

Merritt, Allen

From: Keen, Shelley
Sent: Friday, September 21, 2007 10:16 AM
To: 'Leslie May'
Cc: Merritt, Allen; 'Bittner'; 'Carol Kingston'; 'Gary/Dani'; 'Jock Slavin'; 'Leslie'; 'lhawkins@ida.net'; 'Tommy Thompson'; 'Kathy Gliksmann'
Subject: RE: Clarification

Ms. Shumate,

Allen Merritt asked me to respond to your questions about his preliminary order on the Williams Lake applications for amendment. My responses are based on my understanding of Allen Merritt's preliminary order.

I will also place this response in the water right files maintained by IDWR.

Measuring Devices -- I have attached a document describing the types of measuring devices acceptable to IDWR. This information is also available in the Water Measurement section of IDWR's web site. Rather than specify what type of measuring device should be used, IDWR typically allows water right holders to select from a range of devices. This approach allows the right holder to account for a number of variables, including site characteristics, availability, technical ability, and budget. It is my understanding that IDWR will require installation of a permanent measuring device with a data logger capable of recording daily usage. It is not clear to me whether installation will be required now or when a water district is formed for the regulation of water rights in the area.

BLM Permit -- The BLM has Permit 75-7638, which was issued in 1996 to authorize the diversion of up to 18 gallons per minute from a spring in the NESESE, Section 34, T20N, R21E, for use in 12 campsites. The application was advertised in The Recorder Herald on December 21 and 28, 1995. The application was not protested. IDWR has not yet completed the field examination needed to confirm the beneficial use, if any, established in accordance with the permit. While a continuous diversion of 18 gpm would result in a flow of nearly 26,000 gallons in a day, IDWR is required to issue water right licenses with an annual volume restriction equal to the amount of water actually put to beneficial use. While the volume is yet to be determined, a reasonable guess would be a about 50 gallons per day per campsite, or about 600 gallons a day.

Annual Volume for Williams Lake Recreational Water & Sewer District -- Allen Merritt recommended an annual diversion volume of 42.2 acre-feet for the spring right. A rate of 0.21 cfs would produce about 135,000 gallons per day. However, 42.2 acre-feet is about 38,000 gallons per day. The difference results from the fact that homes are not using water constantly around the clock.

Number of Homes Authorized -- As drafted, the preliminary order does not specify a number of homes that the Williams Lake Recreational Water & Sewer District will be authorized to serve with water diverted under Right 75-7589. Instead, the preliminary order limits the volume of water that can be used to the amount that IDWR believes is already being beneficially used in Williams Lake Recreational Water & Sewer District. Additional homes could be added to the system, but the 42.2 acre-foot volume could not be exceeded.

Sincerely,

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9/24/2007

-----Original Message-----

From: Leslie May [mailto:shumate@centurytel.net]

Sent: Sunday, September 16, 2007 11:28 AM

To: Merritt, Allen

Subject: Clarification

I am writing to ask for clarification on two decrees contained in the Preliminary Order on the Williams Lake Recreational Water & Sewer District application for amendment for water right permits 75-7052 and 75-7589...specifically 75-7589.

As a Lake Creek senior water right holder I would like a more specific definition of "a measuring device of a type approved by the Department." Since past department inspectors have been quoted by the Water Board as saying a bucket and a stop watch is all that's needed...I find the "type approved by the Department" to be far too vague. Is there a listing somewhere as to what kind of devices are acceptable? And could that list, or specific devices, be added to the order?

Second. The Water Board has quoted 0.21 as being approximately 120,000 gallons per day and has said currently all that is being used of that amount is about 10,000 gallons per day. The Board has further stated that the present delivery system could not possibly pump 120,000 per day. I therefore question why the Bureau of Land Management has been given additional water usage over and above the 0.21 since currently there appears to be plenty of excess water for all needs.

"...ordered that, the use of water for the BLM campground is not incorporated as a use pursuant to right 75-7589 and shall be dealt with as a separate matter under licensing of permit 75-7638 in the name of BLM."

This in effect is granting permission for the taking of an additional amount of water from the springs located above Lake Creek water right claimants and it puts no limit on how many additional gallons can be taken. It also makes no mention of monitors to measure how much water is being used by the BLM or any other form of accountability.

Why was this added to the order? If a separate permit on the spring was requested by the agency, to my knowledge it was not done during the public hearings or disclosure period. And if the BLM made application for the separate permit was it duly advertised?

I would also like a clarification on what if any means the Water Board will be required to implement in order to determine how much water is being used and how many homes can be added without exceeding the 0.21 permit. Or is that not in your purview?

And, are weekends included in the 14 day time limit for appeals? According to your count, what is the calendar due date?

If I need to address my questions to someone other than you could you please advise me of the proper procedure?

Thank you.
Leslie May Shumate

9/24/2007

**STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES (IDWR)**

**MINIMUM ACCEPTABLE STANDARDS FOR
OPEN CHANNEL AND CLOSED CONDUIT
MEASURING DEVICES**

The source and means of diversion of water, whether surface or ground water, generally determines the measurement and reporting process. Surface water sources such as streams, springs and waste channels are normally diverted into open channels (ditches or canals), but closed conduits (pipes or culverts) are also used. Ground water is usually diverted into pipes (which may also discharge into open channels).

Measuring devices are required at or near the point of diversion from the public water source.

Open Channel

SURFACE WATER DIVERSIONS

I. Flow Measurement

The following discussion is applicable only to diversions from surface water sources. Measurement of a ground water diversion with an open channel measuring device must be pre-approved by the Department.

A. Standard Open Channel Measuring Devices

All open channel flow diversions should be measured using one of the following standard open channel flow measuring devices commonly used in Idaho:

- | | |
|---|---------------------------------|
| ● contracted rectangular weir | ● Parshall flume |
| ● suppressed rectangular weir | ● trapezoidal flume |
| ● Cipolletti weir | ● submerged rectangular orifice |
| ● 90 degree V-notch weir | ● constant head orifice |
| ● ramped broad crested weir (or ramped flume) | |

Construction and installation of these devices should follow published guidelines. References are available upon request.

B. Non-standard open channel devices: Rated Structures or Rated Sections

IDWR may authorize the use of non-standard devices and rated sections provided the device or section is rated or calibrated against a set of flow measurements using an acceptable open channel current meter or a standard portable measuring device. Further restrictions and requirements are available from the Department upon request.

CLOSED CONDUIT MEASURING DEVICES

Closed conduit or pipe line diversions require installation of a flowmeter.

I. Flow Measurement

There are many flowmeters on the market, with costs ranging from several hundred dollars to several thousand dollars. In general, the higher priced meters are more accurate and require less maintenance. Most meters on the market have an acceptable accuracy rating for IDWR's guidelines. However, some types and designs are much more prone to maintenance problems. Moving parts tend to wear when sand or silt is present, and moss often plugs small orifices and slows moving parts. No single flowmeter is best for every situation. We recommend that you visit with qualified dealers and discuss your needs with them.

A. Minimum Standards

The following are minimum standards for closed conduit flowmeters:

- Minimum manufacturers' design accuracy of +/- 2 percent of reading
- Installed accuracy of at least +/- 10 percent of reading
- Meter must be calibrated with an independent, secondary measuring device when installed, and at least once every four years thereafter
- Must read instantaneous flow or be capable of flow rate calculation
- Must record total volume
- Non-volatile memory (power outage does not zero volume reading)
- Sufficient digits to assure "roll-over" to zero does not occur within 2 years
- Volume reading cannot be "reset" to zero
- Installed to manufacturers' specifications

Meter manufacturers typically specify that a meter must be located in a section of straight pipe at least 10 pipe diameters downstream and 5 pipe diameters upstream of any valves, bends, contractions, or other interferences which will distort the flow pattern. However, some types of meters will produce acceptable results when installed in shorter sections of straight pipe. For example, at least one electro-magnetic flowmeter provides excellent measurement accuracy with only 5 lengths of straight pipe upstream from the meter.

Each manufacturer should provide the installation specifications for its meters. These **specifications must be adhered to** in order to achieve the accuracy required for the water measurement program. Again, we stress the importance of visiting with a qualified dealer and discussing your specific needs with them.

B. Types of Measuring Devices for Closed Conduits

Types	Pipe Sizes	Maintenance Required	Relative Purchase Price
Differential Head • Orifice • Venturi • Annubar	small to large	Low to high. Sand wears on sharp edges, and particles can plug small orifices and tubes.	low to medium
Force Velocity • Turbine • Propeller • Impeller	small to large	Typically moderate to high. Often problematic when exposed to sand or moss. Some cannot measure low velocities	low to medium
Ultrasonic	small to large	Low. Typically non-invasive with no moving parts to wear	high
Vortex	small to medium (about 12 to 14 inch maximum pipe diameter)	Low. Few or no moving parts to wear.	high
Electro-Magnetic	small to medium (about 12 to 14 inch maximum pipe diameter)	Low. No moving parts. Can provide good results with shorter lengths of straight pipe.	high