the parties of the place, date, and hour for the argument.

The Director will issue a final order on exceptions within fifty-six (56) days of receipt of the written briefs or oral argument, whichever is later, unless extended for good cause. The Director may remand the matter for or hold an evidentiary hearing if further factual development of the record is necessary before issuing a final order.

REQUEST FOR HEARING

(See Idaho Code § 42-1701A(3))

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to Idaho Code § 42-1701A(3). A written petition to the Director contesting the preliminary order and requesting a hearing must be filed with the Department

¹ The Director may decide to review this preliminary order upon his own motion. Should the Director decide to do so, the Director will provide written notice to the parties within the period the parties are allowed to petition the director for review of the preliminary order.

by any aggrieved person **within fifteen (15) days after service of this preliminary order.**

CERTIFICATE OF SERVICE

(See IDAPA 37.01.01.053, 37.01.01.202)

All documents filed with the Department in connection with a petition for reconsideration, petition for review, or a request for hearing of this preliminary order shall be served on all other parties to the proceedings in accordance with Rules of Procedure 53 and 202.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES (IDWR)
MINIMUM ACCEPTABLE STANDARDS AND REQUIREMENTS
FOR OPEN CHANNEL AND CLOSED CONDUIT
MEASURING DEVICES

The water source, diversion structure and conveyance system must be adequately evaluated prior to selection of a measuring device. Surface water sources such as streams, springs and drains are commonly diverted into open channels, ditches or canals. Closed conduits such as pipes or culverts are also used to convey surface water. Ground water is more commonly diverted into pipes (closed conduits) which convey water from the well to system discharge points such as irrigation sprinkler systems. Ground water may also discharge from a well through a short section of pipe to open channels, ditches or ponds. When required by IDWR, measuring devices must be installed at or very near the point of diversion to ensure the watermaster can accurately determine the amount of water diverted from the public water source. The standards below are intended to qualify measuring devices that are “acceptable to the Department”, and to assist water users and watermasters in the proper selection and installation of such devices when required pursuant to Section 42-701, Idaho Code.

I. MEASUREMENT IN OPEN CHANNELS

The following requirements are applicable to diversions from surface water sources. Measurement of a ground water diversion with an open channel measuring device must be specifically approved by IDWR.

A. Industry Standard Open Channel Measuring Devices

All open channel surface water diversions must be measured using one of the following industry standard (standard) open channel flow measuring devices:

- **Weirs:** contracted or suppressed rectangular weirs, Cipolletti weir, 90 degree V-notch weir
- **Flumes:** Parshall flume, trapezoidal flume, ramped flume (ramped, broad-crested weir)
- **Submerged Orifices:** submerged rectangular orifice, constant head orifice
- **Current Meter/Acoustic Profiler:** acoustic Doppler flow meter (ADFM), acoustic Doppler current profiler

Construction, installation and operation of these devices must be consistent with water measurement guidelines, published by the United States Bureau of Reclamation¹ or the United States Geological Survey². Measuring devices, associated rating tables and specifications contained in these publications are considered by IDWR to be industry standard.

B. Non-Standard Open Channel Devices Including Rated Structures or Rated Sections

Any weir, flume or other measuring device that has not been constructed, installed or maintained to measure flow consistent with industry standard rating tables or curves shall be considered non-standard. IDWR may authorize the use of non-standard devices or rated channel sections on a case by case basis, upon the submittal and approval of a measurement plan. A measurement plan must contain an acceptable proposal, using industry standard procedures for developing a rating curve, or document that a rating curve has been fully developed for the device or section. Proposed rating plans must include provisions for periodic re-measurement and maintenance of the rating. The established rating must achieve the desired accuracy standard of plus or minus ten percent ($\pm 10\%$), the equivalent accuracy of a standard open channel device. All rating measurements must be conducted by a qualified individual (eg. engineer, hydrologist, certified examiner), using a standard portable open channel measuring device. If a measurement plan is not approved by IDWR, a standard device must be installed and maintained.

¹ The BOR guidelines can be found at: <https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/Water-Measurment-Manual-3rd-Ed-2001.pdf>

² The USGS guidelines can be found at: <https://pubs.er.usgs.gov/>

II. CLOSED CONDUIT MEASURING DEVICES

The following requirements are applicable to measurement of diversions from any water source that conveys water through a full pipe or conduit. Full pipe means that water within the pipe is under at least some positive pressure and contains insignificant amounts of air or gas.

A. Standard Closed Conduit Measuring Devices

Standard closed conduit measuring devices are flow meters that have been approved for use by IDWR based on independent third party testing. IDWR has developed and published a list of meters that have been tested and approved for use³. Tests were conducted for both accuracy and repeatability on all submitted models. The lab tested accuracy standard for flow rate is plus or minus two percent ($\pm 2\%$). The *IDWR List of Approved Closed Conduit Flow Meters* (approved list) may be found at: https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/Approved-flow-meter-list-v4.1_7_1_2024.pdf

Approved full profile magnetic flow meters and spooled ultrasonic flow meters must be installed with a minimum straight pipe length equivalent of three (3) pipe diameters upstream and two (2) pipe diameters downstream measured from the center of the meter spool. Approved clamp-on and wetted ultrasonic flow meter transducers must be located with a minimum straight pipe equivalent of ten (10) pipe diameters upstream and five (5) pipe diameters downstream of the nearest transducer. All other manufacturer installation specifications (excepting up and down spacing) must be met. *Installation of an approved meter inconsistent with the requirements noted above, may be cause for IDWR to require reinstallation of the meter.*

B. Requests for Variance to Use Power Consumption, Hour Meter or Existing Meter

Requests for variance will be considered for qualifying diversions on a case by case basis only upon submittal of the appropriate "Request for Variance" form. If a water user can demonstrate that an existing flow meter or other method of measurement meets an equal standard of accuracy when compared to meters on the approved list, a variance may be granted. If a variance request is not granted, an approved meter will be required.

The following alternate measurement methods may be considered:

- Development of a Power Consumption Coefficient (PCC), which is a ratio of power usage to water withdrawal,
- Use of an hour meter (time clock), or
- Use of a flow meter that was *installed prior* to the date a measurement order was issued and *is not* on the IDWR approved list.

Any alternate measurement method will require field testing using a portable ultrasonic flow meter or other meter tested and accepted by IDWR (testing meter). Field testing may be performed by any of the following:

- IDWR staff,
- a water district watermaster,
- a ground water district hydrographer,
- an irrigation district hydrographer,
- a certified field examiner, or
- as otherwise approved by IDWR

Existing flow meters must be operational and installed consistent with applicable specifications. If the testing margin of error of an installed meter when compared to the testing meter exceeds plus or minus ten percent ($\pm 10\%$) for mechanical type meters, or plus or minus five percent ($\pm 5\%$) for magnetic or ultrasonic type meters, the installed meter must be replaced with a new meter from the approved list. The owner or operator of any diversion system which requires a field measurement must provide a testing section of unobstructed straight pipe 15 pipe diameters in length.

³ Testing was conducted at the Utah Water Research Laboratory (UWRL), a National Institute of Standards and Technology (NIST) traceable lab in Logan, Utah.