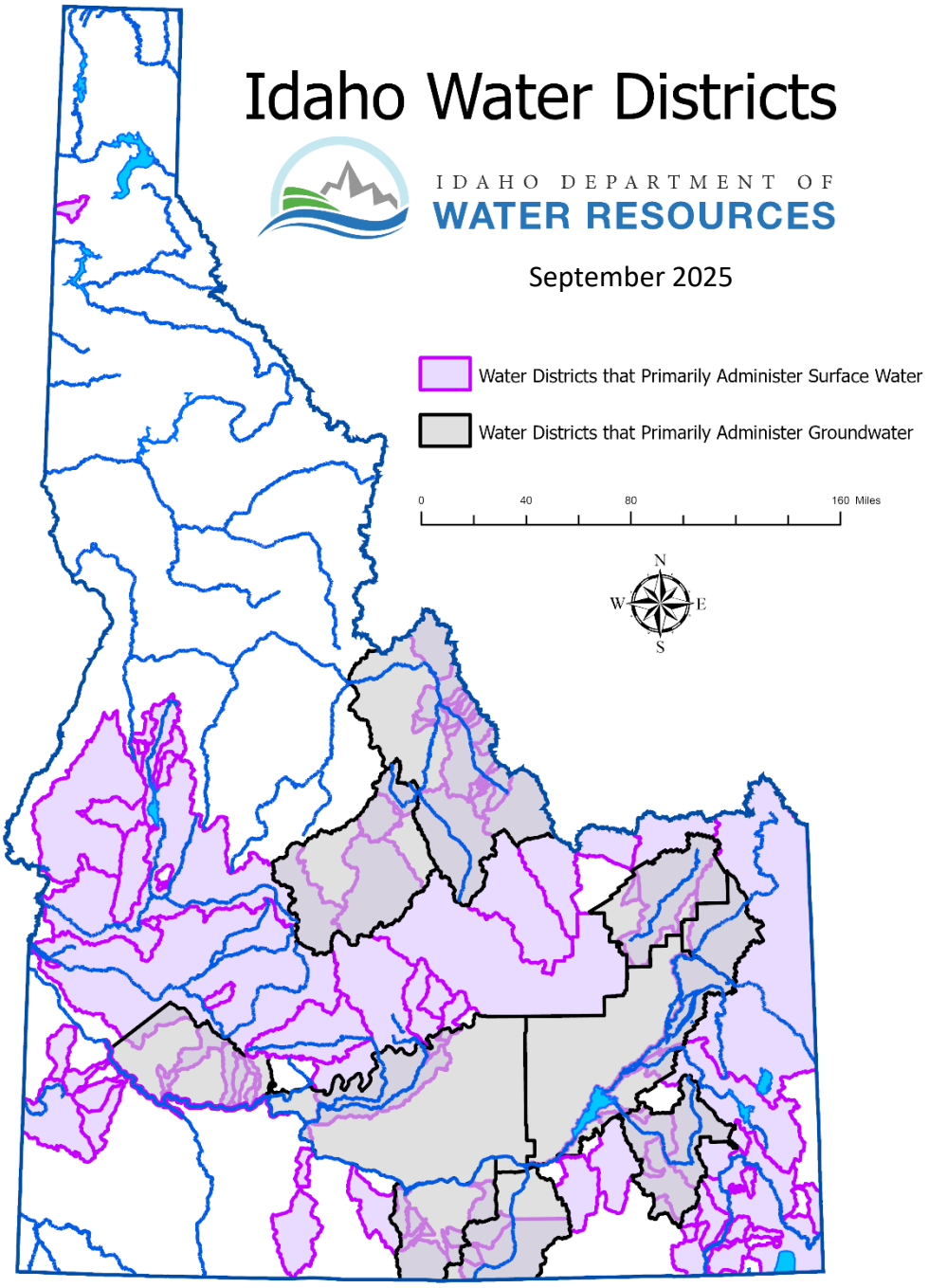
Water District Operation Manual:
Appendices



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Water District Operation Manual: **Appendices**

Contents

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Appendix A: Water District Maps by Region

Northern Region

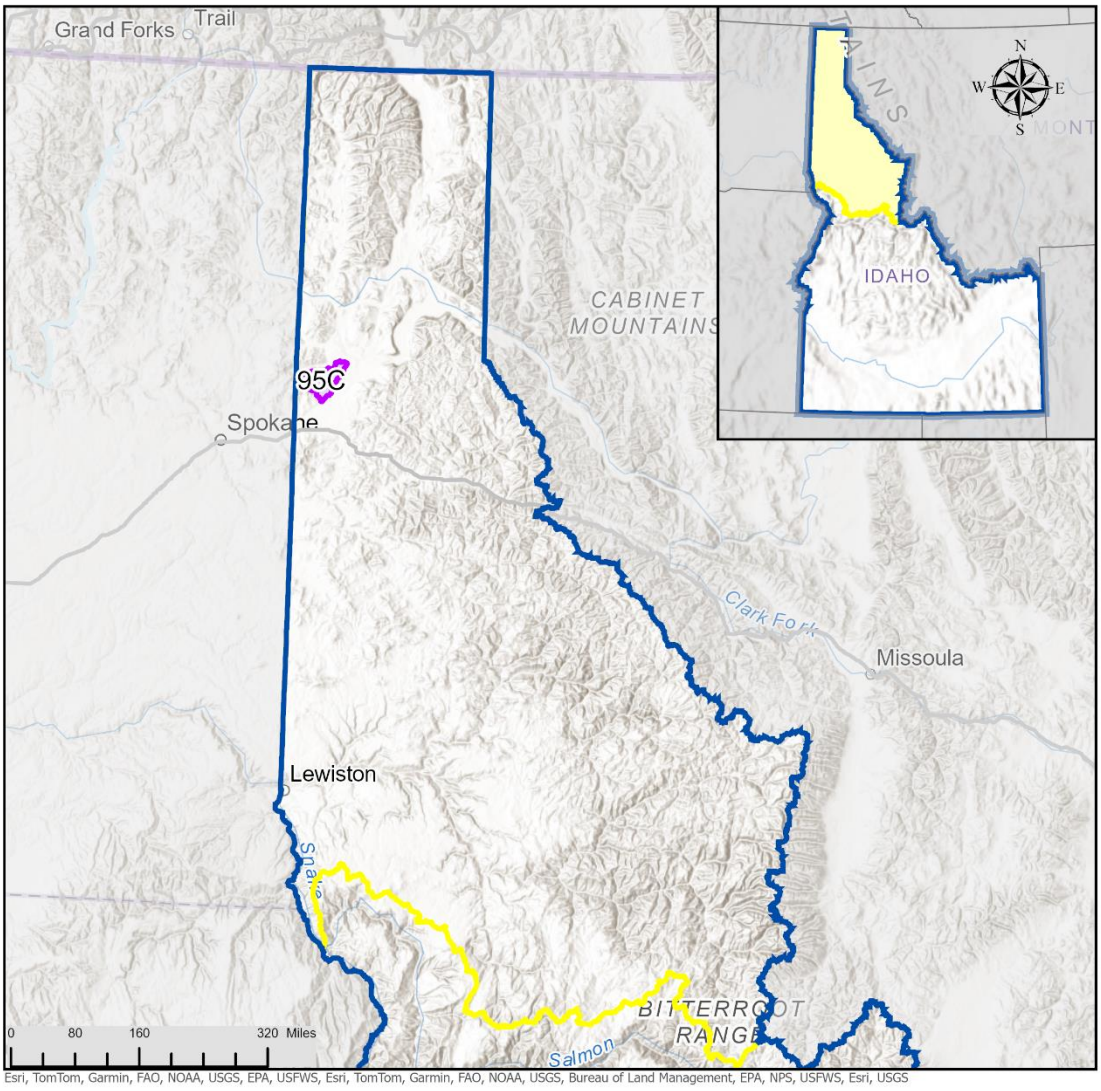

Figure A1. Northern Region. This region (yellow) has several basins undergoing adjudication. There will be more water districts (purple) created in this region following the conclusion of the adjudication process.

Southern Region

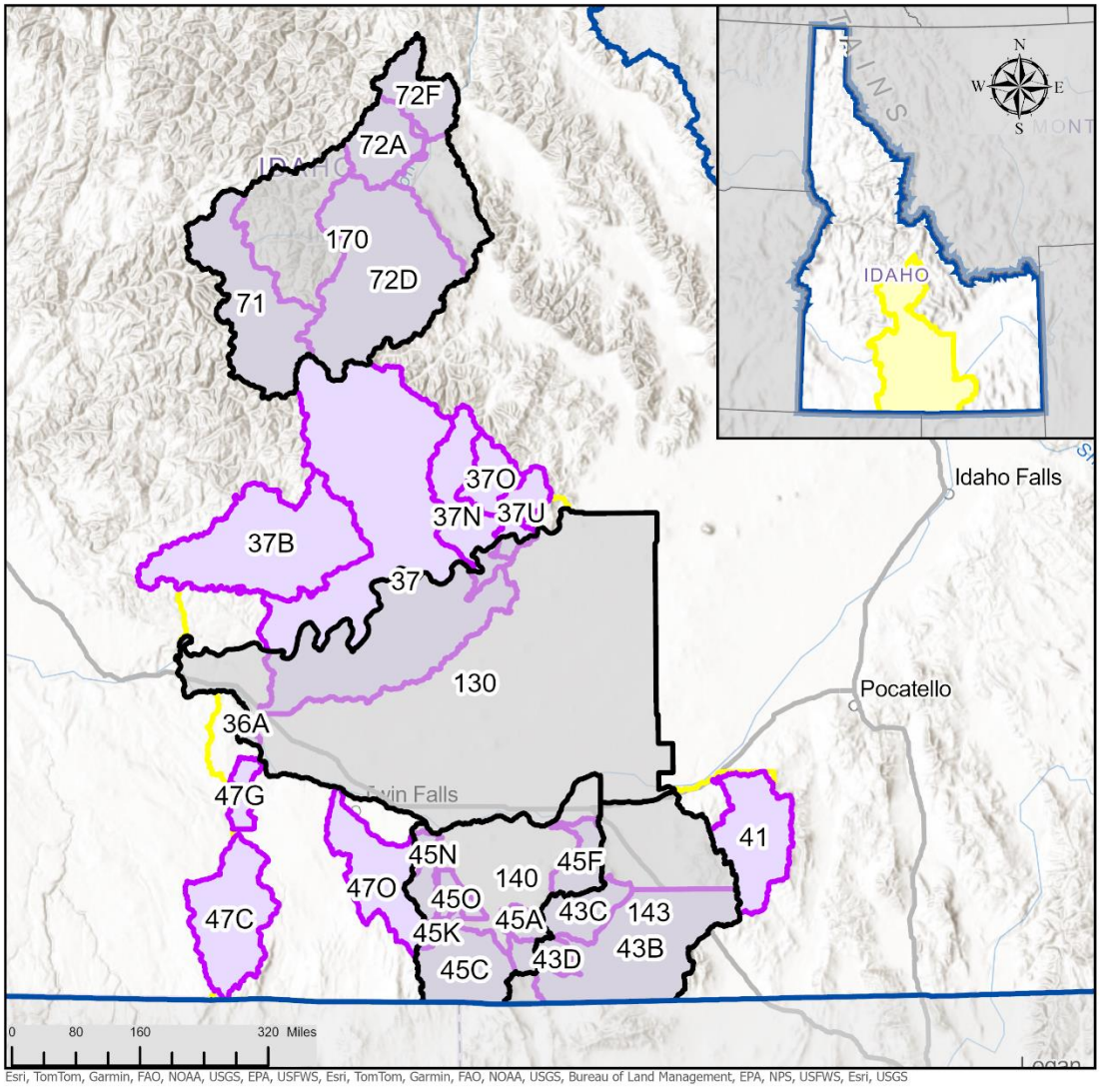

Figure A2. Southern Region. This region (yellow) has water districts that primarily administer surface water (purple) and water districts that primarily administer ground water (black). Generally, water districts that administer ground water do so in a larger hydrologic basin with the water districts that administer surface water doing so in smaller hydrologic basins.

Eastern Region

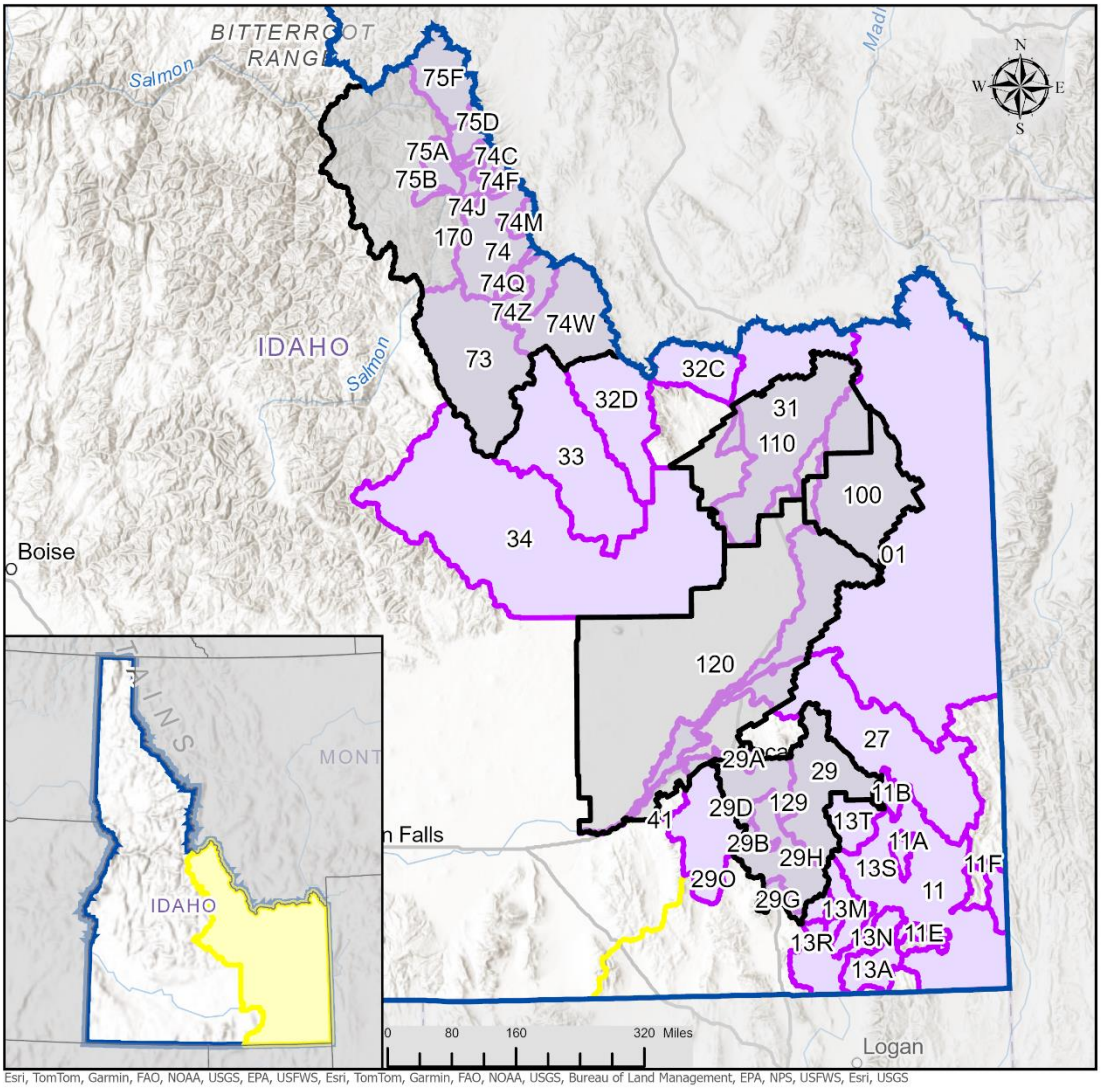

Figure A3. Eastern Region. This region (yellow) has water districts that primarily administer surface water (purple) and water districts that primarily administer ground water (black). Generally, water districts that administer ground water do so in a larger hydrologic basin with the water districts that administer surface water doing so in smaller hydrologic basins. The Bear River Basin is currently undergoing the adjudication process and will likely see some changes once the adjudication has been finalized.

Western Region

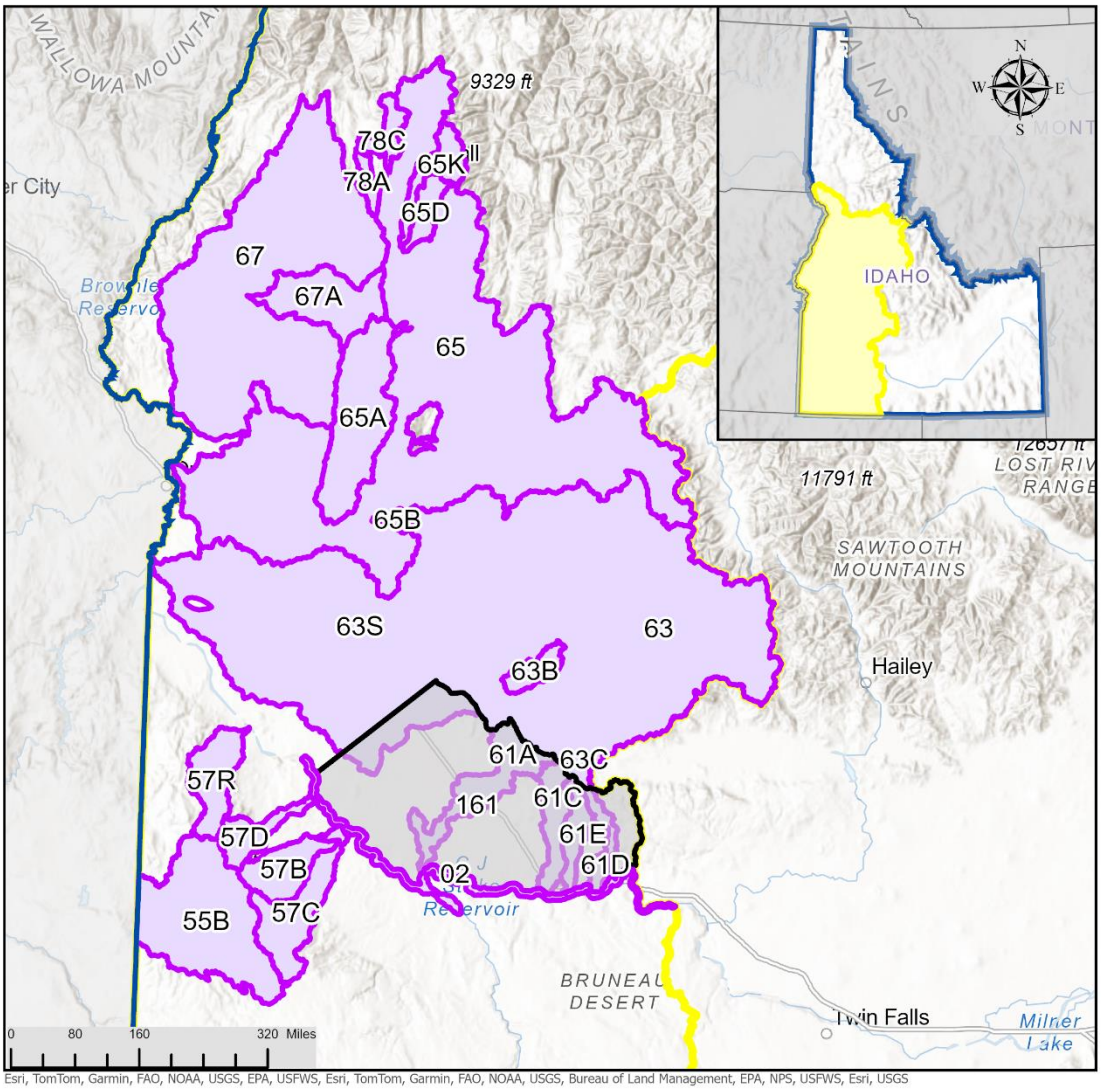

Figure A4. Western Region. This region (yellow) has water districts that primarily administer surface water (purple) and water districts that primarily administer ground water (black). Generally, water districts that administer ground water do so in a larger hydrologic basin with the water districts that administer surface water doing so in smaller hydrologic basins.

Table A1. List of Active Water Districts in Idaho by Region

Water District	Water District Name	Region
95C	Twin Lakes	Northern
37	Big Wood River	Southern
41	Rock Creek	Southern
71	Stanley Area Sub-District	Southern
130	Thousand Springs Area	Southern
140	Oakley Valley Area	Southern
143	Raft River Basin	Southern
36A	Billingsley Creek	Southern
37B	Camas Drainage	Southern
37N	Upper Little Wood River	Southern
37O	Muldoon Creek	Southern
37U	Fish Creek	Southern
43B	Upper Raft River	Southern
43C	Cassia Creek	Southern
43D	Almo Creek	Southern
45A	Basin Creek	Southern
45B	Birch Creek	Southern
45C	Goose Creek	Southern
45F	Marsh Creek	Southern
45K	Big Cottonwood Creek	Southern
45N	Dry Creek	Southern
45O	Golden Valley	Southern
47C	Cedar, Devil, House, Deadwood	Southern
47G	Salmon Falls Creek	Southern
47O	Rock Creek	Southern
72A	Challis and Garden Creeks	Southern
72D	Clayton Area	Southern
72F	Morgan Creek	Southern
01	Upper Snake River	Eastern
11	Bear River	Eastern
27	Blackfoot River	Eastern
29	Portneuf River	Eastern
31	Mud Lake and Tribs	Eastern
33	Little Lost River	Eastern
34	Big Lost River	Eastern
73	Pahsimeroi River	Eastern
74	Lemhi River	Eastern

Water District	Water District Name	Region
100	St. Anthony-Rexburg Area	Eastern
110	Mud Lake Area	Eastern
120	American Falls Area	Eastern
129	Portneuf River Basin Area	Eastern
170	Upper Salmon River Basin	Eastern
11A	Eight Mile and Bailey Creeks	Eastern
11B	Soda Creek	Eastern
11E	Paris Creek	Eastern
11F	Thomas Fork	Eastern
13A	Cub River	Eastern
13M	Cottonwood, Battle and Stockton Creeks	Eastern
13N	Mink Creek	Eastern
13Q	Middle Fork Trout Creek	Eastern
13R	Oxford Creek	Eastern
13S	Whiskey Creek	Eastern
13T	Bancroft-Lund	Eastern
29A	Pocatello Creek	Eastern
29B	Garden Creek	Eastern
29D	Lower Portneuf River	Eastern
29G	Birch Creek	Eastern
29H	Marsh Creek	Eastern
29O	Bannock Creek Drainage	Eastern
32C	Medicine Lodge Creek	Eastern
32D	Birch Creek	Eastern
74A	Geertsen Creek	Eastern
74B	Kirtley Creek	Eastern
74C	Bohannon Creek	Eastern
74F	Pratt Creek	Eastern
74G	Sandy Creek	Eastern
74J	Withington Creek	Eastern
74M	Agency Creek	Eastern
74Q	Mill Creek	Eastern
74W	Texas, Hawley,Timber, Junction, Bull, Jake and Canyon Creeks	Eastern
74Z	Big Eight Mile and Lee Creeks	Eastern
75A	Greater Salmon Area	Eastern
75B	Williams Creek	Eastern
75D	Carmen Creek	Eastern
75F	Lost Trail	Eastern

Water District	Water District Name	Region
02	Snake River from Milner Dam to Murphy Gage	Western
63	Boise River	Western
65	Payette River and Tributaries	Western
67	Weiser River	Western
161	Mountain Home Area	Western
55B	Jordan Creek	Western
57B	Catherine Creek	Western
57C	Castle Creek	Western
57D	Sinker Creek	Western
57R	Reynolds Creek and Tributaries	Western
61A	Canyon Creek	Western
61C	Bennett Creek	Western
61D	Little Canyon Creek	Western
61E	Cold Springs Creek	Western
63B	Smith Creek	Western
63C	Little Camas Creek Basin	Western
63S	Stewart Gulch	Western
65A	Squaw Creek	Western
65B	Porter Creek and Tributaries	Western
65D	Boulder Creek	Western
65K	Lake Fork Creek	Western
67A	Little Weiser River	Western
78A	Big Creek	Western
78C	Goose Creek	Western

Appendix B: Watermaster Employment

B1. Attorney General Guidance to Director Spackman Re: Watermaster and Regular Assistant Compensation July 23, 2013

B2. Idaho Department of Water Resources Department Policy – Standards of Conduct July 28, 2014

B3. Attorney General Guidance to Senators Bair and Siddoway Re: Conflicts of Interest April 6, 2010

B4. Attorney General Guidance to Water Districts Re: Water District Insurance and Legal Entities December 7, 2017

B5. Insurance and Liability State of Idaho Insurance Coverage 2024

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL
LAWRENCE G. WASDEN

July 23, 2013

Mr. Gary Spackman
Director, Idaho Department
of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098

Re: Watermaster and Regular Assistant Compensation

Dear Director Spackman:

This letter responds to your inquiry concerning the meaning and application of Idaho Code § 42-605(3) as amended by 2013 Idaho Laws Chapter 327. The subsection, as effective on July 1, 2013, provides:

> At the meeting of the water users of a district there shall be elected a watermaster for such water district, who may be authorized to employ such other regular assistants as the water users shall deem necessary, and who, upon appointment by the director of the department of water resources, shall be responsible for distribution of water within said water district. Notwithstanding any personnel classification assigned to the watermaster and assistants pursuant to the provisions of chapter 53, title 67, Idaho Code, the water users shall, prior to the election of such watermaster and approval of the employment of assistants, fix the compensation to be paid them during the time actually engaged in the performance of their duties.

The amendment separated the subsection into two sentences and added the clause "[n]otwithstanding any personnel classification assigned to the watermaster and assistants pursuant to the provisions of chapter 53, title 67, Idaho Code" to the beginning of the second sentence.

You ask three questions:

> Does Idaho Code § 42-605, as amended by S1155, authorize a water district, at its annual meeting, to set the salaries of an elected watermaster and his assistants, who have been designated as classified state employees, without regard and independent of the Idaho Compensation Plan contained [sic] Idaho Code § 67-5309B?

Civil Litigation Division
P.O. Box 83720, Boise, Idaho 83720-0010
Telephone: (208) 334-2400, Fax: (208) 854-8073
Located at 954 W. Jefferson 2nd Floor

> If the answer to the above question is yes, can a watermaster and his assistants who are state employees and whose salaries are independently determined by the water district rather than by the Idaho Compensation Plan continue participating in all the benefits and protections afforded to state employees under the state employment system?
>
> If the answer to the above question is no, what benefits and protections are unavailable to the state employee who is a watermaster or watermaster's assistant?

We conclude that the unambiguous text of subsection (3) controls and that the answers to the first two questions are "yes" with respect to those individuals who are Department employees and devote a portion of their work hours to watermaster or watermaster assistant duties and that, therefore, the third need not be addressed. We also answer your questions with regard to watermasters and watermaster assistants who serve solely in those capacities and whom the Department of Water Resources ("Department") does not employ. As to those individuals, the answer to the first question is "yes" and to the second "no." They are entitled to no "benefits and protections" under the Idaho Personnel System Act.

I. Statutory and Factual Background

Section 42-604, Idaho Code, authorizes the Department's Director to divide the State into water districts for "each public stream and tributaries[] or independent source of water supply" and, in some circumstances, to create more than one district for a public stream, tributary or independent source of water supply. The Director also "may create, revise the boundaries of, or abolish a water district or combine two (2) or more districts . . . if such action is required in order to properly administer uses of the water resource." *See also In re Idaho Dep't of Water Resources Amended Final Order Creating Water Dist. No. 170*, 148 Idaho 200, 212, 220 P.3d 318, 330 (2009) (Director implicitly authorized to establish sub-districts within water district). Once created, a water district is "an instrumentality of the state of Idaho for the purpose of performing the essential governmental function of distribution of water among appropriators under the laws of the state of Idaho." Idaho Code § 42-604.

Section 42-605 specifies various procedural requirements for the conduct of the annual water district meeting, which include under subsection (3) the election of a watermaster, determination of whether employment of "regular assistants"—*i.e.*, assistant watermasters—is warranted, and "fix[ing] the compensation to be paid to them during the time actually engaged in the performance of their duties." *See also* Idaho Code § 42-609 (watermaster's authority to employ assistants other than those authorized at the annual district meeting "in case of emergency"). Once elected, the watermaster must be appointed by the Director and, upon appointment, the watermaster's sole "dut[y]" for the district is overseeing the distribution of water within its boundaries in accordance with Idaho Code § 42-607. Idaho Code § 42-605(10); *see also id.* § 42-608(2) and (3) (parameters for watermaster's commencing and ceasing performance of duties); *id.* § 42-615 (watermaster responsible for preparing proposed district budget). The watermaster's term of appointment ends at the next annual meeting or until a

successor is elected. *Id.* § 42-608(1). In connection with performance of that principal duty, a district's water users may authorize the watermaster to acquire or dispose of property, equipment and facilities "as necessary for the proper distribution of water" and to maintain custody over the acquired assets. *Id.* § 42-605(12).

Section 42-605 contains other provisions related to the watermaster position. They include subscribing to an oath to perform faithfully the watermaster office's duties and filing the subscribed oath with the Department. Idaho Code § 42-605(10). The watermaster then becomes covered by the surety bond acquired by the Administrator of the Division of Insurance, Department of Administration, pursuant to Idaho Code §§ 59-803. *Id.* § 42-605(10). Watermasters may be removed from their position by the Director after complaint by a district water right holder or user and a hearing "whenever such watermaster fails to perform the watermaster's duty." *Id.* § 42-605(9). The Director also may appoint a successor watermaster for the unexpired term of a watermaster when the latter is removed from office for cause, "resigns, dies or is physically unable to perform his duties." *Id.* § 42-605(9) and (10). As these provisions reflect, individuals performing watermaster duties, as well as the persons assisting them, are state employees notwithstanding their election by a water district's water users and the district's authority to fix their compensation for periods during which those duties are carried out. *See Marty v. State*, 117 Idaho 133, 140, 786 P.2d 524, 531 (1989) (water district, district chairman and watermaster are entitled to sovereign immunity under Idaho Code § 42-1717 as agents of Department).

Water districts adopt their budgets at the annual meeting. Idaho Code § 42-612. The budgets must cover "the estimated expenses of delivering the water of the district for the ensuing year" including the "compensation of the watermaster and the watermaster assistants." *Id.* § 42-612(1). They must "show the aggregate amount to be collected from all the water users in the district, and the amount to be paid by each ditch, canal company, irrigation district or other water user." *Id.* § 42-612(3). Under the presumptive method, county assessors collect the assessed amounts through notices sent by county auditors to the affected water users, with all remitted amounts deposited in a special fund. *Id.* § 42-613; *see also id.* § 42-617 (districts authorized to set alternative payment dates and to prohibit distribution of water to non-compliant users). Districts, however, may authorize watermasters "to collect his compensation and that of his assistants, and other expenses of delivering the water of said district to the users thereof, directly from the water users, canal companies, and irrigation districts." *Id.* § 42-618. They also may appoint a water district treasurer or, where the budget is no greater than $7500, designate the watermaster to collect the assessments if a board of county commissioners concludes that payment to the county treasurer is an undue burden. *Id.* § 42-619.

Approximately 120 water districts and sub-districts exist in Idaho. *See* http://www.idwr.idaho.gov/WaterManagement/WaterDistricts/PDF/WD_DESCRIPTIONS.pdf (last visited Jul. 4, 2013) (identifying districts and sub-districts). Most, but not all, have individuals performing watermaster and watermaster assistant duties. *See* http://www.idwr.idaho.gov/ExternalReports/wdcontactsrpt.pdf (last visited Jul. 4, 2013) (identifying watermasters). Our understanding is that currently, with the exception of

14 individuals, the districts are solely responsible for the watermasters' and their assistants' compensation. The water districts pay a portion of compensation for the 14 exceptions based upon an allocation of time devoted to district, or watermaster, duties and time devoted to non-district, or departmental, tasks. The exceptions occupy classifications published by the Division of Human Resources (*see* https://labor.idaho.gov/dhr/ats/statejobs/ClassificationData.aspx) (last visited Jul. 4, 2013)) and the attendant compensation schedule (*see* http://dhr.idaho.gov/PDF%20documents/Compensation/FY2013payschedule.pdf (last visited Jul. 4, 2013)) to implement Idaho Code § 67-5309B. These individuals were compensated in accordance with the compensation level and that the Department has been reimbursed by the affected water district for the period of time devoted to performing watermaster or watermaster assistant duties. One of these individuals—the watermaster for Water District 01—provides services to the district through a signed memorandum of understanding that allocates two-thirds of his time to watermaster duties and is terminable at will.

II. Application of Idaho Code § 42-605(3)

The statutory construction principles governing resolution of your questions are settled. "The interpretation of a statute 'must begin with the literal words of the statute; those words must be given their plain, usual, and ordinary meaning; and the statute must be construed as a whole.'" *Verska v. St. Alphonsus Reg'l Med. Ctr.*, 151 Idaho 889, 893, 265 P.3d 502, 506 (2011). Absent any ambiguity, "'this Court does not construe [the statute], but simply follows the law as written.'" *Id.* Neither a court nor the Attorney General has authority to depart from a law's otherwise plain terms because to do so would invade the Legislature's prerogative to establish public policy. *See, e.g.*, *Herndon v. West*, 87 Idaho 335, 339, 393 P.2d 35, 37 (1964) ("We must follow the law as written. If it is socially or economically unsound, the power to correct it is legislative, not judicial."). To the extent that two or more statutes may apply to the same subject matter, they "must be construed together to give effect to legislative intent." *Johnson v. McPhee*, 147 Idaho 455, 461, 210 P.3d 563, 569 (2009). In determining such intent, "the specific statute will control over the more general statute." *First Fed. Sav. Bank v. Riedesel Eng'g, Inc.*, 154 Idaho 626, ___, 301 P.3d 632, 638 (2012).

Section 42-605(3) is unambiguous. It authorizes water districts to elect watermasters at their annual meetings and to invest discretion in the watermaster as to the selection and employment of assistants. It further authorizes—indeed requires—the districts to fix the "compensation" to be paid these individuals for "the time actually engaged in the performance of their duties." The 2013 amendment adding the clause "[n]otwithstanding any personnel classification assigned to the watermaster and assistants pursuant to the provisions of chapter 53, title 67, Idaho Code" is consistent with the unamended provision and served chiefly to reinforce the statute's plain meaning in this regard.

The answer to your first question is therefore "yes." That answer comes with two qualifications. The first is that water districts' compensation fixing power is limited to the affected individuals' employment as "watermasters" or "regular assistants"—a limitation

reflected not only in the detailed statutory treatment of the "watermaster" duties, which establish the position as unique and not subject to modification by districts, the Director or the Administrator of the Division of Human Resources, but also in subsection (3)'s concluding phrase "during the time actually engaged in the performance of their duties." The second is that the Director has the discretion to condition providing Department employees to a district for watermaster or watermaster assistant purposes on payment of compensation equal to that assigned to the particular employee under the § 67-5909B salary schedule. The water district has the corresponding discretion to decline that condition and to employ a watermaster and to authorize selection of regular assistants for district employment at whatever compensation level it chooses. As to the signed memorandum of understanding between the Department and Water District 01, a declination would require the memorandum's termination. It additionally warrants noting that the provision of Department employees to perform watermaster or watermaster assistant duties must be accompanied by an agreement consistent with the requirements of Idaho Code §§ 67-2326 to -2333.

As discussed above, a large number of water districts have watermasters and, presumably, assistant watermasters whose compensation they determine and entirely pay. There are exceptions to this general practice with respect to the watermaster in one district and assistant watermasters in six districts who are employed by the Department but whose compensation is contributed in part by the district. The exceptions perform duties for both Department and the contributing district. Compensation for the departmental functions falls outside the scope of the districts' compensation fixing authority in subsection (3). The individuals therefore must be, and have been, assigned position classifications in accordance with the Division of Human Resources' list with reference to their departmental responsibilities and are paid consistently with the Division's compensation schedule for the time apportioned to the performance of those responsibilities.

The answer to your second question is "yes" to the extent that it refers to the individuals employed by the Department. The Legislature's express reference to the position classification and related compensation provision in § 67-5309B has relevance only to those individuals who possess "classified employee" status under the Personnel System Act. Here, those individuals consist of the 14 employed by the Department employment but who also perform watermaster or assistant watermaster duties. *See* Idaho Code § 67-5302(5) (definition of "classified officer or employee" as "any person appointed to or holding a position in a department"); *id.* § 67-5302(9) (definition of "department" as "any department, agency, institution or office of the state of Idaho").

The analysis above answers your third question. Those individuals employed by the Department are classified employees under the Personnel System Act and, as such, enjoy its benefits and protections. Although perhaps unnecessary, it may be helpful to explain why the same conclusion is not true for watermasters and watermaster assistants employed by a water district.

First, the fact that water districts function as a state "instrumentality" does not warrant an opposite conclusion. They carry out their statutory purpose as a distinct juridical entity, not as a sub-division of the Department notwithstanding the Director's extensive role in their creation and operation. Representative of their independent status is the districts' self-funding of their activities and the related water user assessment process in which neither the Department nor any other state agency plays a role. Water districts thus are not "departments" under the Personnel System Act in Title 67, Chapter 53; *i.e.*, they do not constitute an Executive Branch "department" or "agency" (*see* Idaho Code § 67-2402), an "institution," or an "office" of the State. *Second*, the districts are subject to specific directives with regard to the employment of watermasters and watermaster assistants that are incompatible with those positions' incorporation into the state personnel system. So, for example, watermasters are elected, not appointed through merit selection as contemplated under Idaho Code § 67-5301; serve for a limited term; have their compensation determined outside the state compensation plan's constraints; and are subject to termination under a unique statutory process and not Idaho Code §§ 67-5315 to -5318. Watermaster assistants similarly have their compensation set by the districts; are subject to appointment at the watermaster's discretion; have an employment term no longer than the period covered by the annual meeting's authorization; and are subject to termination at will by the watermaster. The absence of any classification for "watermaster" or "watermaster assistant" promulgated under § 67-5309B additionally evidences the Personnel System Act's non-applicability because the Division of Human Resources' Administrator presumably would have developed an appropriate classification for watermasters and watermaster assistants if they were deemed subject to the Act.

I hope that this letter adequately responds to your inquiry. Please contact me with any further questions concerning this matter.

Sincerely,

CLAY R. SMITH
Deputy Attorney General

State of Idaho Department of Water Resources	
Type: **DEPARTMENT POLICY**	Effective Date: **01 August 2014** (Supersedes Policy Dated: ALL PREVIOUS)
Title: **STANDARDS OF CONDUCT**	
Approved: Gary Spackman	Date: July 28, 2014

SCOPE

Maintaining a high standard of conduct, honesty, impartiality, common sense and mutual respect by Department employees is essential to insure the proper performance of business and strengthen public faith and confidence in the integrity of the Department and its employees. It takes all employees working together to maintain a high level of professional service. To achieve and maintain our workplace to be one that promotes these standards, IDWR has established specific expectations of all employees. It is important for employees to be aware of and fully understand these *required* expectations.

Accordingly, our employees must be aware of their responsibilities to the Department and to co-workers. Any violation of this policy could result in immediate discipline up to and including termination. However, we strive to take a constructive approach to corrective action matters to insure that actions that would interfere with operations or an employee's job are not continued.

POLICY

Although there is no way to identify every possible violation of standards of conduct, the following is a list of infractions including those stated in Rule 190 of the Division of Human Resources identifying behavior that could lead to disciplinary action or separation from state service (e.g., dismissal, suspension, demotion or reduction in pay). See IDWR Problem Solving and Due Process Procedures on WEnet and Rule 200 of the Division of Human Resources).

- Failure to perform the duties and carry out the obligations imposed by the state constitution, state statutes, or rules of the agency or the Division of Human Resources and Idaho Personnel commission.
- Inefficiency, incompetency, or negligence in performing assigned duties, if a reasonable accommodation cannot be made for the disabling condition.
- Physical or mental incapability for performing assigned duties, if a reasonable accommodation cannot be made for the disabling condition.
- Refusal to accept a reasonable and proper assignment from an authorized supervisor.
- Insubordination or conduct unbecoming a state employee or conduct detrimental to good order and discipline in the agency.
- Intoxication or being under the influence of alcohol, or the misuse of medications or controlled substances, while on duty.

- Careless, negligent, or improper use of or unlawful conversion of state property, equipment, or funds.
- Use of any influence which violates the principles of the merit system in an attempt to secure a promotion or privileges for individual advantage.
- Conviction of official misconduct in office, or conviction of any felony, or conviction of any other crime involving moral turpitude.
- Acceptance of gifts in exchange for influence or favors given in the employee's official capacity.
- Habitual pattern of failure to report for duty at the assigned time and place.
- Habitual improper use of sick leave.
- Unauthorized disclosure of confidential information from official records.
- Absence without authorized leave.
- Misstatement or deception in application for employment.
- Failure to obtain or maintain a current license or certificate lawfully required as a condition in performance of duties.
- Prohibited participation in political activities. (Ref Section 67-5311, Idaho code)
- Violations of policy, including the Equal Opportunity and the Anti-Harassment Policies; violations of criminal law.
- Fighting, throwing things, horseplay, practical jokes or other disorderly conduct that may endanger the well-being of any employee and/or clients on Department premises/property or endanger the well-being of the outside environment.
- Engaging in acts of dishonesty, fraud, theft or sabotage, breach of confidentiality and willful misconduct.
- Threatening, intimidating, coercing, using abusive or vulgar language, ridiculing, humiliating or practicing undermining behaviors and/or interfering with the performance of other employees.
- Unauthorized use and/or possession of Department material, time, equipment or property.
- Damaging or destroying Department property due to careless or willful acts.
- Engaging in such other practices/conduct as the Department determines may be inconsistent with the ordinary and reasonable rules of conduct necessary to the welfare of the Department/State, its employees, and/or clients.

ALCOHOL and DRUGS

IDWR seeks to establish and maintain a safe, healthy and lawful working environment for all employees free from the effects of unauthorized drugs and alcohol. The unauthorized presence of drugs and alcohol in the workplace compromises workplace health and safety. The Department expects that enforcement of this policy will help reduce the number of accidents in the workplace, reduce absenteeism and tardiness, improve workplace safety, and improve overall productivity.

Being under the influence of, or use, possession, sale, transfer, purchase of alcohol, illegal drugs, or other intoxicants (including prescription medication that has not been prescribed for the employee) by employees at any time while on Department premises, while working, or while on Department business is prohibited. If you are taking prescription medication that has the effect of impairing your ability to think, react or perform your duties you should inform your supervisor (without necessarily disclosing the medication or your medical condition). (See Alcohol and Drug Free Workplace Policy on WEnet).

ATTENDANCE/PUNCTUALITY

Punctuality and regular attendance are essential to the proper operation of the Department. Proper attendance also helps you to establish a good working reputation and add to your opportunity for advancement. If you are unable to report for work for any reason, if you will arrive late, or must leave early, notify your supervisor before your starting time if at all possible. Your supervisor will notify you as to who you should contact in his/her absence.

If you fail to notify the Department after three (3) days of consecutive absence, the Department may presume you have resigned and your employment may be terminated. Likewise, in the case of short-term illness or injury you must call or have your supervisor called if you are incapacitated while off work (except when on a scheduled absence) and submit a physician's statement supporting any 3 or more days of absence.

CONFIDENTIAL INFORMATION

Employees may become aware of certain information that is confidential. The information should be kept confidential to every extent possible. Confidential information may include, but is not limited to such things as personal health information, phone lists, crime and incident reports, accident reports, internal investigations, disciplinary actions, employee grievances, budget proposals, issues under litigation, and proposed policy changes. Employees should protect this information by safeguarding it when in use, filing it properly when not in use, and discussing it only with those who have a legitimate business need to know.

HARASSMENT AVOIDANCE

IDWR protects human dignity of its employees and prohibits employee harassment, whether it is sexual, racial, and ethnic or of some other type. Harassment in any form – verbal, physical, or visual is prohibited. (See IDWR Harassment Avoidance Policy on WEnet).

EXTERNAL COMMMUNICATIONS

IDWR employees need to make every effort to give accurate and clear information to the public and our customers. If an employee does not know the answer to a question or have the information requested, the subject should be researched or references or resources should be provided to obtain the information. The employee should be attentive, helpful and courteous. Public criticisms of the Department, personnel and its policies should be avoided. If an employee does not agree with internal policy or decisions, the facts and background should first be researched to fully understand the position. The employee should, and then discuss the subject with their immediate supervisor or the appropriate agency member. Diversity of opinion is expected and encouraged to help improve the quality of decisions. However, employees are expected to publicly support Department decisions and positions once they have been made. This includes decisions made by the Director and upper management.

INTERNAL COMMUNICATIONS

Internal communications include interactions in person, interactions through written notes, memos, and letters, and interactions using any electronic device such as telephone, email, text messages, social media, internet websites, blogs, YouTube, internet forums, etc. Every employee deserves respect and praise in public. If there are disagreements, employees should respectfully correct or criticize in private. Disagreements are to be expected and better decisions may grow from discussion and debate. Personal attacks, gossips, jokes, foul or offensive remarks and disparaging comments, even in the guise of humor or as an expression of irritability are destructive to the morale of the agency and damage trusting relationships. Interactions among employees shall be directed at issues and solutions. Employees are instructed to present concerns or problems to their supervisor. Meetings (not required by law to be recorded) or conversations may not be taped without prior consent of the individual(s) being recorded and the approval of the Director. Copies of recordings shall be provided upon approval by the Director. (See IDWR Internet and Electronic Device Policy on WEnet).

CONFLICT OF INTEREST

Employees are expected to use good judgment at all times. Employees shall not profit, directly or indirectly from public funds under their control, shall not have a private interest in any contract made by them in their official capacity; and must avoid self dealing in any purchase or sale made in their official capacity.

Any activity performed in the course of employment which might have the appearance of impropriety or preferential treatment of family or relatives, significant others, etc., is prohibited.

Employees shall not have a private interest in any contract, grant or other written agreement in an official capacity. Employees may not contract with the Department of Water Resources or with another state agency or entity within state government. To prevent the appearance of impropriety in Department contracts, the employee should refrain from disclosing insider, proprietary or confidential information to family, friends, or business associates. This is especially so when there are or could be reasonable perceptions drawn that unfair contracting practices have occurred because of these relationships to employees.

Employees should not act, but withdraw from any matter coming before them in the course of their official duties, if they or their family, relatives, significant others, etc., have a private interest in it. For example, if any employee has a private interest in, or is likely to become interested in a contract of IDWR, the employee should not take part in the preparation or approval of the contract or bid specifications.

If it is unclear that a conflict of interest exists, employees shall seek clarification from their immediate supervisor.

Ethics in Government: https://www.ag.idaho.gov/content/uploads/2008/04/EthicsInGovernment.pdf

PROFESSIONAL APPEARANCE/REPRESENTATION

The public and our customers form an opinion about our Department by the way we present ourselves, both in appearance and in preparedness for meetings, discussions and presentations. Employees are encouraged to dress in a manner consistent with their status as professionals and in relationship to their duties. Employees are expected to practice personal hygiene; cleanliness and neat, tasteful, well cared for clothing is to the credit of all and expected of each employee.

An employee may be in a position to serve as an official or unofficial spokesperson for the Department or a specific program. This is not an opportunity to express personal opinions. An employee has the responsibility to notify their supervisor to discuss the sensitivity of any issue and determine if there is a Department position already in place for the topic.

WORK AREA

The work area of each employee should be properly maintained and provide a pleasant, orderly, and professional appearance. Any display of material reasonably considered to be or having the potential to be offensive to others is prohibited.

RELIGIOUS EXPRESSION

Employees may freely exercise their religious beliefs as long as doing so does not infringe on workplace efficiency and the requirements of Civil Rights Act of 1964 as amended, concerning nondiscrimination on the basis of religion.

Employees and supervisors should respect the individuality of each person, and although they may share their belief that religion is important in a person's life, they must refrain from attempting to influence the religious beliefs of clients, colleagues, coworkers or subordinates while acting in any capacity as an employee of the Department.

No employment decision shall be made on the basis of religion. In accordance with state and federal law, the department will reasonably accommodate employees' religious practices.

OUTSIDE ACTIVITIES

The Department neither encourages nor objects to employees taking outside employment. The employment must not conflict with the best interest of the Department or the proper performance of the employee's responsibilities. Employees must avoid interference in any way with the full performance of official duties and responsibilities. Employees must avoid outside employment in the field of water resources in Idaho and avoid activities which affect matters of the State (e.g., activities that result in financial gain as a consequence of information obtained through Department employment which has not been made available to the general public).

Employees shall not accept or serve in any policy-making position or office of an organization, board or commission in which an opportunity for conflict of interest might arise between the activity and department employment, except upon written approval of the Director.

All employees who have outside employment are to submit a written statement describing such employment for concurrence by the Director and a copy forwarded to the HR Manager for the employee's personnel file.

No employee may make use of state equipment, facilities, time or public contacts in furtherance of any outside employment. No employee shall influence the award of a contract from which they shall personally benefit, directly or indirectly.

PERSONAL USE OF DEPARTMENT EQUIPMENT AND MATERIALS

State-owned or leased equipment, supplies and facilities are provided for the use of employees in the performance of official public duties. Such equipment, supplies and facilities may not be used in furtherance of personal business ventures and should not be used for private activities that would result in an increase in cost to the state or provide an appearance of impropriety. This policy can best be described as "use good judgment" and "avoid the appearance of impropriety" and is recognition of the public's right to expect that state employees respect the public's ownership of vehicles, equipment, supplies and facilities. Employees are advised to seek approval from their supervisors of any questionable activities or uses of state facilities or equipment within "gray areas" of acceptability. If the employee and his/her supervisor find the activity acceptable, no further approval is required. However, when the employee and the supervisor have serious concerns about acceptability, it probably indicates the activity should be avoided. In addition to the concern about appearances, the guiding rule is that there should be no increase in cost to the state.

DUAL STATE EMPLOYMENT

There shall be no conflicting hours of work when a classified employee is employed by more than one state agency. The state is considered one employer for determining the number of hours worked. Therefore, dual state employment can result in errors in accrual of credited state service and leave, and can create an overtime situation. To prevent conflicts of interest and conflicting hours of work, any employee interest in accepting additional employment with another state entity or a supervisor contemplating hiring an employee holding a classified position in another state agency shall contact the HR Manager and must obtain approval from the Director, prior to making an offer of employment. (See Division of Human Resource Rule 26 http://adminrules.idaho.gov/rules/current/15/).

GIFTS and OTHER BENEFITS

State employees shall never solicit in their official capacity any gratuity or other benefit from any person under any circumstances. Employees shall not accept transportation or lodging from any person who is or is likely to become interested in any contract or transaction over which they exercise any discretionary function. The rule does not apply if a state employee does not have reasonable access to public services or accommodations, when the acceptance of an offer of transportation makes an economical and efficient use of time or transportation, and any benefit conferred is trivial. Employees shall not accept employment or favors (in excess of state acceptable limits) from any person, entity or corporation with which they have had or reasonably may expect to have official relations which primarily benefit them personally and not the agency. Advertising trinkets normally given to the public such as pencils, pens, or other small gifts are exempt.

Employees shall not accept gifts or other benefits exceeding a total retail value of $50, including any food or beverage benefit consumed at the time and place of receipt from any person with whom they interact with in their official capacity. Employees are not prohibited from accepting a benefit less than $50 provided there is no substantial risk of undermining official impartiality. Honorariums shall not be accepted by state employees from Idaho citizens, associations, corporations or governmental entities for appearances or services given in the course of their official duties. (For specifics, see Idaho Ethics in Government manual: https://www.ag.idaho.gov/content/uploads/2018/04/EthicsInGovernment.pdf).

NON-SMOKING

Pursuant to Executive Order No. 2005-10, all state-owned or state-leased buildings, facilities, state-owned vehicles or areas occupied by state employees shall be designated as "non-smoking".

EMPLOYMENT OF CLOSELY RELATED INDIVIDUALS

Closely related individuals will not be hired or transferred into positions at IDWR where they directly or indirectly supervise each other or are supervised by the same supervisor. These "closely related individuals" may include parents, children, spouses, siblings, step-children, in-laws, domestic partners, significant others and/or other individuals whose relationship to the employees could negatively affect business operations. Closely related individuals generally will not be placed in positions where they may work with or have access to sensitive confidential information regarding each other. Further, closely related individuals will not be placed in positions which may result in a conflict of interest as determined by IDWR management. These restrictions shall include employees who become closely related individuals following hire and during their employment at IDWR. This policy supplements and is in addition to IDAPA 15.04.01.025, regarding nepotism in state employment (see http://adminrules.idaho.gov/rules/current/15/)

ANIMALS IN THE OFFICES AND/OR VEHICLES

Animals are not permitted inside any of IDWR's offices or state vehicles. Animals may be *transported and contained* in the truck bed of a personal or state vehicle while on state business if approved in writing by the Director. When an animal is transported in the truck bed of a state vehicle, it must be contained in a kennel. Exceptions will be made when the animal is a service animal for disabled persons. The employee will be responsible for all actions of the animal.

FIREARMS IN THE WORKPLACE

The possession of firearms is prohibited in any IDWR facility and state vehicle or personal vehicle while conducting state business. Any exception must be approved in writing by the Director (with proof of an appropriate permit).

POLITICAL ACTIVITIES

IDWR employees are encouraged to participate in the political process, but to adhere to the restrictions and guidelines found in Idaho Code Section 67-5311: https://legislature.idaho.gov/statutesrules/idstat/Title67/T67CH53/SECT67-5311/. These restrictions are not intended to deprive state employees of political activity, but rather to

preserve the political neutrality of state agencies and seek to ensure that the interest of all Idaho residents are served.

EXECUTIVE OFFICIAL LOBBYIST

Effective July 1, 2006, House Bill 707 requires the registration of individuals who lobby the executive branch of state government. Anyone who contacts an executive official must be registered as a lobbyist if the contact is made in an attempt to influence the consideration, amendment, adoption or rejection of: (1) a rule or rulemaking decision; (2) ratemaking decision; (3) procurement; (4) contract bid or bid process; (5) financial services agreement; or (6) bond issue.

Included in the definition of executive official: a state department or agency director, deputy director, division administrator or bureau chief as established and enumerated in sections 67-2402 and 67-2406, Idaho Code and the membership and the executive or chief administrative officer of any board or commission that is authorized to make rules or conduct rulemaking activities pursuant to section 67-5201, Idaho Code.

DUES, FEES, AND MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

In reference to Executive Order #2007-07 the state will not pay for any kind of professional, occupational, or trade license, certificate, permit or occupational registration for any state employee or officer. Dues to professional, occupational or trade associations in which membership is restricted to persons who are licensed, certified or registered under Idaho law will not be paid.

However, this executive order does not preclude the Department from paying dues to organizations relating to their responsibilities in state government, or where such dues are part of a requirement of employment. Requests will be considered on a classification basis, taking into consideration job requirements and responsibilities. Each request shall be in writing to and approved by the Director.

WHISTLE BLOWERS

The 1994 Idaho Legislature enacted a law known as the "Idaho Protection of Public Employees Act" (Whistleblowers Act) to protect public employees from retaliation for reporting waste or violations of the law, rules or regulations. The Act applies to employees of all three branches of Idaho government, local governments and bodies created by state or local governments.

The "Whistle Blowers" Act protects public employees from adverse actions for:

- Reporting in good faith, the employee's belief that there is waste of public funds.
- Reporting in good faith, the violation or suspected violation of a law, rule, or regulations.
- Participating in or giving information in an investigation, hearing, court proceeding, legislative or other inquiry, or other administrative review.
- Objecting to or refusing to carry out a directive that the employee believes in good faith to violate a law, rule, or regulation.

Public employers are prohibited from taking the following adverse actions against an employee for exercising the employee's rights listed above:

- Discharging the employee
- Threatening the employee
- Discriminating against the employee's employment. Discrimination against employment includes compensation, terms, conditions, location, rights, immunities, promotions or privileges.

Supervisors shall inform their staff that constructive input may be brought to them without reprisal or may be carried to the Human Resource Officer or other designated official. (See Idaho Code 6-2101: https://legislature.idaho.gov/statutesrules/idstat/Title6/T6CH21/)

RESPONSIBILITIES

Each supervisor shall hold his or her staff accountable for their conduct in general and adherence to these policies and guidelines in specific. All employees are required to review this policy and acknowledge their review in writing in the appropriate area on the annual performance evaluation form.

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL
LAWRENCE G. WASDEN

April 6, 2010

Senator Steve Bair
947 W. 200 S.
Blackfoot, Idaho 83221

Senator Jeff C. Siddoway
1764 E. 1200 N.
Terreton, Idaho 83450

Dear Senator Bair and Senator Siddoway:

You have requested legal guidance from the Office of the Attorney General regarding potential conflicts of interest issues that may arise if a person who is on the board of directors of the Big Lost River Irrigation District ("BLRID") also serves simultaneously as the watermaster for Water District No. 34 ("WD34"). The BLRID is located in Butte and Custer counties and within WD34, and is one of the largest water users in WD34, if not the largest.

QUESTIONS PRESENTED

Your inquiry encompasses two analytically distinct but related questions:

1. May a member of the board of directors of the Big Lost River Irrigation District simultaneously serve as the watermaster for Water District No. 34?

2. If a member of the board of directors of the Big Lost River Irrigation District simultaneously serves as the watermaster for Water District No. 34, how should potential conflicts of interest be addressed?

CONCLUSIONS

1. Yes, a person may simultaneously serve on the BLRID board and as watermaster for Water District 34, but only with the approval of the Director of the Department of Water Resources. Idaho law does not explicitly bar the same person from simultaneously serving as a

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watermaster and as an irrigation district director. The Ethics in Government Act only requires the watermaster to disclose potential conflicts of interest, and the Idaho Code's requirements that officers devote their full time to their official duties and not accept pecuniary benefits from persons subject to their regulatory or administrative authority do not appear to bar watermasters from serving on the board of an irrigation district and being compensated for such service. Moreover, the common law doctrine of incompatible offices also does not apply because the position of director of the BLRID is a private position rather than a public office. The Department of Water Resources' employee conflict of interest policy, however, applies to the watermaster and precludes the watermaster from also being a director of the BLRID absent the consent of the Director.

2. If a member of the board of directors of the BLRID simultaneously serves as the watermaster for Water District No. 34, the person must disclose to the Director, as required by the Ethics in Government Act, any actual or potential conflicts of interest that arise as a result of simultaneously serving as a director of the BLRID. Provided the watermaster makes such required disclosures, the watermaster need not be recused and may continue to perform the functions and duties of the watermaster's office. Pursuant to his broad authority to supervise and instruct the watermaster, however, the Director may appoint the board member to the position of watermaster subject to specific instructions for addressing any actual or potential conflict of interest, or may take direct control of the watermaster's water distribution duties in the event of an actual conflict of interest after appointment.

ANALYSIS

I. May A Member Of The Board Of Directors Of The Big Lost River Irrigation District Simultaneously Serve As The Watermaster For Water District No. 34?

No provision of the Idaho Code and no reported decision of the Idaho Supreme Court or the Idaho Court of Appeals address the question of whether the same person may simultaneously serve as a watermaster[1] and as a director of an irrigation district located in the same water district. In the absence of such controlling authority, your question is appropriately analyzed under applicable provisions of the Idaho Code, the common law doctrine of incompatible offices, and the Department of Water Resources' policy relating to conflicts of interest.

[1] The term "watermaster" as used herein refers only to a watermaster elected and appointed to distribute water in a water district pursuant to chapter 6, title 42 of the Idaho Code.

A. The Idaho Ethics In Government Act Of 1990.

The Ethics in Government Act of 1990 ("Ethics in Government Act"), Idaho Code §§ 59-701 – 59-705, is intended to, among other things, assure the impartiality of public officials, inform citizens of potential conflicts of interest between an official's public trust and private concerns, prevent public office from being used for personal gain, prevent special interests from unduly influencing governmental actions, and assure that governmental functions and policies reflect the public interest. Idaho Code § 59-702.

Under the Ethics in Government Act, actual or potential conflicts of interest must be disclosed, but they do not require recusal or removal from office. Provided an official's potential conflicts of interest are properly disclosed as provided in the act, Idaho Code §§ 59-704(1)-(5), the official may still fulfill his or her duties:

> A public official shall not take any official action or make a formal decision or formal recommendation concerning any matter where he has a conflict of interest and has failed to disclose such conflict as provided in this section. Disclosure of a conflict does not affect an elected public official's authority to be counted for purposes of determining a quorum and to debate and to vote on the matter, unless the public official requests to be excused from debate and voting at his or her discretion.

Idaho Code § 59-704. Thus, the Ethics in Government Act does not bar the same person from simultaneously serving as watermaster for WD34 and as a director of the BLRID.

B. Idaho Code § 59-511: Officers To Devote Entire Time To Duties.

Idaho Code section 59-511 provides, in relevant part: "Each executive and administrative officer shall devote his entire time to the duties of his office and shall hold no other office or position of profit." Idaho Code § 59-511. This statute would bar the watermaster for WD34 from simultaneously serving as a director of the BLRID if a watermaster is an "executive or administrative officer," and if a BLRID directorship is an "office or position of profit." *Id.*

While neither section 59-511 nor any other provision of chapter 5 of title 59 defines these statutory terms, the chapter's focus on the state treasury and legislative appropriations suggests that a watermaster is not an "officer" for purposes of the statute. Chapter 5 of title 59 addresses "Salaries of Officers" and is concerned with officers whose salaries are paid out of "the state treasury" pursuant to legislative appropriations. Idaho Code §§ 59-501, 59-503, 59-508. The Legislature has specifically provided that watermasters' salaries are not paid out of the state

treasury or pursuant to legislative appropriations, but rather are paid by the water districts, and are charged against the lands of the water users in the water district. Idaho Code §§ 42-610, 42-612, 42-613, 42-618. Thus, the statutory structure of which Idaho Code section 59-511 is a part, and the purposes it serves, suggest that a watermaster is not an "executive or administrative officer" for purposes of the statute. *See Xerox Corp. v. Ada County Assessor*, 101 Idaho 138, 141, 609 P.2d 1129, 1132 (1980) (holding that statutes that are in pari materia "must be construed to effect a common purpose").[2]

This conclusion is supported by the fact that in the absence of a resolution by the water users of a water district authorizing the watermaster to work throughout the year, a watermaster works—and is paid—only during the irrigation season. Idaho Code § 42-608. Moreover, in smaller water districts, the watermaster position is often a part-time position. Thus, if Idaho Code section 59-511 applies to watermasters, it would bar a person who serves as watermaster during part of the year from obtaining employment during the remainder of the year, and would also bar a part-time watermaster from holding another job.[3] This would impose an economic hardship on watermasters and discourage qualified persons from seeking the position. It is unlikely the Legislature intended such a result.

C. Idaho Code § 18-1356.

Idaho Code section 18-1356 provides that the public servants of an "agency exercising regulatory functions" may not "accept or agree to accept any pecuniary benefit from a person known to be subject to such regulation." Idaho Code § 18-1356(1). The statute further provides that public servants having "administrative authority" may not "accept or agree to accept any pecuniary benefit from a person known to be interested in or likely to become interested in any matter before such public servant." Idaho Code § 18-1356(3).

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[2] No reported decision of the Idaho Supreme Court or the Idaho Court of Appeals has held that Idaho Code section 59-511 applies to watermasters, and this office is not aware of any such holding by any Idaho court. It should be noted, however, that the Idaho Supreme Court has referred to a watermaster as an "administrative officer" in some other contexts. *Big Wood Canal Co. v. Chapman*, 45 Idaho 380, 390, 263 P. 45, 48 (1927); *Nampa & Meridian Irr. Dist. v. Barclay*, 56 Idaho 13, 20, 47 P.2d 916, 919 (1935); *Mays v. District Court of Sixth Judicial Dist. in and for Butte County*, 34 Idaho 200, 206, 200 P. 115, 116 (1921).

[3] Further, the office of director of the BLRID might not constitute an "office or position of profit" for purposes of Idaho Code section 59-511. The only payments to directors authorized by the BLRID's bylaws are reimbursements for expenses, and "a minimum sum" for each day spent attending board meetings or while engaging in official business. *Big Lost River Irrigation District By-Laws And Policies 2004* at 8 (Article III § 6). Reimbursements for expenses probably would not be deemed "profit," and even the "minimum sum" might not constitute a "profit." Attending board meetings or engaging in BLRID business, for example, could result in a loss of income the director otherwise would have received in pursuing his or her occupation. Thus, a court might conclude that the "minimum sum" a director receives is not "profit" but simply mitigation for such a loss.

The Department exercises the "regulatory function" of distributing water to the water users in WD34, and the watermaster is subject to the Director's control, direction and supervision in such matters. Idaho Code §§ 42-602, 42-607, 42-613A. Further, the BLRID is "subject to such regulation," and the BLRID's payments to directors could qualify as a "pecuniary benefit." Idaho Code § 18-1356(1). Thus, Idaho Code section 18-1356(1) could be interpreted as barring the WD34 watermaster from serving simultaneously as a BLRID director. For similar reasons, Idaho Code section 18-1356(3) also could be interpreted as establishing the same bar.[4]

Such an interpretation is unlikely, however, because Idaho Code section 18-1356 is a criminal statute addressing "bribery and corruption," and includes an exception that probably would apply to the question at hand. Under this exception, the prohibitions of Idaho Code section 18-1356(1) and (3) do not apply to "fees" or "any other benefit" to which the recipient "is otherwise legally entitled." Idaho Code § 42-1836(5)(a). The "minimum sum" and expense reimbursements the BLRID pays to its directors probably constitute a "fee" or "other benefit" to which the directors are "legally entitled" under the BLRID's bylaws and title 43 of the Idaho Code, which governs irrigation districts. Thus, Idaho Code section 18-1356 would not bar the WD34 watermaster from simultaneously serving as a BLRID director.

D. The Common Law Doctrine Of Incompatible Offices.

The common law doctrine of incompatible offices applies in determining whether there is an inherent conflict of duties between two public offices.[5] *See generally* 63C Am. Jur. 2d *Public Officers and Employees* § 58 (discussing the "nature and determination of incompatibility"). Under the incompatible offices doctrine, the same person may not simultaneously hold two public offices that are inherently incompatible. *Stolberg v. Caldwell*, 402 A.2d 763, 773 (Conn. 1978).

The threshold inquiry for purposes of an incompatibility analysis is whether both of the offices in question are governmental or public offices, because the incompatibility doctrine only applies to incompatible public offices. *See Coyne v. State ex rel. Thomas*, 595 P.2d 970, 973 (Wyo. 1979) ("Incompatibility of office or position requires the involvement of two governmental offices or positions"); 63C Am. Jur. 2d *Public Officers and Employees* § 60

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[4] The WD34 watermaster's statutory authority to distribute water to the water users in WD34 probably would constitute "administrative authority," and the BLRID would be "interested" in any "matter" of water distribution pertaining to its water rights that came before the watermaster. Idaho Code § 18-1356(3).

[5] A common law inquiry is appropriate because the Idaho Code provides that the common law provides the rule of decision "in all cases not provided for in these compiled laws." Idaho Code § 73-116; *see also* Attorney General Opinion 91-7 (Aug. 5, 1991), at 9-10 & n.9 (discussing application of the common law doctrine of incompatibility to the offices of watermaster and water district treasurer).

(similar); Lawrence G. Wasden, *Idaho Ethics in Government Manual* (Idaho Office of the Attorney General) (Aug. 2008) at 20 ("one person holding two public offices"); Bill Lockyer, *Conflicts of Interest* (Office of the Attorney General, California Dept. of Justice), at 114 (2004) ("the doctrine concerns a conflict between potentially overlapping public duties. . . . To fall within the common law doctrine of incompatible offices, two elements must be present. First, the official in question must hold two public offices simultaneously.") (citation omitted).[6]

Any potential incompatibility between a public office and a private office is addressed under a traditional conflict of interest analysis. The incompatible offices doctrine is not the same as a traditional conflict of interest analysis, and the two should not be confused or be viewed as interchangeable. *See* Lockyer, *Conflicts of Interest* at 114 (distinguishing "the doctrine of incompatibility of offices on the one hand and the conflict-of-interest notion of incompatible activities on the other"); *Coyne*, 595 P.2d at 973 (explaining that "incompatibility of office or position is not the same as conflict of interest"); *Detroit Area Agency on Aging v. Office of Services to the Aging*, 534 N.W.2d 229, 233 (Mich. Ct. App. 1995) (distinguishing "incompatibility" and "conflict of interest").

For purposes of your inquiry, it is assumed that the office of watermaster for WD34 is a "public office" under an incompatibility analysis. Determining whether the office of director of the BLRID is a "public office" requires a brief review of applicable Idaho law.

The BLRID is an irrigation district established pursuant to title 43 of the Idaho Code. Under Idaho law, an irrigation district "'is a public corporation having such incidental municipal powers as are necessary to its internal management and the proper conduct of its business.'" *Barker v. Wagner*, 96 Idaho 214, 217, 526 P.2d 174, 177 (1974) (citation omitted). The "primary purpose" of an irrigation district is to acquire and operate an irrigation system "as a business enterprise for the benefit of land owners within the [irrigation] district." *Id*; *see also Brizendine v. Nampa Meridian Irrigation Dist.*, 97 Idaho 580, 587, 548 P.2d 80, 87 (1976) ("an irrigation district's primary purpose is the acquisition and operation of an irrigation system as a business enterprise for the benefit of its shareholders."). Thus, an irrigation district holds title to water rights and other property in trust for the benefit of its shareholders. Idaho Code § 43-316; *Nelson v. Big Lost River Irrigation Dist.*, 148 Idaho 157, 158 n.1, 219 P.3d 804, 805 n.1 (2009).

In short, irrigation districts are structured and intended to create private rather than public benefits. The Idaho Supreme Court's decision in *Brizendine* is instructive on this point. In *Brizendine*, the Court explained that the Idaho Tort Claims Act does not protect irrigation districts because unlike a "municipal or public corporation," the primary purpose of irrigation districts is not to promote "the welfare of the general public" or "the public good," but rather to

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[6] This document may be viewed at the following URL: http://ag.ca.gov/publications/coi.pdf.

acquire and operate "an irrigation system as a business enterprise for the benefit of its shareholders." *Brizendine*, 97 Idaho at 587, 548 P.2d at 87.

Consistent with the private purposes and benefits of an irrigation district, its directors are elected by its shareholders, not the general public. Idaho Code § 43-201 Further, the directors owe a fiduciary duty and a duty of loyalty to the irrigation district and its shareholders, Idaho Code § 43-204B, not to the general public. Thus, it is unlikely that the office of director of an irrigation district is a "public office" for purposes of an incompatibility analysis under Idaho law. The doctrine of incompatible offices therefore would not bar the same person from simultaneously serving as WD34 watermaster and as a director of the BLRID.

It is important to note that this conclusion does not mean that the duties of the WD34 watermaster and those of a director of the BLRID are "compatible" or would never conflict. As previously discussed, the incompatible offices doctrine cannot be substituted for a traditional conflict of interest analysis. Further, the Department's conflict of interest policy provides that Department employees may not simultaneously hold a private office that is not compatible with their public office functions. The next section discusses the application of these policies to your inquiry.

E. The Department's Employee Policy On Conflicts Of Interests.

The Rules of the Division of Human Resources and Personnel Commission ("Personnel Rules") require all "appointing authorities" to establish the policies and standards "necessary to prevent conflicts of interest." IDAPA 15.04.01.024. The Director is subject to this obligation because he is statutorily authorized to appoint the watermasters for water districts. Idaho Code § 42-605(3); *see also* IDAPA 15.04.01.010.06; Idaho Code § 67-5302(3) (defining "appointing authority"). The Department has adopted a written "Employee Conduct" policy that addresses conflict of interest issues.[7]

The Department's policy expressly recognizes that "a high standard of conduct, honesty and impartiality, by Department employees is essential to insure the proper performance of business and strengthen public faith and confidence in the integrity of the Department and its employees."[8] "Employees are expected to act impartially in performing official duties and not

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[7] The Department's "Employee Conduct" policy is part of a larger policy document that is maintained on the Department's intranet. A copy of the "Employee Conduct" policy is attached hereto.

[8] Attachment at 1 ("Personal Conduct"). The Personnel Rules also recognize that "a high standard of honesty, ethics, impartiality, and conduct by state employees is essential to ensure proper performance of state business and strengthen the faith and confidence of the people of Idaho in the integrity of state government and state employees." IDAPA 15.04.01.024.

give preferential treatment to any outside organization or individual."[9] The policy seeks to avoid not only actual conflicts of interest but also any potential for the appearance of impropriety.[10]

The Department's policy also provides that outside activities "must be compatible with the role of the employee as a public employee. The [outside] employment must not conflict with the best interest of the Department or the proper performance of the employee's responsibilities."[11] Thus, Department employees "shall not accept or serve in any policy-making position or office of an organization, board or commission in which an opportunity for conflict of interest might arise between the activity and department employment, except upon written approval of the Director."[12] This prohibition applies to the WD34 watermaster if he or she is considered a Department "employee" for purposes of a conflict of interest analysis in matters of water distribution. *See* Letter from David G. High, Assistant Attorney General, to Martel L. Miller, Deputy Director, Department of Administration (Apr. 12, 1977), at 2 (concluding that a watermaster is an employee of the Department for purposes of the Idaho Tort Claims Act).[13]

While a watermaster is elected by the water users of a district and paid by the water district, the watermaster must also be appointed by the Director. Idaho Code §§ 42-605(3), (10). The Director has "direction and control" over the distribution of water in a water district, Idaho Code § 42-602, and as previously discussed, the watermaster is subject to the Director's supervisory authority in such matters. Idaho Code §§ 42-602, 42-613A. The watermaster must take an oath to "faithfully perform" his water distribution duties as defined by Idaho law and file it with the Department. Idaho Code § 42-605(10).

Further, the Idaho Supreme Court has held that a watermaster is not an "employee" or "agent" of the water users for purposes of distributing water in a water district. *Jones v. Big Lost River Irr. Dist.*, 93 Idaho 227, 229, 459 P.2d 1009, 1011 (1969). Rather, in this capacity the watermaster is "responsible to" and "works for" the Department. *Id.*; *see also Marty v. State*, 117 Idaho 133, 140, 786 P.2d 524, 531 (1989) (stating that the watermaster was an agent of the Department); *Nettleton v. Higginson*, 98 Idaho 87, 93, 558 P.2d 1048, 1054 (1977) (referring to the watermaster as "the state's agent"); *R.T. Nahas Co. v. Hulet*, 114 Idaho 23, 27, 752 P.2d 625, 629 (Ct. App. 1988) (same). Accordingly, for purposes of a conflict of interest

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9 Attachment at 4 ("Gratutities").

10 *See* Attachment at 2-3 ("which might have the appearance of impropriety"); *id.* at 3 ("appearance of impropriety . . . reasonable perceptions . . . avoid the appearance of impropriety").

11 Attachment at 2 ("Outside Activities").

12 Attachment at 2 ("Outside Activities").

13 "A watermaster is a public administrative officer who performs functions both for the Department of Water Resources and for his water district. He is elected by and paid by water users in the water district. Thus, for some purposes he could be considered an employee of the water district." *Id.* at 1.

analysis in matters of water distribution, the WD34 watermaster is appropriately viewed as an "employee" of the Department.

This conclusion finds support in the nature and purpose of water districts under Idaho law. A water district is not a private entity but rather is "an instrumentality of the state of Idaho for the purpose of performing the essential governmental function of distribution of water among appropriators under the laws of the state of Idaho." Idaho Code § 42-604. Water districts are an essential part of the "framework of evenhanded oversight" for administering water rights under Idaho law, and the Department of Water Resources' "principal tool" for carrying out its legislative mandate to distribute water in accordance with the prior appropriation doctrine. *In re Idaho Dept. of Water Resources Amended Final Order Creating Water Dist. No. 170*, 148 Idaho 200, 211-12, 220 P.3d 318, 329-30 (2009). It would be inconsistent with the nature and purposes of a water district to conclude that watermasters should not be subject to conflict of interest policies requiring that their official water distribution duties be performed impartially, without giving preferential treatment, and without creating the appearance of impropriety.[14]

As previously discussed, the Department's conflict of interest policy bars employees from accepting or serving "in any policy-making position or office of an organization, board or commission in which an opportunity for conflict of interest might arise between the activity and department employment, except upon written approval of the Director."[15] A chair on the BLRID's board of directors plainly constitutes "a policy-making position or office" of a "board." Thus, the question becomes whether an "opportunity" for a conflict of interest "might arise" if the WD34 watermaster simultaneously serves on the BLRID board of directors.

An opportunity for a conflict of interest might arise if the watermaster serves as a BLRID director. For instance, the WD34 watermaster plays an important role in administering the "Rotation Credit" system, under which certain surface water rights in WD34 can be "rotated" for storage water credits in Mackay Reservoir. IDAPA 37.03.12.040.02. The BLRID owns Mackay Reservoir, and the "Rotation Credit" system is subject to the BLRID's approval and consent. IDAPA 37.03.12.040.02.b; *see also Order of Partial Decree for General Provisions in Administrative Basin 34 (In re SRBA, Subcase No. 91-00005-34)* (May 8, 2001), at Exhibit A ("Water rights from the Big Lost River diverted below Mackay Dam and Reservoir may be rotated into storage with the consent of the Big Lost River Irrigation District . . ."). Further, while a watermaster is a "ministerial officer" and may distribute water "only in compliance with applicable decrees," *Almo Water Co. v. Darrington*, 95 Idaho 16, 21, 501 P.2d 700, 705 (1972), the everyday work of a watermaster in discharging this duty necessarily involves the exercise of discretion in making certain determinations, such as whether a water user is actually receiving

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14 *See generally* Attachment at 2-4.

15 Attachment at 2 ("Outside Activities").

the decreed quantity, or whether a water delivery call would be futile because water would not reach the senior appropriators in a sufficient quantity for it to be applied to beneficial use.[16] *Gilbert v. Smith*, 97 Idaho 735, 739, 552 P.2d 1220, 1224 (1976). It is important that there be no actual conflict of interest, or even an opportunity for the appearance of impropriety, in the exercise of this discretion.

Thus, the conflict of interest provisions of the Department's "Employee Conduct" policy generally would bar the same person from simultaneously serving as the WD34 watermaster and as a director of the BLRID. The Department's policy has an important exception, however: it does not apply "upon written authorization of the Director."[17] The Department's policy does not provide the standards for exercising this authority, but presumably the Director may take relevant considerations into account in making an exception to the basic prohibition against simultaneously serving as WD34 watermaster and on the BLRID's board of directors

In sum, nothing in the Idaho Code, reported Idaho decisions, or the common law doctrine of incompatible offices would bar the same person from simultaneously serving as the WD34 watermaster and as a BLRID director. In contrast, the Department's conflict of interest policies would apply to bar such a situation, unless the Director made an exception to the general policy in a written authorization or decision. Under the Department's policies, the question of whether to allow the same person to simultaneously serve as the WD34 watermaster and as a director of the BLRID is committed to the sound discretion of the Director.

II. If A Member Of The Board Of Directors Of The Big Lost River Irrigation District Simultaneously Serves As The Watermaster For Water District No. 34, How Should Potential Conflicts Of Interest Be Addressed?

The Ethics in Government Act explicitly requires a public official to disclose potential or actual conflicts of interest, and defines the required process and means of disclosure. Idaho Code § 59-704. Provided the required disclosures are made, the public official need not recuse himself or herself: the official may still participate in the proceedings and take any action authorized by law. *Id.*[18]

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[16] This is not intended to be an exhaustive list of the instances in which a watermaster's duty might require the exercise of discretion.

[17] Attachment at 2 ("Outside Activities").

[18] The act provides that an "elected legislative public official" must also take any action required by the rules of the body of which he/she is a member after disclosing a conflict of interest. Idaho Code § 59-704(1). Such rules might conceivably require recusal, but the act itself does not, and in any event a watermaster is not a "legislative public official."

These provisions require the WD34 watermaster to disclose actual or potential conflicts of interest to the Director. Provided the watermaster discloses actual or potential conflicts of interest to the Director, the watermaster need not recuse himself or herself and may continue performing the duties of the watermaster's office.[19]

While the Ethics in Government Act does not require recusal of the watermaster if there is a potential or actual conflict of interest, the Director has authority to give the watermaster specific instructions in such a situation, and even to take direct control of the watermaster's functions to avoid or resolve a conflict of interest. While the watermaster performs the distribution of water in a water district, it is the Director who has "direction and control" over such matters. Idaho Code § 42-602. The Director also has supervisory authority over watermasters in the distribution of water. *See id.* ("Director of the Department of Water Resources To Supervise Water Distribution Within Water Districts") (section title); *id.* § 42-613A (referring to "the supervisory responsibilities of the director of the department of water resources over the activity of watermasters delivering water within water districts").

Thus, should an actual or potential conflict of interest arise as a result of the WD34 watermaster also serving as a director of the BLRID, the Director could address the situation by issuing specific instructions to the watermaster. Alternatively, the Director could remove the watermaster from the conflict situation and take direct control of water distribution.

The Director might also consider providing instructions to the watermaster before conflicts arise. Such proactive instructions could help avoid or resolve conflict situations more quickly and efficiently than by responding only after they have already developed. The Director could issue such instructions pursuant to his supervisory authority, and such instructions could take any one of several forms. For instance, the Director could issue such instructions as part of his written approval under the Department's "Employee Conduct" policy, or as part of his formal appointment of the watermaster. The instructions could also be issued in a separate letter or order to the watermaster.

In sum, the only requirement Idaho law establishes with regard to actual or potential conflicts that arise as a result of the same person simultaneously serving as the WD34 watermaster and as a director of the BLRID is that the watermaster properly disclose such conflicts as set forth in Idaho Code § 59-704. Beyond this, if the Director in his discretion

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[19] The official has the option of seeking legal counsel to determine whether an actual or potential conflict of interest exists. Idaho Code § 59-704. Should the legal advice be that there is an actual conflict of interest, an appointed official must disclose the conflict through a filing with the appointing authority. *Id.* § 59-704(3). The appointing authority may seek an advisory opinion from the Attorney General, and the official may then act on the legal advice. *Id.*

decides to waive the Department's conflict of interest policy and appoint a BLRD board member as the watermaster, he has broad authority to supervise the watermaster's water distribution activities to address any conflict of interest situation, including, but not limited to, issuing specific instructions to the watermaster or taking direct control of the watermaster's water distribution functions, if necessary or advisable to ensure the proper distribution of all water rights.

I hope that the foregoing discussion responds to the concerns underlying your request for legal guidance. Please feel free to contact me should you have any comments or questions on any of these matters. This letter is provided to assist you. The response is an informal and unofficial expression of the views of this office based upon the research of the author.

Sincerely,

Clive J. Strong

CLIVE J. STRONG
Deputy Attorney General
Chief, Natural Resources Division

CJS/pb
Attachment
Via U.S. Mail and e-mail
cc: Gary Spackman, Interim Director, Department of Water Resources
John Homan, Deputy Attorney General

STATE OF IDAHO

OFFICE OF THE ATTORNEY GENERAL

LAWRENCE G. WASDEN

December 7, 2017

RE: Water District Insurance and Legal Entities

Dear Water District:

The Idaho Department of Water Resources (IDWR) asked that I answer some recent questions regarding water districts and insurance. The answers to these questions apply to all water districts. The basic question is: are the insurance needs of water districts covered through IDWR and if so, must the water districts go through IDWR to obtain their insurance? In short, both answers are yes, water districts must go through IDWR to obtain their insurance.

The questions regarding water districts and insurance can be answered by looking at the nature of water districts and how they relate to the State of Idaho. It is IDWR's duty to direct and control the distribution of water from all natural water sources within Idaho. Idaho Code § 42-602. Water districts, through watermasters and under the supervision of IDWR, are responsible for the distribution of water among appropriators. Idaho Code § 42-602. IDWR creates water districts pursuant to Idaho Code § 42-604, and once created, water districts are instrumentalities of the State for the purposes of distributing water among appropriators. As a result, water districts are considered an extension of IDWR.

Insurance

All instrumentalities of the State fall under the purview of the Idaho Risk Management Program (Risk Management), the State's property and casualty insurance agency. Risk Management determines the type and extent of insurance needs and procures coverage "of all kinds, other than life and disability insurances, as to risks and property of all offices, departments, divisions, boards, commissions, institutions, agencies and operations of the government of the state of Idaho." Idaho Code § 67-5773. With some exceptions, such as workers compensation, any insurance a water district needs must be obtained through IDWR. Attached to this letter is more detailed information from IDWR outlining types and limits of available insurance coverage.

Natural Resources Division - Water Resources Section
P.O. Box 83720 Boise, Idaho 83720-0098
Telephone: (208) 287-4801, Legal FAX: (208) 287-6700

The State of Idaho has limitations on the amount agencies, and therefore instrumentalities of the State, can be held liable pursuant to the Tort Claims Act. Some water districts currently have various insurance coverage plans through other insurance agencies. Maintenance of insurance coverage by a water district separate from Risk Management may create a liability beyond what is statutorily provided. In light of the above, water districts must discontinue any insurance coverage they may have with other insurance agencies, except for workers compensation. After you provide IDWR with the information requested in the accompanying document, IDWR will obtain insurance for your district. Once the district receives confirmation from IDWR, the district may then discontinue any coverage it has with other insurance agencies.

Legal Entity

While researching the insurance issue, it also came to my attention there is some confusion about what type of legal entity a water district is, especially when dealing with the IRS. The IRS requires that all employers have an employer identification number (EIN). Water districts need an EIN separate from IDWR. Generally, in order to obtain an EIN from the IRS, an organization must be registered with the Secretary of State as some type of business entity, such as a limited liability corporation or a non-profit organization. Because water districts are instrumentalities of the State they qualify as a government organization with the IRS. As a government organization water districts do not need to be registered as a business entity with the Secretary of State.

Some water districts have created business entities in order to apply for an EIN. Being registered as a business entity means a water district is liable beyond the limits of what is allowed for State entities. As an instrumentality of the State, a water district has many of the legal protections of a State entity. Water districts organized as a business entity should immediately take steps to dissolve those entities and obtain different EINs. Please visit the IRS website for instructions on obtaining an EIN as a government organization.

Please contact Steve Visosky (steven.visosky@idwr.idaho.gov or 208-287-4933) with IDWR if you need assistance on any of these matters.

Sincerely,

Meghan Carter
Deputy Attorney General

State of Idaho Insurance Coverage

This document is intended as an overview of the State Risk Management Program. Complete details of the State of Idaho insurance programs, claims, forms and FAQs can be found on the Risk Management website: https://risk.adm.idaho.gov/

All references in this document to water districts, agencies, or employees includes or applies to state water districts created by the Idaho Department of Water Resources (IDWR) pursuant to Title 42, Chapter 6, Idaho Code, and water district employees.

Overview of Basics

State Insurance Coverage Available to Water Districts

- General Liability and Auto Liability (auto liability is limited to the use of water district-owned vehicles, not the use of privately owned vehicles)
- Major Property Buildings & Contents
- Major Property Equipment
- Auto Physical Damage
- Employee Bond/Crime
- Inland Marine (portable business property owned by the water district)

Cost to Water Districts for State Insurance Coverage

There are no costs to water districts for state insurance coverage. *However, deductibles for any claim are the responsibility of the Water Districts at the cost(s) identified below*. IDWR will pay annual premiums for the coverage categories listed above.

Coverage Dates

Coverage will be effective within 30 days after water districts submit insurance information to IDWR. Water Districts will be notified when coverage is effective. *Do not cancel any private insurance policies until IDWR confirms State of Idaho coverage.*

Enrolling in the State Risk Management Insurance Program

To enroll in the State of Idaho Risk Management Insurance Program, complete each form for the coverage requested and return forms to Idaho Department of Water Resources:

Glyn Roberts, IDWR Insurance Coordinator
glyn.roberts@idwr.idaho.gov
Phone: 208-287-4820
Fax: 208-287-6700

or

Attn: Glyn Roberts
PO Box 83270
Boise, ID 83720-0098

Idaho Department of Water Resources

Summary of Insurance

General Liability & Auto Liability

Deductible: No deductible for this coverage
Limits of Coverage: General/Auto Liability - $500,000

Water District Employee Coverage for General and Auto Liability is automatically provided by Risk Management. No forms or reporting requirements are needed for this coverage.

The Idaho Statewide Liability Coverage is a retained risk program that provides protection to covered water districts and their employees for financial loss as a result of a covered claim alleging a wrongful act or for errors or omissions (subject to exclusions). It also provides coverage for Employment Practices Liability for claims brought by employees or potential employees alleging a Wrongful Employment Practice, harassment or discrimination.

Before operating a water district-owned (or leased) vehicle, all water district employees must call the IDWR Insurance Coordinator and provide the employee's contact and driver's license information and other information required in the attached Auto Physical Damage form.

What Is Covered?

- Money damages arising from negligent or wrongful acts, with certain limitations
- Automobile Liability
- The costs of defending or investigating a suit or claim against you, including court costs, witness fees, attorney's fees, and other related costs
- Judgments or settlements resulting from covered suits/claims including interest required on a judgment
- The premium on a court-mandated bond connected with a liability suit
- Medical malpractice

Additional Services Provided:

- Certificates of Insurance
- Contract language review
- Proactive tort claim management with expert adjudicators
- Automobile liability identification cards (vehicle package for glovebox)

Major Property Buildings & Equipment

Deductible: $2000 per occurrence. *Water District is responsible for all deductibles.*
Fine Art Deductible: $500 per occurrence. *Water District is responsible for all deductibles.*
Limits of Coverage: $500 Million

Idaho's Statewide Property Insurance Program is designed to provide water districts the ability to transfer the financial burden that results from property damage. The Property Insurance Program allows each water district to customize its coverage to insure:

- Water District-owned buildings
- Leased buildings as required by contract
- Contents

- Business property
- Mobile equipment - motorized equipment not licensed for road use
- Supplies
- Fine Art
- Equipment with a value greater than $2,000 (Use Major Property Equipment form for equipment valued greater than $2,000 and not included on Major Property Buildings and Contents form).
- Business interruption

Coverage for personal property of employees with a value of $2,000 or more can be provided under the following conditions:

- Items that are required or requested by the employee's supervisor and are needed to perform the employee's duties.
- All items must be included on the State of Idaho Major Property Buildings and Contents form or Major Property Equipment form.

What Is Covered?
Coverage is provided at replacement cost on an "all-risk" basis which covers a number of potential claims (subject to certain exclusions and limitations), including:

- Damage from severe weather: wind, hail, lightning, earthquake, flooding, and wildfire
- Damage from vandalism and arson
- Building fire, smoke, and water damage
- Theft of water district property

Additional Services Provided:
- Certificates of Insurance
- Contract and lease review for insurance requirements
- Appraisals for high value buildings

Auto Physical Damage

Deductible: $500 per occurrence. *Water District is responsible for all deductibles.*
Limits of Coverage: Actual Cash Value

The Statewide Automobile Insurance Program is designed to provide automobile physical damage coverage to water districts for **water district-owned or leased vehicles**. This coverage is available to water districts that own or lease a vehicle. The coverage does not apply to vehicles owned by water district employees that are used for official water district business. Coverage will pay for loss or damage to covered vehicles owned or leased by water districts due to collision, including comprehensive losses such as fire, wind, hail, theft, riot, and vandalism.

What Is Covered?
Physical damage coverage applies only to water district-owned or leased motorized equipment licensed for road use. This may include but is not limited to: passenger vehicles, ATVs, motorcycles, trucks, buses, and trailers. The coverage pays for repair of the water district-owned or leased motorized equipment licensed for road use or actual cash value if the vehicle is totaled.

Additional Services Provided:

- Certificates of Insurance
- We pursue subrogation claims against negligent parties and reimburse the water district deductible when recovery is successful

Coverage is not provided for:

- Wear and tear
- Mechanical failure unless the failure is a result of a covered peril
- Freezing
- Intentional damage

Employee Bond/Crime

Deductible: $2000 per occurrence. *Water District is responsible for all deductibles.*
Credit Card Deductible: $500. *Water District is responsible for all deductibles.*
Limits of Coverage: $10 Million

The Crime Insurance Policy is designed to protect against direct loss to the water district arising from employee theft of money, securities or other property of either the water district or their clients. Like other businesses, a water district's money and valuable property can provide attractive targets for theft – often by employees. Even the best internal controls frequently fall short of stopping a trusted employee from engaging in fraudulent activity, especially as employees are often uniquely placed in situations where they are able to circumvent such controls.

What Is Covered?

- Public employee theft
- Faithful performance of duties
- Forgery or alteration
- Theft of money and securities inside the premises
- Robbery or safe burglary inside the premises
- Funds transfer fraud
- Money orders and counterfeit paper currency
- Credit card forgery
- Claims expense

Common Exclusions:

- Known acts of employees before the policy period
- Third-party employee dishonesty
- Accounting or arithmetic errors
- Unauthorized disclosure of confidential information

Inland Marine

Deductible: $50 per occurrence. *Water District is responsible for all deductibles.*
Limits of Coverage: Replacement Value

Optional Inland Marine Coverage (IM coverage) is designed for water district-owned portable business property with a replacement cost value of $2,000 or less. Most water districts use this coverage to

insure property that is subject to theft or breakage, or property that is frequently transported. Only those items regularly taken out of the office or off the premises typically valued at $2,000 or less should be declared for IM coverage. The coverage is similar to the coverage provided by the Major Property Policy but is limited to items valued at $2,000 or less.

Coverage for personal property of employees with a value of $2,000 or less can be provided under the following conditions:

- Items that are required or requested by the employee's supervisor and are needed to perform the employee's duties.
- All items must be scheduled on the Inland Marine Coverage form.

What Is Covered?
Coverage is provided at replacement cost on an “all-risk” basis which covers a number of potential claims (subject to certain exclusions and limitations), including:

- Damage from vandalism and arson
- Fire, smoke, and water damage
- Theft of water district property

Common Exclusions:

- Real property or buildings
- Automobiles
- Consumable property

Summary of Claim Procedures

This document is intended as an overview of the claim procedures. Complete Details of the State of Idaho insurance claims and claim forms can be found on the Risk Management website at: https://risk.adm.idaho.gov/index.html.

Filing a Claim

If you need to file a claim, **do not send claims directly to Risk Management**. All claim forms must be submitted to Idaho Department of Water Resources:

Glyn Roberts, IDWR Insurance Coordinator
glyn.roberts@idwr.idaho.gov
Phone: 208-287-4820
Fax: 208-287-6700

or

Idaho Department of Water Resources
Attn: Glyn Roberts
PO Box 83270
Boise, ID 83720-0098

Types of Claims

Property

All property claims over $2,000 must be filed by completing the Property Loss Report form as soon as the water district becomes aware of the loss.

When a property loss occurs, a water district should

- Secure emergency response (fire department, police, emergency clean up).
- Secure the property to prevent further damage from exposure to the elements.
- Report losses involving theft, vandalism, or similar crimes to local law enforcement authorities as soon as discovered. Risk Management requires a copy of the police report.
- Make a list of involved property and details of the occurrence causing the loss.
- Secure witness information and contact numbers.
- Secure information regarding other involved parties including contact names and telephone numbers.
- If possible, take photographs of the area and damaged property.
- Provide all supporting information including incurred expenses, quotes, estimates, or vouchers showing the replacement cost of the item(s) to the IDWR Insurance Coordinator. This information must be submitted before a loss will be paid.

Inland Marine

Inland Marine claims must be filed within 90 days of the loss. To file an Inland Marine claim, complete the Property Loss Reporting Form and return to the IDWR Insurance Coordinator. Before submitting the Property Loss Reporting form to IDWR, ensure the following information is included:

- Check the box noting coverage under the Inland Marine Program
- The Inland Marine Certificate number (if known)
- Serial number

- Property tag number of involved property

Automobile Accident

The following documents are required to be carried in the glovebox of all water district-owned vehicles:

- Auto Accident Report Guide
- Certificate of Financial Responsibility
- Citizen Claim Procedure Form

If an accident occurs, follow the steps below:

- Request any necessary emergency services.
- Notify the police and exchange vehicle and driver information.
- Take photographs of the accident and the surrounding area, if safe to do so.
- Do not accept responsibility for the accident.
- Provide the other party with the Citizen's Claim Procedure Form (if they feel the state driver is at fault), which gives them instructions on how to file a claim with the State.
- Promptly complete the Accident Report Guide and turn it into the supervisor and the IDWR Insurance Coordinator.

If the vehicle is not safe to drive, have it towed to the nearest state facility or lot. If that is not possible, notify the IDWR Insurance Coordinator immediately, so storage charges can be kept to a minimum.

*If the vehicle **is** covered by the state's Auto Physical Damage Program*, obtain two estimates of repair costs and forward them to the IDWR Insurance Coordinator. The water district should not pursue the claim directly with the other party's insurer.

*If the vehicle **is not** covered by the state's Auto Physical Damage Program,* the water district may submit a claim to the other driver's insurance carrier if it believes the other driver is at fault.

Employee Dishonesty

If you find a loss apparently caused by employee dishonesty, follow the steps below:

- Contact IDWR's Deputy Attorney as soon as loss is discovered. Until you talk with IDWR's attorney, do not let anyone interview or demand an explanation of the employee, and do not start any personnel actions. Note any advice your legal counsel provides on conducting an in-house investigation and inform the IDWR Insurance Coordinator.
- Promptly report the loss to the IDWR Insurance Coordinator immediately after discovery. Discuss the steps you feel are needed to prove the extent of loss and to prevent further loss. Reporting delayed for more than 30 days can cause a forfeit of the state's bond coverage. It can also lead to further losses and may expose you to personal liability as well.
- Protect any known documentary evidence.
- Write a summary of your investigation including the employee's statement and employee contact information, witness statements and witness contact information, and documentation generated during the course of investigating allegations.

Citizen Claim Procedure

Idaho Code, Title 6, Chapter 9, known as the Idaho Tort Claims Act, makes provisions for tort claims against the State or employees of the State.

A Notice of Claim must be filed within 180 days from the date the claim arose or reasonably should have been discovered (Idaho Code, Section 6-905). Idaho Code Section 6-906A provides for time to present a claim from or on behalf of a minor child.

The tort claim is required to have the following accurate information:

- Name and residence of the person making the claim
- Date, time, and location of the occurrence
- Description of circumstances, actions, and conduct giving rise to the occurrence
- Description of any damage or injury resulting from the occurrence
- Documentation of damages claimed

A tort claim must be submitted by letter or form to the Secretary of State at:

Secretary of State
State of Idaho
P.O. Box 83720
Boise, ID 83720-0080
Fax: 208-334-2282
Email: claims@sos.idaho.gov

The citizen and/or legal representative are responsible for the proper and timely filing of claims with the Secretary of State in accordance with the Idaho Tort Claims Act. The water district should provide any citizen or third party inquiring or seeking to file a claim for damages against the State of Idaho, the water district, or its employees with a copy of Citizen's Claim Filing Procedure Form.

Use of Personal Vehicles

Privately-Owned Vehicles

IDWR does not pay insurance premiums or deductibles for privately owned vehicles. Privately owned vehicles must be adequately covered by public liability and property damage insurance, pursuant to Idaho Code. IDWR requires privately owned vehicles used to perform work for water districts to have liability coverage of at least $500,000 per occurrence and $500,000 aggregate per year for both bodily injury and property damage. Employees are also required to advise their private automobile insurance carrier prior to using a personal vehicle for state business, particularly when using the personal vehicle on a regular basis to perform state job duties. Mileage reimbursement or other water district budget line items (if necessary) are intended to cover all operating costs of the vehicle, including insurance, while on state business.

Coverage is not provided if an accident occurs during working hours when you are in a private vehicle. Employees using private vehicles to conduct official state business are not covered under the State's insurance.

Appendix C: Watermaster Guidance and Authorities

C1. Administrator's Memo Miscellaneous Memorandum No. 12 – Entry Upon Private Land for Inspections, Investigations, Surveys, And Other Duties Required or Authorized by Law.

C2. Letter to Watermaster Re: Watermaster Responsibilities for Stream Channel Construction Work and Control of Beavers/Beaver Dam Removal.

C3. Administrator's Memo Illegal Diversion of Water No. 3 - Enforcement Policy and Procedures for Use, Storage, or Diversion of Water Without a Valid Water Right or Required Authorization October 9, 2015

C4. Department Guidance to Watermasters for determining Futile Call August 21, 2007

C5. Administrator's Memo Application Procession No. 67 – Permitting Requirements for Ponds February 28, 2003.

C6. Administrator's Memo Application Processing No. 80 and Adjudication No. 62 – Guidance for Implementing Revised Statutes for Domestic Uses Including the Domestic Exemption flow Chart and Decision Table June 25, 2025.

This Guidance Document is not new law but is an agency interpretation of existing law. For more information or to provide input on the document, please contact Water Distribution Section Manager at 208-287-4800

ADMINISTRATOR'S MEMORANDUM

(SUPERSEDES MISCELLANEOUS NO. 12 DATED SEPTEMBER 16, 2003)

Miscellaneous Memorandum #12

TO: **Idaho Department of Water Resources Staff, Water District Watermasters, and Water Measurement District Hydrographers**

FROM: **Mat Weaver, Deputy Director**

DATE: **October 20, 2020**

RE: **ENTRY UPON PRIVATE LAND FOR INSPECTIONS, INVESTIGATIONS, SURVEYS, AND OTHER DUTIES REQUIRED OR AUTHORIZED BY LAW**

This memorandum does not apply to Tribal land or US Military installations or land. Entry upon such land may only occur under specific authorization by the respective land-owning authorities.

Introduction

The Idaho Department of Water Resources (IDWR) manages various programs that require entry upon private land to conduct inspections, make investigations, collect data, and administer the delivery of water. This memorandum (memo) contains guidelines and requirements for individuals who must enter private land in the performance of their official duties. Individuals (collectively referenced as staff) authorized by statute to make *reasonable* entry upon any lands in the state for the purposes noted above are:

- the director and/or employees of IDWR;
- any watermaster and any watermaster's assistant appointed by IDWR pursuant to Title 42, Chapter 6, Idaho Code; and
- any hydrographer and any hydrographer's assistant appointed by IDWR pursuant to Title 42, Chapter 7, Idaho Code.

This memo emphasizes safety and respectful communication between staff and Idaho's private landowners. Although not required by statute, giving advance notice, or obtaining permission from a landowner, or their agent prior to entering private land are practices that promote staff safety and good public relations.

Private landowners are becoming increasingly sensitive to trespassing, particularly during hunting season. Staff should not assume that all landowners are aware of (or agree with) the statutory exemptions referenced in this memo. Some familiarity with Idaho trespass laws can help staff understand these sensitivities from the landowner's perspective. Staff can review current trespass

laws (Title 18, Chapter 70, Idaho Code) at the Legislative Services website. Following the guidelines and requirements below can help staff avoid unnecessary conflict with landowners.

Private Land Entry Guidelines and Requirements

Guidelines

- Assume land is private unless confirmed otherwise.
- Make a reasonable effort to provide advance notice or obtain permission from the owner or agent prior to entering private land.
- Invite the owner or agent to be present during beneficial use field examinations or other inspections.
- Strive to build trusting relationships with owners and agents by exercising good judgment, thorough communication, and respect.
- Wear Hi-Visibility outer clothing such as vests, hats or jackets. Variations of yellow, green, or a similar color (e.g., chartreuse) is preferred over hunter orange.

Requirements

- Only enter private land in the performance of your official duties.
- Follow field safety guidelines adopted by IDWR. The current guidelines are located here: http://wenet/files/library/Field-Safety-Guidelines.pdf.
- Accommodate any specific conditions of entry expressed by the owner or agent.
- Carry and display appropriate identification including IDWR business cards or an IDWR issued photo ID badge.
- Avoid confrontation with owners or agents.
- Refrain from asserting legal authority to enter private land.
- Do not enter or disturb any residence, building, vehicle, equipment, or other personal property without permission or invitation from the owner or agent. Staff may access structures, covers, or sheds that house pumping or water diversion equipment if part of their work duties.
- Use existing roads for access unless otherwise allowed by the owner or agent.
- Do not turn on or off, adjust, or modify any pumping, diversion, measurement or other privately owned equipment. *Only appointed watermasters and watermaster assistants may regulate, adjust, close, and lock headgates and controlling works.*
- Leave things as you found them: close all gates, doors or covers you open, and return any other protective equipment or insulation to the original position.
- Respectfully comply with any requests from the property owner or agent to leave their private property.
- Consult IDWR management if an owner or agent refuses access to private property to determine next steps when access is necessary to conduct or complete IDWR business.

Investigations Associated with Unauthorized Activities

If there is a need to enter private land prior to contacting the owner or agent, staff must discuss

and coordinate such entry with IDWR management. Thorough in-house or remote investigation is a good strategy to reduce the need to enter private land without owner or agent permission. Staff entering private land to investigate unauthorized activities should adhere to the requirements noted above.

Routine Site Visits and Inspections

For the following reasons, staff routinely enter private land with or without advance notice or permission when:

- collecting information about points of diversion or places of use;
- measuring water or collecting measurement data;
- accessing wells, pumps, or required flow meters not housed in a building;
- conducting inspections associated with the construction, modification or decommissioning of wells; and
- conducting inspections associated with stream channel alterations or dredge mining activities.

Staff are not required to make additional contact with the owner or agent to continue existing, routine monitoring programs when prior arrangements are in place. Staff conducting routine site visits and inspections should adhere to the requirements noted above.

Area Specific Inspections or Inventories

Staff should give written notice prior to conducting inventories, or similar activities in newly created or proposed administrative areas, such as water districts or water measurement districts where multiple staff will support such effort. Notify affected landowners by regular mail and/or a press release noting: a) the purpose and scope of the work; b) the timeframe and dates the work will occur; c) a sufficient description or map identifying the geographic location of the work; and d) relevant contact information for IDWR staff or management involved with the project.

Additional Considerations

Plant and animal disease

Staff should be aware of risks associated with spreading animal disease (such as hoof and mouth disease) and plant diseases (such as late blight). Proper sanitization of equipment, boots, and clothing may be necessary in areas where an outbreak has occurred. Do not enter feedlots, milking barns, or row crop fields without concurrence from the owner.

Statutory References

The laws referenced below shelter staff from trespass citation or prosecution only when acting in their official capacity carrying out the duties imposed by law.

> Idaho Code § 42-1701(5) states "[t]he director and/or employees of the department of water resources may make reasonable entry upon any lands in the state for the purpose of making investigations and surveys, or for other purposes necessary to carry out the duties imposed by

law."

Idaho Code § 42-709(3) authorizes water measurement district hydrographers and their assistants to "make reasonable entry upon any lands in the state for the purpose of making water measurements or in direct support of making water measurements."

Idaho Code § 42-237a(d) authorizes the director in administering and enforcing the provisions of the Ground Water Act to "go upon all lands, both public and private, for the purpose of inspecting wells, pumps, casings, pipes, and fittings, including wells used or claimed to be used for domestic purposes."

Idaho Code § 42-1410(2) authorizes the director and other employees of the department while investigating a claim in a general adjudication "to go upon all lands, both public and private, for the purpose of investigating the uses of water from any water source."

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C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

September 24, 2002

Re: Watermaster responsibilities for stream channel construction work and control of beavers/beaver dam removal.

Dear Watermaster:

The department has fielded a number of questions this year regarding the responsibility and authority of the watermaster to remove obstructions in streams and to take other actions to make water available for diversion because of the short water supplies available across the state. Even though it is late in the irrigation season, the following guidance is being sent to all watermasters because situations similar to those that prompted the questions occur from time-to-time in most water districts and it is important to understand the role that watermasters have in resolving such matters.

CHANNEL MAINTENANCE AND IMPROVEMENTS

State watermasters must refrain from authorizing, organizing or performing construction work involving the channels of natural watercourses. State watermasters, as employees of the Idaho Department of Water Resources, must exercise care to operate within the statutorily prescribed limits for watermasters set out in chapter 6, title 42 of the Idaho Code. The watermasters' central duty is to distribute water in accordance with water right priorities. In completing this duty, the watermaster routinely takes actions such as:

a. Opening and closing of headgates
b. Raising and lowering of check dams
c. Moving rock or other materials at the diversion to change the water flow if the diversion is not a permanent facility.
d. Cleaning trash and other obstructions from diversions.

Other than the occasional maintenance or minimal construction activity, involving incidental shovel work, state watermasters duties are limited to measuring water and controlling diversion works as described above.

State watermasters should avoid participating in construction activities designed to "clean" the stream or projects purporting to recapture water that might not otherwise be available for distribution. Flood control districts, irrigation districts, canal companies or the water users are the appropriate entities to organize projects to remove obstructions (including beaver dams) and clean the channel, not the state watermaster.

In many cases these types of projects will require permits or approvals from different governmental agencies before the construction activity can go forward in the channel or adjacent wetlands and riparian areas. The United States Army Corps of Engineers issues permits under the Clean Water Act, regulating the discharge of materials into the waters of the United States and wetlands. In addition to its water distribution responsibilities, the Idaho Department of Water Resources issues permits under the Stream Protection Act. The Idaho Department of Lands owns the title to the beds of navigable rivers and requires a permit or easement for activities involving state-owned land. The Idaho Department of Environmental Quality regulates water quality and may require a permit or certification prior to work being done. Counties administer under local ordinances elements of the National Flood Insurance Program through the Federal Emergency Management Agency, which often require engineering studies be completed before construction can go forward.

To avoid confusion and potential liability accruing to the state, water users and/or the watermaster, state watermasters, who serve in an additional capacity as a ditchrider for a private company or irrigation district, must decline to participate in construction activities that fall outside the statutorily prescribed watermaster duties. The concern is that watermasters will be viewed by others as having authorized the work and are not simply acting as an employee of a private company or irrigation district.

Removal of Beavers and Beaver Dams

State watermasters are not authorized or empowered to kill beavers or to physically remove or destroy beaver dams. Removal of beavers and beaver dams is governed by a process specifically set out by statute. Authorization to remove or destroy beaver dams rests exclusively with the Idaho Department of Fish and Game under I.C. § 36-1107. Although the removal of a beaver dam, which obstructs the delivery of water, may in many cases be exempt from the requirements of the Stream Protection Act under I.C. § 42-3806, persons seeking to remove dams must still comply with the provisions of I.C. § 36-1107.

> I.C. § 36-1107(a) provides in part:
> …[W]hen…wildlife…is doing damage to or is destroying any property, including water rights, or is likely to do so, the owner or lessee thereof may make a complaint and report the facts to the director [the Department of Fish and Game] or his designee who shall investigate the conditions complained of. In the case of water rights, the director [the Department of Fish and Game] shall request an investigation by the director of the Department of Water Resources of the conditions complained of. The director of the Department of Water Resources

shall request a recommendation from the local water master, if any, and upon such examination shall certify to the director of the Department of Fish and Game whether said wildlife, or house, dams or other structures erected by said wildlife is injuring or otherwise adversely impacting water rights.

The statute then provides Fish and Game with several alternatives for controlling, capturing or destroying the wildlife causing damage. None of these alternatives provide for the watermaster to take direct action to resolve beaver problems.

Most complaints received by the watermaster or the Department of Water Resources (IDWR) regarding damage to water rights relate to beaver dams. Other water loving animals, such as muskrats, may also injure water rights. The following process should be followed in implementing watermaster's responsibilities under Idaho Code § 36-1107.

1. In following up on a beaver complaint from a water user, the Department of Fish and Game is required to get a determination from IDWR concerning whether the beaver activity is injuring existing water rights. Before making this determination, IDWR is required to get the recommendation of the watermaster. Thus, the statutes require the involvement of both IDWR and the watermaster in the resolution of complaints involving beaver activity depleting flows needed for water rights. If the water user contacts Fish and Game first and IDWR or the watermaster is then requested by Fish and Game to review the complaint, IDWR and the watermaster should coordinate on the review. If a water user complains directly to the watermaster or IDWR without first complaining to Fish and Game, IDWR and the watermaster should jointly respond to the complaint, and, if possible, preliminarily investigate prior to sending the water user to Fish and Game. By doing so, IDWR and the watermaster serve the water user initially, and also may deflect some unnecessary complaints to Fish and Game.

2. The analysis by IDWR will require a determination that the water loss in the stream reach with the beaver dams significantly exceeds that occurring prior to the construction of the dams. A determination that water rights are being or will be damaged should be supported by actual water loss measurements or by direct observation if loss is through surface flows. A theoretical computation of evaporation and seepage can be included in the analysis but should not be relied upon as the only information because other factors increase or reduce the total loss of water in the stream reach. If the damage cannot be measured and quantified, or is not readily observable, IDWR and the watermaster should not recommend removal of the wildlife or its structures.

3. If the analysis shows that water is being lost due to the beaver activity and that valid existing rights are thereby deprived of water to which they are entitled and could beneficially use in accordance with the water right, the statutes provide for Fish and Game to take an appropriate action to protect the water rights whether or not the beaver activity is on land owned by the complaining water user or on land owned by another.

In the event that a private property owner wishes to remove a beaver dam from his or her own property as a result of some injury to the property, including water rights appurtenant to the property, then the owner should seek to obtain a permit directly from Fish and Game. IDWR involvement should not be necessary in this case unless Fish and Game specifically requests an investigation and written report.

Beaver dams that have been in place prior to the irrigation season may require additional review by IDWR in relation to the Stream Channel Protection Act. IDWR may coordinate with the US Army Corps of Engineers if necessary.

Please contact one of the Department's regional offices or Tim Luke at the above office if you have questions or require assistance concerning this matter.

Sincerely

Tim Luke
Water Distribution Section Manager

Cc: IDWR Regional Offices
Norman Young, IDWR Administrator
John Homan, Idaho Deputy Attorney General
Ervin Ballou, IDWR

Enclosure

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ADMINISTRATOR'S MEMORANDUM

(Supersedes Illegal Diversion of Water No. 2)

To: Water Management Division Staff
Water Allocation Bureau
Water Compliance Bureau and Regional Offices

Illegal Diversion of Water No. 3

From: Mat Weaver, Deputy Director

Date: October 9, 2015

RE: ENFORCEMENT POLICY AND PROCEDURES FOR USE, STORAGE, OR DIVERSION OF WATER WITHOUT A VALID WATER RIGHT OR REQUIRED AUTHORIZATION

BACKGROUND

Purpose

This memorandum supersedes the Administrator's Memorandum "Illegal Diversion of Water No. 2" dated May 26, 1987. There have been significant changes to related laws and rules subsequent to the 1987 memo. A notable change was the inclusion of the standardized enforcement procedure required under Idaho Code § 42-1701B (1998).

This memorandum establishes the Idaho Department of Water Resources' ("Department") policy for investigation and enforcement associated with the use, storage, or diversion of water *absent* a valid water right or required authorization ("violations" or "unauthorized activities"). Administrative enforcement actions may be initiated for such unauthorized activities and for failure to comply with certain conditions of approval, administrative orders, and administrative rules.

This memorandum shall be used by Department staff that engage in regulatory and enforcement actions or related investigations when a violation is suspected, alleged, discovered, or confirmed. This memorandum describes necessary practices and procedures for conducting and documenting investigations associated with unauthorized activities under the Department's jurisdiction and the subsequent documentation and tracking of related regulatory efforts.

Nothing in this policy is intended to discourage Department staff from investigating a suspected violation either independently or in response to an outside complaint.

References

- Idaho Code §§ 42-311, 42-350, 42-351, 42-701,42-1601 thru 42-1605, 42-1701(5), and 42-1701B
- Idaho Administrative Procedures Act ("IDAPA") - IDAPA 37.01.01 (Rules of Procedure), IDAPA 37.02.03 (Water Supply Bank Rules), IDAPA 37.03.08 (Water Appropriation Rules), and IDAPA 37.03.09 (Well Construction Rules)

Application

This memorandum shall be used by all Department staff conducting enforcement activities or investigations. Department enforcement actions and associated investigations must be consistent and compliant with the laws and regulations of the state governing the use, storage, and diversion of Idaho's public water to include:

- Use, storage, or diversion of water in excess of or without a valid water right;
- Use, storage, or diversion of water determined to be inconsistent (not in conformance) with a valid water right or any associated condition(s) of approval, including conditions of Water Supply Bank lease and rental agreements;
- Failure to properly control and to allow waste from a flowing artesian well;
- Failure to install or maintain approved measuring devices or controlling works as required by an administrative order or otherwise prescribed by law;
- Failure to measure and report water use when required by an administrative order; and/or
- Use, storage, or diversion of water contrary to applicable water law, administrative rules, conditions of approval, or administrative order(s).

Authority

Authority for the director or designated Department staff to investigate the unauthorized use of water and commence administrative enforcement actions is prescribed under Idaho Code §§ 42-351, 42-1605, 42-1701(5), and 42-1701B(1).

Under Idaho Code § 42-1701B, the Department (on behalf of the director) may commence administrative enforcement actions through a Notice of Violation ("NOV") and resolve such violations through a Consent Order and Agreement ("COA"). The COA will specify any civil penalty or other terms and conditions to which the parties have agreed. Additionally, the Department may initiate civil enforcement actions through the Attorney General or, in rare cases, file a criminal complaint.

DOCUMENTING COMPLAINTS

The Department receives numerous complaints each year alleging unauthorized activities or violations of Idaho water laws and rules. Many complaints originate as verbal reports from the public or public agencies. After receiving a verbal complaint, staff should request a written summary of the complaint including sufficient information to determine if an investigation should be initiated. The Department may provide a standardized complaint form to assist the public in providing all necessary information. Complaints should be entered and tracked in the Department's complaints and enforcement database ("enforcement database"). The enforcement database is a shared resource and should be used by all staff to archive a complaint, general information, and associated documents and/or evidence.

DOCUMENTING INVESTIGATIONS AND EVIDENCE

Documentation of an investigation and appurtenant evidence is necessary prior to initiating an enforcement action. The enforcement database provides a central location for documenting, tracking, and managing information and evidence associated with a complaint, investigation, or enforcement action. The database *should* be used to inventory and archive written complaints and ***must*** be used to inventory and archive confirmed violations that result in a subsequent enforcement action.

Note: *Authority for the director and/or employees of the Department, including water district watermasters who are appointed by the director, to make "reasonable entry" upon lands for the purpose of making investigations and surveys related to water use, or for other purposes necessary to carry out the duties imposed by law, is authorized by Idaho Code § 42-1701(5).*

Regulatory staff should exercise discretion under these authorities and whenever practical contact the land owner or an authorized representative of the land owner prior to entry upon private lands.

Regulatory staff should avoid threatening or confrontational situations and solicit assistance from local law enforcement when necessary.

Evidence Necessary to Substantiate an Unauthorized Use of Water

When investigating an alleged violation, the investigator must assemble evidence considering the possibility that the documented observations may be used to establish a case in court. The investigator must carefully collect, analyze, and document evidence to support a specific conclusion.

Evidence may include the following:

- The actual observation and documentation by Department staff or a Department-appointed watermaster of an offending diversion, storage facility, and/or application of water;
- Time stamped photographs and video with appropriate narration;
- Written statements from individuals who have observed the activity (written statements must include the name, address, and signature of the witness); and/or
- Aerial photos and/or maps depicting the extent of use.

Evidence other than actual observations of unauthorized activity should also be collected if it supports the theory that water was illegally used, stored, or diverted. This evidence may include ruts created by a pivot system tire tracks, wet soil, water marks, growing crops, and changes in electrical or flow meter reading(s).

Prior to initiating a formal enforcement action, the investigator must determine whether the evidence supports a conclusion that water is or has been used, stored, and/or diverted without the required authorization. In some cases, the investigator must observe the unauthorized activity (for example, when aerial imagery is not yet available).

The investigator must collect and record GPS information and/or legal description(s) (PLS information) for the place of use, storage reservoir, and/or point of diversion. The investigator should describe delivery system components and record pump and motor specifications, makes, models, and serial numbers. The crop type should also be noted along with the number of acres, if the violation is associated with irrigation. For non-irrigated unauthorized activity, the flow rate or storage volume must be determined. Flow rate or storage volume should ideally be measured. When measurement is not possible, a flow rate or volume may be estimated provided that the estimate is accompanied by sufficient supporting calculations and/or information.

Investigations (in the field or otherwise) should result in the completion of an investigation report that summarizes the findings and conclusions of the investigation and recommends a specific response. The Department may provide field investigation staff with a field report form including a "punch list" to

assist with collecting necessary information and evidence. Field notes should be dated, organized, and readable as the documents may be used as evidence in court.

ENFORCEMENT PROCEDURES

The Department's goal in water-use related regulatory or enforcement matters is to ensure compliance by users with all Idaho laws, orders, rules, and/or water right elements and approval conditions.

Administrative enforcement actions may be initiated for violations that are documented and confirmed by methodical investigation. Violation(s) of Idaho Code § 42-351 (use, storage, or diversion of water without a valid water right) is a primary focus. Uncontrolled, unauthorized, or unnecessary flow from an artesian well constitutes a violation of Idaho Code § 42-1602 and Idaho Code § 42-351. Administrative enforcement actions may also be initiated for failure to comply with administrative orders requiring installation of measuring devices or controlling works and measurement and reporting of water use required under Idaho Code § 42-701. Such actions must be presented to the responsible party as a Department-issued NOV.

Education and Awareness

Department staff should encourage voluntary compliance through education of water users to avoid a violation or to correct an existing violation. Education may include providing information and instruction to a water user(s) who may not be aware of statutory requirements, associated rules, or specific conditions for use and diversion of water. Staff should provide clear direction or instructions (verbally and in writing) on how a violation can be avoided or corrected. Staff should direct users to the Department website and other available publications or resources.

Warning or Pending Notice of Violation

A documented warning, or Pending Notice of Violation ("PNOV"), will create a permanent record of the unauthorized activity in cases where a violation is corrected without issuing an NOV. Examples include:

- Verbal warning: The issuance of a verbal warning or instruction to cease and desist must be documented in writing for later reference. A descriptive memorandum or investigation report should be added to the enforcement database.
- Written warning or PNOV: Should include a "cease and desist" provision and should be added to the enforcement database.

When a violation is evident and an NOV is issued, all related information or documentation ***must*** be included in the Department's enforcement database.

Administrative Enforcement Action (NOV) and Other Enforcement Options

Determining an Enforcement Response or Action

Department responses to confirmed violations must be consistent with applicable laws, rules, and this policy. Responses should be representative of the severity or scope of the unauthorized activity or violation.

Assessment of the severity or scope of a violation should be based on actual facts obtained through the investigation with consideration for the following:

- The size (acres, diversion rate, or storage volume) and public perception of the violation (extent or number of complaints from the public or other users);
- The potential extent of injury to the public resource or individual water right holders resulting from the violation;
- The extent of the alleged violator's previous knowledge or understanding that the unauthorized use was not in compliance with applicable law or rules;
- An alleged violator's lack of response to a previous warning or PNOV;
- The willingness and cooperation of the alleged violator to correct the identified unauthorized activity; and/or
- An alleged violator's history of previous violations.

Issuing an NOV

An NOV may follow a written PNOV, warning letter, or a previous NOV, upon confirmation of a violation. An NOV may be issued even though a warning or PNOV has not been previously sent. Enforcement actions should be timely, well documented, and diligently pursued until the violation is corrected and resolved. All NOVs must be included in the Department's enforcement database along with supporting documentation and evidence.

Typically, an NOV is issued in letter form and is addressed to the individual(s) or entity determined to be responsible for the violation. When an NOV is issued for a violation(s) of Idaho Code § 42-351 and/or § 42-1601 thru 42-1603, the NOV must be consistent with Idaho Code § 42-1701B(2).

The NOV should contain the following elements:

- Enforcement case number from the enforcement database;
- A cease and desist provision;
- Specific location information where the alleged violation occurred (generally PLS info, county, and address when available);
- Citation of specific rules and/or laws (statutes) violated and brief description of each;
- Any redress and civil penalties the Department seeks pursuant to the NOV; and
- Notification to the recipient that they are entitled to a compliance conference upon request (within 14 days of receipt).

Regional office enforcement staff may coordinate administrative enforcement actions with state office Compliance Bureau staff. In some cases, regional office staff and/or program managers may prefer that an NOV is issued by Compliance Bureau staff. This approach may allow regional staff to maintain an optimal relationship with local area water users and should be considered upon request of Regional Managers and Program Managers. Department-designated legal staff from the Attorney General's Office is also available to advise or assist staff with administrative or non-administrative enforcement actions.

The following are examples of non-administrative enforcement actions authorized by law:

- Civil enforcement actions
- Court injunctions or orders

- Misdemeanor citation or criminal complaint – reference Idaho Code §§ 18-4301 thru 18-4310 and 42-1605(2)

Examples of NOVs can be found in the enforcement database and letter templates can be obtained through the Water Compliance Bureau.

Violations on Privately Owned Land

Idaho Code § 42-351 states the person or entity engaged in and/or in direct control of an unauthorized activity may be issued an NOV. To the extent practical, Department staff engaged in the initial investigation should make a reasonable effort to determine and document the party responsible for the violation. In some cases the person(s) or entity may also be the owner of the property. It is not unreasonable to issue an NOV jointly to the operator and the property owner. Irrigators, operators, or a lessee should not be viewed as unaccountable simply because they do not own the property. The land owner of record should be copied on any NOV that is issued directly to a party or entity (such as a lessee) other than the owner. A PNOV directed to the property owner may be a practical way of determining and documenting the person(s) or entity responsible for a violation.

Violations on Land Managed by a Local, State, or Federal Agency (Public Land)

A thorough investigation is appropriate to determine the party responsible for or directly engaged in any unauthorized use, storage, or diversion of water occurring on lands managed by a local, state, or federal agency. In some cases, the agency who owns the land may not be aware that an unauthorized activity has occurred or may not have direct control over a violation (such as a trespass issue). It is advisable to first contact the public agency that manages the land to discuss the violation and solicit the land manager's cooperation in determining the responsible party. If it is determined that the agency who manages the land is responsible for a violation, a formal enforcement action may be initiated and directed to the agency. Otherwise, it may be appropriate for Department staff to work jointly with the agency to identify the responsible party. The land manager or owner of record should be copied on any NOV that is issued directly to a party or entity other than the manager or owner.

CIVIL PENALTIES AND REDRESS

Proposed and Agreed Civil Penalties

NOVs must identify any civil penalty the Department is seeking in response to a violation. The penalties proposed should be consistent with Idaho Code § 42-1701B (6) (a) i or ii. Penalties should be calculated and proposed at the maximum level prescribed by statute and are based on acreage, rate of diversion (cfs), or storage volume (acre feet). Partial acreages are assessed penalties as if a full acre was irrigated. Penalties for unauthorized irrigation should not be calculated based on a volume that was presumed to have been used.

Under Idaho Code § 42-1701B (6) (b), penalties shall not be assessed for a violation that has occurred more than twelve (12) months prior to issuance of the NOV. However, for irrigation or storage uses, an NOV may seek penalties for two (2) successive years or seasons if issued within twelve (12) months of the last use in the previous year.

Penalties are intended to discourage future unauthorized use. Generally, an agreed-to penalty *should not* be less than two times (2X) the amount it would have cost the operator to rent water from the

Water Supply Bank ("WSB") for the specific use. Before negotiating a reduced penalty, enforcement staff should ask WSB staff to estimate or calculate how much a rental would have cost the operator to cover the unauthorized use.

Penalties proposed in an NOV may be reduced or negotiated, and agreed to by the Department and the NOV recipient ("agreed penalties") at or following a compliance conference. The Department may reduce the civil penalty proposed by an NOV or may suspend a portion of the proposed penalty for a specified period, contingent upon a required level of performance or other desired outcome (e.g. abandonment of a well or removal of a diversion structure). In contemplating a reduced or suspended penalty, staff should consider the NOV recipients past history of compliance. Repeat violators should not be extended as much latitude as first time violators. Staff should also consider the Department's time and expense resulting from an enforcement action when negotiating a reduced or suspended penalty.

Additional Redress Associated with an NOV

The Department may seek redress or specified action of the NOV recipient in addition to monetary penalties. The following are some examples:

- Installation of Department-approved measuring devices and/or control devices;
- Demand to decommission a well or remove an unauthorized point of diversion;
- Curtailment of use by a water district watermaster; and
- Restitution for the unauthorized use.

Use of the WSB for Existing Violations

When a cease and desist order is served upon a water user by the Department, the user must cease diversion of water until a valid water right is obtained or other authorization, such as a WSB rental, has been secured. The Idaho Water Resource Board has adopted policies precluding rental of water from the WSB for past use. A person or entity notified of an unauthorized use may submit an application to rent water from the WSB to authorize use. In these instances Department regulatory staff *should not* request that WSB staff give preference to rental applications intended to legitimize an existing unauthorized use.

COMPLIANCE CONFERENCE

Upon request, an NOV recipient shall be entitled to a compliance conference with the Department. A compliance conference is a meeting between the Department and the NOV recipient to discuss the facts of the matter at hand and ideally reach an agreement to correct a violation and resolve the NOV. Each case may present a unique set of facts that should be considered when evaluating the severity of the violation. Department staff should use the compliance conference to develop or identify specific terms and conditions to resolve the violation that will be included in a COA. The terms of the COA must address any requirements for redress and civil penalties presented in the NOV and/or other terms and conditions agreed between the Department and the NOV recipient. A draft COA may be presented to the NOV recipient for review and signature after a verbal agreement is reached at the compliance conference. Preliminary meetings that are a part of the initial investigation and occur prior to an NOV are not a compliance conference and should not be referenced as such, but they should be documented and added to the enforcement database.

CONSENT ORDER AND AGREEMENT

An NOV must be resolved through a COA. Terms included in a COA generally result from a compliance conference and/or documented correspondence between the Department and the NOV recipient preceding the compliance conference.

The required COA must specify the terms and conditions agreed to by the Department and the NOV recipient that will resolve the administrative enforcement action (NOV). A COA must characterize the complete agreement between the Department and the NOV recipient. A COA must contain the following elements:

- "Findings of Fact" or "Background" information qualifying the violation;
- "Conclusions of Law" or "Applicable Law" providing the legal basis for the action; and
- "Order" or "Terms of Agreement and Order" containing the terms and/or redress required and deadlines for compliance with the terms.

The COA must be prepared for signature by the Department and consent of the respondent or recipient of the NOV.

Examples of COAs can be found in the enforcement database and templates are available through the Water Compliance Bureau.

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C. L. "BUTCH" OTTER
Governor

DAVID R. TUTHILL, JR.
Interim Director

August 21, 2007

NAME WD# WD NAME
ADDRESS
CITY ST ZIP

Re: Futile Call Delivery of Surface Water Rights in Water Districts

The Idaho Department of Water Resources (Department) has recently received a number of inquires from water district watermasters and water users regarding the determination of futile calls in delivering senior surface water rights. The increased inquiries are the result of the current drought conditions, limited availability of surface water, and significant cuts in water right priorities throughout many water districts. This letter is intended to provide watermaster guidance concerning futile call determinations.

Futile calls are not defined or described in the Idaho Code but have long been recognized by Idaho Courts. In addressing futile calls, the Idaho Supreme Court has stated, "if due to seepage, evaporation, channel absorption or other conditions beyond the control of the appropriators the water in the stream will not reach the point of the prior appropriator in sufficient quantity for him to apply it to beneficial use, then a junior appropriator whose diversion point is higher on the stream may divert the water." Gilbert v. Smith, 97 Idaho 735, 739, 552 P.2d 1220, 1224 (1976).

The Department's Rules for Conjunctive Management of Surface and Ground Water Resources define a futile call as "[a] delivery call made by the holder of a senior-priority surface or ground water right that, for physical and hydrologic reasons, cannot be satisfied within a reasonable time of the call by immediately curtailing diversions under junior-priority ground water rights or that would result in waste of the water resource." IDAPA 37.03.11.010.08. A description of a futile call also is provided in the Water District 34 Water Distribution Rules as follows:

Futile Call for the Delivery of Surface Water.

When curtailment of junior upstream surface water rights will not make water available for delivery and use to senior downstream surface water rights, without unreasonable waste as determined by the director, the watermaster will not curtail the junior water rights in a futile effort to deliver water to the senior rights. (IDAPA 37.03.12.020.04)

This description of futile call can generally be applied to delivery of surface water rights in other water districts of the state. The Department provides the following general framework and guidance to watermasters when addressing a futile call:

1. A watermaster has the responsibility to distribute available natural flow to the holders of water rights asking for water for use in accordance with their rights. In Idaho, this

distribution must be in accordance with the priorities of the rights. A right with an earlier in time priority date must be fully satisfied in accordance with calls for water under the right before water is distributed to another water user calling for water under a right with a later in time priority date. In a stream with large channel losses, it can be necessary to curtail significantly more diversion under upstream junior priority rights than the diversion amount required for senior downstream rights in order to overcome those losses. Although this seems like an inefficient use of the available water supply, the senior user's call must be satisfied unless the amount of water reaching the senior user's point of diversion is insufficient to make beneficial use under the right. In short, watermasters must make a good faith effort to deliver the senior rights (and curtail junior rights) before making any futile call determination.

2. If curtailment of all upstream water rights having a priority date junior in time to that of the downstream senior right for which water is called for does not result in flow of useable amounts reaching the point of diversion for the senior water right, the call can be determined to be futile. When this determination has been made by the watermaster, the available water can then be delivered in accordance with priority of right to the upstream junior rights. The determination of whether the flow received by the senior user is a useable amount can be difficult because of factors such as the variance in stream flow during the day, co-mingling of water from other sources for use by the holder of the senior right, ditch losses, or other factors. If the senior user does not agree that the call is futile, you should consult with the Department before making a decision to curtail distribution to the senior user. Consultation with the water district advisory committee prior to contacting the Department is encouraged in cases where the senior user does not agree that a call is futile.

3. Watermasters should carefully record deliveries and document stream flows and stream flow losses, as well as record observations about the beneficial use of water occurring under any senior water rights being called for and potentially affected by a futile call. Good documentation of deliveries and stream flows will be helpful to justify any futile call determination. Other than Water District 34, a formal written order or notice from the Department is not necessary in most cases to deliver water based on a futile call. The Department encourages watermasters to coordinate with all affected water users and seek consultation from the water district advisory committee and the Department when making futile call determinations.

4. The junior water right user or users benefiting from any futile call have the responsibility to provide the necessary check structures, head gates and measuring devices for diversion of the water. Under Idaho law (Section 42-3806, Idaho Code) the water user is authorized to do work in the stream channel as necessary to divert the water. Other approvals may be needed from other state and federal agencies. Water diverted to junior priority water rights under a futile call must be beneficially used. Watermasters should not deliver water to any statutory claims or beneficial use rights (senior or junior priority) during any period of regulation until such time as those rights are decreed in the Snake River Basin Adjudication (SRBA) or some other adjudication proceeding if outside of the SRBA.

5. Senior right holders cannot call for delivery of stockwater unless they have valid water rights that list stockwater as a beneficial use. Although a water right is not required to water livestock directly from a stream, a user cannot call for delivery of instream stock water unless a valid instream stockwater right exists that defines the priority date, flow rate and location of the instream livestock use. Likewise, junior priority right holders, once curtailed, cannot insist on continued delivery of stock water even if livestock watering is listed as a beneficial use under their junior right(s).

Please contact the appropriate regional office staff or Tim Luke, Water Distribution Section, Boise, if you have questions or need any assistance concerning this or related water district matters.

Sincerely,

Gary Spackman
Administrator, Water Management

Cc: IDWR Regional Offices

ADMINISTRATOR'S MEMORANDUM

Application Processing No. 67

TO: WATER MANAGEMENT DIVISION

FROM: NORMAN C. YOUNG, ADMINISTRATOR NCY

RE: PERMITTING REQUIREMENTS FOR PONDS

DATE: February 28, 2003

This memorandum provides general guidance on the permitting requirements for impounding and using water in a pond. Its primary focus is to describe circumstance for which a water right is needed to retain and use water while impounded in a pond. This narrow focus is appropriate because it is generally understood and accepted that a water right is needed to divert water to a pond for beneficial use in the pond or to divert water from a pond for a beneficial use outside of the pond.

The direction provided in this memorandum is intended to clarify the Department's policy regarding ponds constructed or proposed to be constructed after the date of this memorandum and to changes in use of existing ponds, where the change in use occurs or is proposed to occur after the date of this memorandum. It is not intended to direct Department staff to initiate investigative or regulatory action for ponds existing prior to the date of this memorandum or to address the need for a claim to be filed in an ongoing adjudication of water rights. If a written complaint is filed with the Department showing probable injury to an existing water right where the injury is alleged to be related to the use of a pond developed prior to the date of this memorandum, staff is instructed to forward the complaint to the division administrator for case-by-case guidance.

A simple "yes" or "no" answer to the question "Is a permit needed?" often cannot be given because of the variety of circumstances associated with construction and use of ponds. Whether or not a permit is needed or can be issued is to be determined on a case-by-case basis by applying the concepts discussed in this memorandum.

GENERAL CONSIDERATIONS

A water right is required to use public water if: (1) it is diverted, (2) a beneficial use is made of the water and (3), traditionally, the diverter intends to protect the right to divert and use the water against later-in-time diversion and use from the source. However, the third parameter for requiring a water right is not now strictly applicable in Idaho because Section 42-201, Idaho Code, makes it unlawful to divert or use public water without a valid water right. Public water sources must be regulated to assure diversion occurs only in accordance with a valid water right. Excavation or other activities, incidental to the purposes of an activity, can create ponds or enlarge existing ponds resulting in the impoundment of water which the developer or owner does not intend to beneficially use and does not intend to defend their continued access to this water against subsequent appropriators. Even so, in accordance with Section 42-201, Idaho Code, a water right is needed for such incidental ponds or timely action must be taken to avoid impounding water.

CONSTRUCTED PONDS

Generally, a water right is needed to beneficially use water in a constructed pond. This is true for ponds constructed by: (1) excavation to create a basin that fills naturally with water, (2) excavation that is filled by physical action to divert water into the basin, (3) or by constructing an embankment or other structure to create a reservoir that fills or is filled with water. Prior to beginning construction of a pond, the developer must file an application for and receive a permit to appropriate water or file an application and receive an approval to transfer an existing water right for the purpose of pond. Water Appropriation Rule 35.03b (IDAPA 37.03.08) provides that the annual storage volume shown on an application shall not exceed the storage capacity of the structure unless the application describes a plan for refilling the reservoir. This would include any plan to replace water lost from a constructed pond due to evaporation and/or seepage. The application fee is based on the annual storage volume proposed in the application, which should include any proposed refills.

An application for a pond to be constructed by excavation below the ground water level to be filled naturally from ground water must include the annual volume required to replace evaporation losses in addition to the volume to be stored in the pond. Ponds constructed in this manner should list ground water as the source on the permit.

Off-stream storage ponds requiring additional flow-through water to maintain water quality require a flow component in addition to a the diversion-to-storage and storage components on the permit. For applications including uses quantified as a combination of rate and volume, the application fee is based on the amount providing the greater fee.

There are several circumstances that can alter the general statement that a water right is needed and can be issued to store water in a constructed pond. Some examples are described below.

Incidental Ponds

An excavation made for another purpose (e.g. gravel or mineral extraction) that fills naturally with water does not require a permit if the excavation will be filled in or otherwise reclaimed to obliterate the pond within a reasonable time. A permit is required if the resulting pond will be retained for aesthetics, recreation or other beneficial uses. For gravel or mineral extractions, a reclamation plan filed with the Department of Lands can provide information on the intended disposition of the excavation.

Diffused Surface Water

A water right permit is not required to construct and use a pond with diffused surface water as its sole source (see Adjudication Memo No. 11 for a detailed discussion of diffused surface water). Diffused surface water is not considered to be public water and is therefore not subject to appropriation. Diffused surface water is water on the surface of the land from precipitation and snowmelt prior to entering a natural watercourse. One example of the capture of diffused surface water is an excavation or embankment constructed to capture rainwater or snowmelt runoff from a subdivision or parking lot prior to the runoff entering a natural watercourse. A landowner is entitled to capture and use diffused surface water before it enters a natural stream, lake or other public source. However, if the diffused surface water is a source of supply to a natural watercourse and the landowner's use significantly depletes that supply, it may cause injury to a senior appropriator who may seek to enjoin the use.

Regulation/Distribution Ponds

A water right permit is not required to construct and use a pond or ponds that are part of a system used to distribute and use water in accordance with a valid water right if the pond or ponds do not impound a larger volume of water than authorized for diversion within a 24-hour period under the water right or rights associated with the project. One example would be a pond constructed as part of an irrigation system to provide a higher rate of flow over a short period of time as required in some border irrigation systems.

Similarly, a water right permit is not required to construct and use a pond or ponds to collect and re-use irrigation runoff as long as the water is used on the lands from which the runoff occurred for the use authorized under an existing right. Collection must occur prior to the runoff entering a natural watercourse where it becomes available for public appropriation. The principal use of the pond or ponds in these cases must be for purposes of distributing and using or

re-using the water under the existing right. If the principal use is some other beneficial use, a water right for storage in the pond is required.

Wastewater Treatment

Based upon the concepts in the Department's interim industrial waste water policy (see Application Processing Memo No. 61 dated September 27, 1996), a water right permit is not needed to construct and use a pond that is necessary to comply with water quality standards and treatment requirements for a beneficial use that already has a water right. The policy does not include a restriction on pond size.

Domestic Exemption

A water right permit is not required to construct and use a pond that meets the statutory requirements for exemption for domestic uses (Sections 42-111 and 42-227, Idaho Code). If the pond is excavated and fills naturally with ground water or is constructed in any manner and is filled by pumping ground water, the total use of the pond and the other domestic uses exempted from permitting must not exceed 13,000 gallons per day for uses under part (1)(a) of Section 42-111, Idaho Code or 0.04 cubic feet per second and 2,500 gallons per day for uses under part (1)(b). Determination of the water use for a pond should take into account the fill rate of the pond (for ponds not filled naturally with ground water), evaporation and seepage from the pond, flow-through water to refresh the pond, and any other water used or discharged from the pond. Evaporation should be based upon a typical maximum daily evaporation rate rather than an annual average rate.

The attached spreadsheet was developed to estimate domestic water use to help determine an allowable pond size for domestic exemptions (**Note that the allowable surface area for a pond exempt from the water right permit requirement is determined by application of this spreadsheet and is not necessarily ½ acre**). The spreadsheet calculates a maximum daily water use in gallons per day by accounting for in-house, lawn and garden, pond, and other related domestic uses.

If a water user desires to file an application for permit for a pond even though the use meets the statutory requirements for exemption for domestic uses, the use would normally be approved as a domestic use with a standard diversion rate and no storage component. The application fee would be based on the diversion rate. An application for permit for a use complying in all respects with the requirements to be exempt from permitting under the domestic exemption may be processed unless otherwise provided in the management plan adopted for a ground water management area, critical ground water area or moratorium area.

Other Considerations

Ponds constructed and beneficially used prior to the mandatory permit dates can claim a beneficial use right. A beneficial use right could also have been established if the claimant can show that the right was commenced before the mandatory permit dates and the appropriation was completed with due diligence after the mandatory dates (see Adjudication Memo No. 23). For example, if a pond was excavated for gravel extraction prior to 1963, but was not used for aesthetics or recreation until after that date, a right could have been established as long as the use was completed in a reasonable period of time. The priority date of such rights is the date the appropriation was completed.

Approval is required under the Safety of Dams Act (Section 42-1709, *et. seq.*, Idaho Code, if the impoundment meets the requirements to be classified as a dam (Ref. Dam Safety Rule 10.06, IDAPA 37.03.06).

The Department should actively investigate citizen complaints concerning new construction and use of ponds. If the pond is not exempt from permitting requirements, the Department should seek an appropriate application for permit or transfer of an existing water right if processing of an application for permit cannot proceed because of a moratorium order or other designation affecting the area. The owner of the pond may be required to provide appropriate mitigation to offset reduction in water available to prior rights.

NATURAL PONDS

Generally, a water right is not needed and cannot be issued to protect, in place, the waters of a natural pond. Natural ponds include those formed and existing under natural conditions and those that were created when natural basins filled with seepage or return flows from water lost by irrigation and other development projects. Because a physical diversion does not occur when a beneficial use is made of water in a natural pond, a water right is not needed and cannot be issued.

There are several circumstances that result in an answer different from the general statement that a water right is not needed and cannot be issued. First, under Chapter 15, Title 42, Idaho Code, the Water Resource Board is authorized to obtain a right (exempt from filing fees) for a minimum lake level without the need to divert the water. This provision can be used to appropriate, in place, the waters of a natural pond. If a pond is characterized as "private water" under Section 42-212, Idaho Code, the appropriation can only be made with the permission of the owner of the land on which the pond is located.

A second circumstance that could require a water right permit is expansion of the water holding capacity of a natural pond by excavating to deepen it or increase its surface area or by constructing an embankment or other structure to raise the

water level in the pond. A water right permit is required for the additional increment of water contained in the pond. The water right permit can only be issued for the additional storage created, not the entire volume of the pond. The application fee would be based on the volume added to the pond and any refills as proposed in the application. If a water right permit is not obtained, a stream alteration permit or lake protection permit is required for the excavation or other work done in the pond.

A similar circumstance arises from excavation of a stream channel either to deepen or widen it or by adding a check structure in the stream to create a pond. If the purpose is to provide for beneficial use of the ponded water, including uses such as aesthetics or recreation, a water right permit is needed for the increment of water (including any proposed refills) added by the excavation or structure. If a water right permit is not obtained, a stream alteration permit may be required.

Water Appropriation Rule 35.01c (IDAPA 37.03.08) provides that the use of a natural lake (or pond) for watering livestock without the use of a constructed diversion works is exempt from permitting requirements. If a water user desires to file an application for permit even though the use is exempt from permitting requirements under this rule, the use would normally be approved as stockwater with an appropriate diversion rate and no storage component. The application fee would be based on the diversion rate.

FILE NUMBER ----------
REVIEWER ----------
DATE ----------

EXAMPLE TO BE LOADED ONTO WENET FOR USE

MAXIMUM DAILY WATER USE FOR DOMESTIC PURPOSES

INPUTS		NOTES/SUGGESTED VALUES	RESULTS		FORMULAS
IN-HOUSE USE (AFY)	0.6	IF UNKNOWN, USE IDWR STANDARD OF 0.6 AF FOR EACH HOUSE	TOTAL IN-HOUSE USE	536 GPD	CONVERSION: 1 AFY = 892.74 GPD 1 AF = 325,850 G
LAWN AND GARDEN IRRIGATION					
ACRES IRRIGATED (AC)	0.5	CANNOT EXCEED 1/2 ACRE FOR PART A DOMESTIC*			
ETpk80 (IN/DAY)	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FOR TURF EXAMPLE 0.40 IN/DAY FOR HAGERMAN EXAMPLE 0.30 IN/DAY FOR STANLEY			
APPLICATION EFF. (%)	70%	IF UNKNOWN, USE 70% FOR SPRINKLERS			
			TOTAL LAWN AND GARDEN IRRIGATION	7758 GPD	FORMULA: ((ETpk80/EFF.) * IRRIG. AREA) = GPD CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G
POND					
SURFACE AREA (SQFT)	10890				
AVERAGE DEPTH (FT)	3.00		CAPACITY	32670 CUFT 244372 G	FORMULA: SURFACE AREA * AVERAGE DEPTH = CAPACITY CONVERSION: 1 CUFT = 7.48 G
FILL OR REFILL RATE (CFS)	0.04	USE 0 IF FILLED NATURALLY FROM GW TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD	25851 GPD	NOTE: GPD LIMITED BY POND CAPACITY CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO FILL BASED ON PROVIDED INPUTS	*9.45 DAYS* *227 HR*	*FORMULA: CAPACITY / FILL RATE = TIME TO FILL*
EVAPORATION (IN/DAY)	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FROM ABOVE	CONVERT TO GPD	2715 GPD	FORMULA: EVAP * SURFACE AREA = POND EVAP CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
SEEPAGE RATE (FT/DAY)	0.00	SUGGESTED VALUES FOR DIFFERENT SOIL TYPES: 0 = NATURALLY FILLED FROM GW, OR LINED 0.5 = CLAY SOILS 1.5 = LOAMS 3.0 = GRAVELS	CONVERT TO GPD	0 GPD	FORMULA: SA * SEEPAGE LOSS = POND SEEPAGE (CUFT/D) CONVERSION: 1 CUFT = 7.48 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
FLOW-THROUGH (CFS) (REFRESH RATE)	0.04	TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD	0 GPD	FORMULA: IF FILL RATE = 0 THEN GPD IS BASED ON CONTINUOUS FLOW IF FILL TIME > ONE DAY THEN GPD = 0 IF FILL TIME < ONE DAY THEN GPD = (24 HR - FILL TIME) * FLOW THROUGH RATE CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO REFRESH BASED ON PROVIDED INPUTS	*9.45 DAYS* *227 HR*	*FORMULA: CAPACITY / FLOW RATE = REFRESH TIME*
			TOTAL POND	28566 GPD	TOTAL = FILL RATE + EVAP + SEEPAGE + FLOW THROUGH
OTHER (GPD)	0.00	STOCKWATER, SMALL BUSINESS USE, ETC. EITHER FROM POND OR SEPARATE USE	TOTAL OTHER	0 GPD	
			TOTAL WATER USE	**29660 GPD**	TOTAL = IN-HOUSE USE + IRR + POND + OTHER

* NOTE: MAXIMUM VOLUME FOR EXEMPTION = 13,000 GPD FOR PART A DOMESTIC
MAXIMUM VOLUME FOR EXEMPTION = 2,500 GPD FOR PART B DOMESTIC

This Guidance Document is not new law but is an agency interpretation of existing law. For more information or to provide input on the document, please contact the Water Right Section Manager at 208-287-4800.

ADMINISTRATOR'S MEMORANDUM

Application Processing No. 80
Adjudication No. 62

To: **Water Allocation Bureau and Regional Offices**

From: **James R. Cefalo** JRC

RE: **Guidance for Implementing Revised Statutes for Domestic Uses**

Date: **June 25, 2025**

On March 20, 2025, Governor Little signed Senate Bill 1083a, which, among other things, revises certain statutes dealing with ground water wells and domestic uses. The legislation becomes effective on July 1, 2025. This memo summarizes some of the revised statutes and provides guidance to Department staff in determining when a water user is required to complete the statutory permitting and licensing process ("permit process") to establish a water right for a new water use starting on or after July 1, 2025, and when a proposed use is exempt from the permit process.[1] Senate Bill 1083a revised several statutes dealing with domestic uses, shared wells, and subdivisions, including statutes outside of the Department's purview. This memo only addresses the revisions to Idaho Code §§ 42-111 and 42-227.

Because certain domestic uses do not require a water user to complete the permit process prior to diversion and use, the Department does not have an opportunity to review such uses through an application for permit evaluation. The primary role of Department staff related to domestic use is to answer customer questions about when a property owner is required to complete the permit process. To ensure Department staff are providing accurate information and responses to inquiries are consistent across the state, the Department has developed this guidance memorandum to assist staff in responding to inquiries about domestic uses. This memo sets forth several fact scenarios, a decision table (Appendix A), and flow charts (Appendix B) to help Department staff respond to such inquiries.

[1] The permit process involves filing an application for permit, obtaining an approved permit, developing the authorized beneficial use, and filing a statement of completion for proof of beneficial use. Once proof of beneficial use is filed, the Department conducts a licensing review and issues a final water right license confirming the extent of beneficial use developed under the permit.

As revised by Senate Bill 1083a, Idaho Code § 42-111 states:

42-111. DOMESTIC PURPOSES DEFINED.

(1) For purposes of sections 42-221, 42-227, 42-230, 42-235, 42-237a, 42-242, 42-243, and 42-1401A, Idaho Code:

(a) The phrase "domestic purposes" or "domestic uses" means:

(i) The use of water for homes, organization camps, public campgrounds, livestock, and for any other purpose in connection therewith, including irrigation of up to one-half (1/2) acre of land, if the total use does not exceed thirteen thousand (13,000) gallons per day; or

(ii) The use of water for any other purpose, if the total use does not exceed a diversion volume of two and eight-tenths (2.8) acre feet per year.

(b) “Domestic purposes" or "domestic uses" shall not include water for the following purposes, unless the use meets the diversion rate and volume limitations set forth in paragraph (a) of this subsection:

(i) Mobile home parks or recreational vehicle parks;

(ii) Apartments, condominiums, and similar developments with multiple dwelling units;

(iii) Except as provided in subsection (3) of this section, subdivisions, as defined in chapter 13, title 50, Idaho Code; or

(iv) Commercial or business establishments or mixed-use establishments where the water is used primarily for commercial or business purposes.

(2) Except as provided in subsection (3) of this section, multiple water rights for domestic uses or domestic purposes shall not be established or exercised in a manner to satisfy a single combined water use or purpose that would not itself come within the definition of a domestic use or purpose under this section. The purpose of this limitation is to prohibit the diversion and use of water, under a combination of domestic purposes or domestic uses as defined in this section, to provide a supply of water for a use that does not meet the exemption of section 42-227, Idaho Code, and is required to comply with the mandatory application and permit process for developing a right to the use of water pursuant to chapter 2, title 42, Idaho Code.

(3) Multiple water rights for domestic purposes or uses may be established and exercised from the same point or points of diversion if the use is limited to residential, in-home use. This subsection does not affect any other permitting

requirement or other requirement that may apply to the use of water within a subdivision. For the purposes of this section, the term "in-home use" means the utilization of water within a residence or household, including all activities that require water, such as drinking, cooking, bathing, and cleaning within and around the household. It does not include irrigation of lawns, gardens, landscaping, pastures, or other open spaces.

As revised by Senate Bill 1083a, Idaho Code § 42-227 states:

42-227. DRILLING AND USE OF WELLS FOR DOMESTIC PURPOSES EXCEPTED.

(1) Except as provided in subsection (4) of this section, excavation and opening of wells and the withdrawal of water therefrom for domestic purposes or uses as defined in section 42-111, Idaho Code, shall not be subject to permit requirements under section 42-229, Idaho Code. Rights to ground water for such domestic purposes may be acquired by withdrawal and use.

(2) Wells and withdrawal devices for domestic purposes or uses shall be subject to inspection by the department of water resources and the department of environmental quality.

(3) Well drillers shall be licensed pursuant to the licensing provisions of section 42-238, Idaho Code.

(4) For purposes of new diversions within subdivisions, as defined in chapter 13, title 50, Idaho Code, in any area where the director of the department of water resources has issued a moratorium order on the development of new water rights or has designated a critical ground water area or ground water management area, an application for permit, pursuant to section 42-229, Idaho Code, shall be required for the diversion of water for any new domestic purposes or uses, as defined in section 42-111, Idaho Code, other than for in-home uses, as defined in section 42-111, Idaho Code, or watering livestock.

Domestic Exemption – General Principles

For most beneficial uses, prior to diverting and using water in Idaho, a person must acquire or establish a water right authorizing such use. *See* Idaho Code § 42-201. IDWR administers the statutory permitting and licensing process for establishing new water rights. *See* Idaho Code § 42-202. Idaho Code § 42-227 states that, with some exceptions, the diversion of water from a ground water well for domestic purposes does not require a water user to go through the permitting process. Instead, water rights for domestic purposes may be established by withdrawal and use. Idaho Code § 42-111 defines the term “domestic purposes.” Therefore, Idaho Code §§ 42-111 and 42-227 work together to designate certain domestic uses of ground water that may occur

without a recorded water right.[2] This combined effect of Idaho Code §§ 42-111 and 42-227 is commonly referred to as the "domestic exemption" because qualifying diversions are exempt from needing a recorded water right.

Senate Bill 1083a did not change the basic elements of the standard domestic exemption. Idaho Code § 42-111(1)(a)(i) confirms that the term "domestic purposes" still includes water for homes, organization camps, public campgrounds, livestock and any other purposes in connection with those uses, including irrigation of up to ½ acre of land, as long as the total use does not exceed 13,000 gallons per day.

Idaho Code § 42-111(1)(a)(ii) now states that the term "domestic purposes" also includes the use of water for any purpose, other than those set forth in Idaho Code § 42-111(1)(a)(i), if the total use does not exceed 2.8 acre-feet per year. This constitutes a slight expansion of the domestic exemption. Prior to Senate Bill 1083a, this part of Idaho Code § 42-111 limited other types of domestic use to 2,500 gallons per day and 0.04 cubic feet per second (approximately 18 gallons per minute). Now, the domestic exemption is available to uses that exceed these limits, as long as the total diversion does not exceed 2.8 acre-feet per year (approximately 912,000 gallons per year). Therefore, uses that have a high daily or instantaneous water demand, but an annual water demand of less than 2.8 acre-feet, may now qualify for the domestic exemption.

It is important to note that the phrases "domestic uses" or "domestic purposes" can be misleading. There is a common misconception that domestic use must be associated with a home or some type of culinary use. However, the definition of domestic purposes in Idaho Code § 42-111(1)(a)(i) includes campgrounds and stock watering. Also, as noted in Idaho Code § 42-111(1)(a)(ii), domestic use can be for "any other purpose." Therefore, the domestic exemption described in Idaho Code § 42-111(1)(a)(ii) may include water diverted for uses like dust abatement, cleaning, humidifiers, industrial applications, mining exploration, etc. There is no limit on what water may be used for under Idaho Code § 42-111(1)(a)(ii), as long as the total use does not exceed 2.8 acre-feet per year.

Revised Quantity Restrictions

Idaho Code § 42-111(1)(b) states that the term "domestic purposes" does not include water for mobile home parks, RV parks, apartments, condominiums, developments with multiple dwelling units, business establishments, or commercial establishments unless the total use meets the diversion rate and volume limitations[3] set forth in Idaho Code § 42-111(1)(a). Section 42-111(1)(a) does not include a rate limitation but does include a daily volume limitation (13,000 gallons per day) and an annual volume limitation (2.8

[2] The term "recorded water right" means a permit, license, or decree.

[3] The term "diversion rate and volume limitations" appears to be carried over from the previous version of the statute by mistake, as there is no rate limitation described in Section 42-111(1)(a) of the revised statute. The Department is aware of interest in amending this portion of the statute to remove the reference to a rate limitation and for Section 42-111(1)(b) to only refer to the annual volume limit described in Section 42-111(1)(a)(ii).

acre-feet per year). If a water user proposes to divert water for any of the uses listed in Idaho Code § 42-111(1)(b), and the proposed use would exceed either 13,000 gallons per day or 2.8 acre-feet per year, the water user must apply for a permit or otherwise acquire a recorded water right for the full proposed use.[4]

Subdivisions

Idaho Code § 42-227 states that if a proposed domestic use is (1) within a subdivision as defined in Chapter 13, Title 50, and (2) within an area where ground water development is restricted (moratorium area, GWMA, CGWA), the domestic exemption is limited to in-home use. If a property owner intends to use ground water for irrigation of lawn, garden, landscaping, etc., the property owner must obtain a recorded water right authorizing such use.

The term "subdivision" is defined in Idaho Code § 50-1301(18) as follows:

> A tract of land divided into five (5) or more lots, parcels, or sites for the purpose of sale or building development, whether immediate or future; provided that this definition shall not include a bona fide division or partition of agricultural land for agricultural purposes. A bona fide division or partition of agricultural land for agricultural purposes shall mean the division of land into lots, all of which are five (5) acres or larger and maintained as agricultural lands. Cities or counties may adopt their own definition of subdivision in lieu of this definition.

For purposes of applying Idaho Code §§ 42-111 and 42-227, if Department staff receive an inquiry about whether a city or county has adopted a different definition of the term "subdivision," Department staff should refer the customer to the city or county planning department.

Common Wells

Previously, Idaho Code § 42-111 stated that the term "domestic purposes" did not include water diverted from a common well for multiple ownership subdivisions. This meant that two homes on separately owned parcels served by a common well could not each qualify as a distinct exempt domestic use. This restriction has been removed from the statute. Now, exempt domestic uses may be developed on multiple, separately owned parcels served by a common well. There are, however, restrictions on such exempt domestic uses.

[4] Idaho Code § 42-111(1)(a) includes two volume limits: 13,000 gallons per day (subsection (1)(a)(i)) and 2.8 acre-feet per year (subsection (1)(a)(ii)). The Department is aware of interest in amending this section so that the uses described in Idaho Code § 42-111(1)(b) would only be limited to 2.8 acre-feet per year. Until the statute is revised, Department staff should apply the statute as adopted. This means that the uses listed in Section 42-111(1)(b) would need to satisfy both volume limits found in Section 42-111(1)(a) to qualify under the domestic exemption.

Idaho Code § 42-111(3) states: "*Multiple* water rights for domestic purposes or uses may be established and exercised from the same point or points of diversion *if the use is limited to residential, in-home use*." (emphasis added). When determining whether multiple water rights for domestic purposes are being diverted from the same well, Department staff should rely on the definition of domestic purposes or domestic uses in Idaho Code § 42-111(1), rather than the beneficial use listed on the face of a water right. A recorded water right that authorizes the beneficial use of "domestic" does not necessarily satisfy the definition of "domestic purposes."

There is a difference between the beneficial use "domestic," and the terms "domestic uses" and "domestic purposes" set forth in Idaho Code § 42-111. As noted in the opening sentence of Idaho Code § 42-111, the definition of domestic uses and domestic purposes only applies to Idaho Code §§ 42-221, 42-227, 42-230, 42-235, 42-237a, 42-242, 42-243, and 42-1401A. It does not necessarily apply to Idaho Code § 42-203A, which describes the process for acquiring a new water right.

There are many water rights in Idaho that list domestic as an authorized beneficial use, where the authorized use does not satisfy the definition of domestic purposes set forth in Idaho Code § 42-111. For example, a fifty-lot subdivision may hold a water right for domestic use, which allows for in-home use and outside irrigation, all occurring under the domestic beneficial use. This type of domestic use does not satisfy the definition of domestic purposes set forth in Idaho Code § 42-111.

Therefore, when applying Idaho Code § 42-111(3), Department staff should only consider exempt domestic uses. If an exempt domestic use has been developed from a well, any additional exempt domestic uses from the same well would be limited to in-home use. If the only water diverted from a well is diverted pursuant to a recorded water right, regardless of the authorized use, then one exempt domestic use may be developed from the same well, without violating the restriction on multiple exempt water rights set forth in Idaho Code § 42-111. Once an exempt domestic use has been developed from a well, however, all future exempt domestic uses from the same well would be limited to in-home use.

It is now possible for multiple homes on separately owned parcels to divert water under a single domestic exemption. Because the language about multiple ownership subdivisions has been removed from Idaho Code § 42-111, separately owned parcels can now be supplied water under a single domestic exemption. Idaho Code § 42-111(1)(a)(i) states that the use of water for <u>homes</u> meets the definition of domestic purposes as long as the total use does not exceed 13,000 gallons per day and ½ acre of irrigation. Therefore, two or more homes on separately owned parcels could divert water from a common well for domestic use under a single domestic exemption as long as the total combined use for all of the homes does not exceed 13,000 gallons per day and ½ acre of combined irrigation.

Prohibition on Stacking Domestic Exemptions

Idaho Code § 42-111 continues to prohibit the stacking of domestic exemptions to satisfy a single combined water use that would exceed the thresholds for an exempt domestic use. Drilling multiple ground water wells on a single parcel of land does not create separate exempt domestic uses for each well. A property owner may develop multiple wells on their property, but the property owner may only develop a single exempt domestic use from the wells. When the ground water use on the property exceeds the limits established in Idaho Code § 42-111, a recorded water is required.

Applying Amended Domestic Use Laws to Common Fact Scenarios

As stated above, because exempt domestic uses do not require a water right, the Department does not have an opportunity to review such uses through an application for permit evaluation. Department staff are often asked to answer customer questions about the domestic exemption and about when the exemption applies. To ensure that Department staff are providing accurate information and that responses to inquiries are consistent across the state, staff are encouraged to review and understand the following scenarios and to use the decision table (Appendix A) and flowcharts (Appendix B) to respond to customer inquiries.

Scenario 1: Sunbeam Subdivision is in Jefferson County, which is within the Amended Snake River Moratorium area. The subdivision plat was approved in 2015 for 100 lots, each lot encompassing one acre of land. The developer expected each lot owner to drill their own individual domestic well and develop their own domestic use and corresponding water right. As of July 1, 2025, homes had been constructed on half of the lots in the subdivision. On August 1, 2025, Curry drills a domestic well for a home on his lot in the subdivision. Curry intends to irrigate ½ acre of landscaping from his domestic well. Does Curry's proposed use require a recorded water right?

Response 1: Curry's proposed well site is in a subdivision and is within an area with restrictions on ground water development. Pursuant to Idaho Code § 42-227(4), Curry may divert water for domestic use from the well without applying for a water right. The exempt domestic use, however, would be limited to in-home use and stockwater. Any diversion of water from the Curry well for irrigation would negate the exemption and trigger the requirement to apply for a water right or otherwise obtain a water right.[5]

Scenario 2: Williams owns a 50-acre tract of land in Bingham County, which is within the Amended Snake River Moratorium area. Williams proposes to drill a well for domestic use on her property and intends to irrigate ½ acre of landscaping. Does Williams' proposed use require a recorded water right?

[5] The Department is aware of interest in revising Section 42-227 to allow property owners in subdivisions existing prior to July 1, 2025, to irrigate up to ½ acre in conjunction with their in-home use under the domestic exemption. If the statute is amended, this memo will be updated to reflect the change. Until the laws are changed, Department staff should administer the statute as adopted.

Response 2: Even though Williams' property is within an area with restrictions on new ground water development, her property is not in a subdivision, as that term is defined in Idaho Code § 50-1301(18). Therefore, Williams may divert water from her well for domestic purposes without applying for a water right. Consistent with Idaho Code § 42-111(1)(a)(i), the exempt domestic use would be limited to 13,000 gpd and no more than ½ acre of irrigation. Any use beyond those limits would require a recorded water right.

Scenario 3: Crosby owns a property in Cassia County, which is within the Amended Snake River Moratorium area. The property includes a home and a domestic well that were constructed in 1958. There is no recorded water right associated with the 1958 domestic use. Crosby diverts 1,000 gallons per day on average and irrigates 0.3 acres from his domestic well. Crosby's daughter, Vonn purchases an adjacent property and wants to build a home and connect to Crosby's domestic well. The property owned by Vonn is not in a subdivision. Does Vonn's proposed use require a recorded water right?

Response 3: Even though Vonn's property is within an area with restrictions on ground water development, her property is not in a subdivision, so the in-home restriction set forth in Idaho Code § 42-227(4) would not apply. Idaho Code § 42-111(1)(a)(i) states that the term "domestic purposes" includes the use of water for homes. This allows a single domestic exemption to cover more than one home. The language about multiple ownership subdivisions has been removed from Idaho Code § 42-111, so the term "homes" may now include homes on separately owned parcels. The combined domestic use for Crosby and Vonn could qualify as an exempt use, as long as the combined domestic use on their properties does not exceed 13,000 gallons per day or ½ acre of irrigation. Vonn would be able to irrigate 0.2 acres around her home and divert a volume of water, in combination with Crosby, that does not exceed 13,000 gallons per day. In theory, even more homes could be connected to the Crosby well under an exempt domestic use, without a recorded water right, as long as (1) none of the homes are in a subdivision and (2) the combined domestic use for all of the homes from the Crosby well is less than 13,000 gallons per day and no more than ½ acre is irrigated from the well.

Scenario 4: Moonbeam Subdivision is in Butte County, which is within the Amended Snake River Moratorium area. The twenty lots in Moonbeam Subdivision are supplied water from a common well. Moonbeam Homeowners Association holds a water right license which authorizes the diversion of 0.15 cfs for domestic use at twenty homes. Wilson, who owns a parcel adjacent to Moonbeam Subdivision, but outside of the subdivision, wants to connect a newly constructed home on her property to the Moonbeam community well. Wilson's parcel is not in a subdivision. Wilson proposes to use water for ¼ acre of landscaping. Does Wilson's proposed use require a recorded water right?

Response 4: Even though Wilson's property is within an area with restrictions on ground water development, her property is not in a subdivision, so the in-home restriction set forth in Idaho Code § 42-227(4) would not apply. Idaho Code § 42-111(1)(b)(iii) states that, for purposes of that section, the term "domestic uses" does not

include water for subdivisions, unless the use is limited to in-home use. The water diverted from the Moonbeam Well for Wilson will not be used for a subdivision. Therefore, the restrictions stated in Idaho Code §§ 42-111(1)(b)(iii) and 42-111(3) do not apply to Wilson's use of water from the Moonbeam well. Wilson would be able to divert water for domestic purposes under Idaho Code § 42-111(1)(a)(i), without a water right, up to 13,000 gpd and up to ½ acre of irrigation. Wilson would be the first exempt domestic use diverted from the Moonbeam Well. Therefore, any future exempt domestic uses from the well would be limited to in-home use, consistent with Idaho Code § 42-111(3).

Scenario 5: Starlight Subdivision in Valley County is comprised of thirty 2.0-acre lots. The Department has not imposed any restrictions on ground water development in Valley County. Rodman owns a lot in Starlight Subdivision and proposes to drill an individual domestic well to serve one home on her property and to irrigate ¼ acre around the home. Does Rodman's proposed use require a recorded water right?

Response 5: Idaho Code § 42-111(1)(b)(iii) states that, for purposes of that section, the term "domestic purposes" does not include water for subdivisions, unless the use is limited to in-home use. The water diverted from the Rodman well will not be used for a subdivision. Rather, the water would only be used for one home, the home on Rodman's property. Therefore, the restrictions stated in Idaho Code §§ 42-111(1)(b)(iii) and 42-111(3) do not apply to Rodman's well. Further, because Valley County is not in an area with restrictions on ground water development, the in-home limitation set forth in Idaho Code § 42-227(4) would not apply to Rodman's well. Rodman would be able to divert water for domestic purposes under Idaho Code § 42-111(1)(a)(i), without filing an application for a water right, up to 13,000 gpd and up to ½ acre of irrigation.

Scenario 6: Comet Subdivision in Boundary County is comprised of ten 1.0-acre lots. The Department has not imposed any restrictions on ground water development in Boundary County. Comet Subdivision is supplied with water from a common well. Comet Subdivision's HOA holds a water right license which authorizes the diversion of 0.12 cfs for nine lots and allows up to ½ acre of irrigation per lot. When the water right was originally developed in 2007, Comet Subdivision was made up of only nine lots. Sometime after the water right was licensed, the subdivision was revised and now contains ten lots. There are ten homes connected to the Comet well. Does the additional home connected to the Comet system require a recorded water right? Is the additional home limited to in-home use?

Response 6: This scenario is similar to scenario 4, except that in this scenario the additional home is within the subdivision. Even though the additional lot is in a subdivision, it is not within an area with restrictions on ground water development. Therefore, the in-home limitation set forth in Idaho Code § 42-227(4) would not apply to the additional home. However, under Idaho Code §§ 42-111(1)(b)(iii) and 42-111(3), the domestic exemption does not include water for subdivisions unless the use is limited to in-home use. Therefore, if the owner of the additional home does not use water for outside irrigation, they can continue to divert water from the Comet system under the

domestic exemption without filing an application for a water right. If, however, the owner of the additional home uses water from the Comet system for irrigation, the irrigation use must be authorized by a recorded water right. Because Boundary County does not have any restrictions on ground water development, it may be possible for the lot owner to simply acquire a new water right for in-home domestic and irrigation use.

Scenario 7: Galaxy Subdivision is a recently approved ten-lot subdivision in Franklin County, which is within the Bear River GWMA. The developer proposes to provide water to the lots from a community well. One of the lot owners, McDavid, proposes to irrigate his property from an individual domestic well on his property. McDavid assures the Department that he will not divert more than 2.8 acre-feet per year from the well. Does Galaxy Subdivision need a water right to supply water for in-home use for the ten homes in the subdivision? Does McDavid's proposed use for irrigation around his home require a recorded water right?

Response 7: Pursuant to Idaho Code § 42-111(1)(b)(iii), the term "domestic purposes" may include subdivisions as long as the use is limited to in-home use. Further, Idaho Code § 42-111(3) states multiple domestic exempt uses may be developed from the same well if the use is only for in-home use. Therefore, the developer of Galaxy Subdivision does not need a recorded water right to provide water for in-home use to the ten lots in the subdivision. Each lot owner would develop their own unrecorded, exempt domestic use at the time they connect to the system and begin to use water. McDavid's proposal to divert water for irrigation use from a separate domestic well on his lot without filing for a water right is not consistent with the law. Because McDavid's property is in a subdivision and is within an area with restrictions on ground water development, the only exempt use that can be developed from a well on McDavid's lot is water for in-home domestic use or stockwater. Furthermore, establishing a second exempt domestic water right on McDavid's property would be inconsistent with the Idaho Code § 42-111(2) prohibition on stacking multiple exempt water rights. If McDavid intends to irrigate from a well on his property, he would need to obtain a ground water right for irrigation use prior to diversion.

Scenario 8: Morgan owns a ten-acre parcel in Bear Lake County, which is within the Bear River GWMA. Morgan wants to develop an RV park which will include rows of trees between the RV sites, a shower and laundry facility, and a large common area with irrigated lawn. Morgan cannot afford to purchase and move an existing ground water right, so she proposes to drill a well for domestic purposes under the domestic exemption. Does Morgan's proposed use require a recorded water right?

Response 8: Pursuant to Idaho Code § 42-111(1)(b), the term "domestic purposes" does not include RV parks unless the total use meets the diversion rate and volume limitations set forth in Idaho Code § 42-111(1)(a). That subsection includes multiple volume limitations. Subsection (1)(a)(i) describes a volume limit of 13,000 gallons per day. Subsection (1)(a)(ii) describes a volume limit of 2.8 acre-feet per year. Idaho

Code § 42-111(1)(b) is somewhat ambiguous.[6] It is not clear whether both the 13,000 gpd and the 2.8 acre-feet per year limitations should apply. Section 42-111(1)(b) uses the term "limitations" which suggests that there is more than one limitation. In the absence of clear language to exclude the 13,000 gpd limitation, the Department should apply both volume limitations to the domestic use on Morgan's property. If Morgan intends to divert under the domestic exemption, without a water right, she would be limited to 13,000 gpd and 2.8 acre-feet per year for all uses from the domestic well. If her proposed use exceeds those limits, Morgan must obtain a recorded water right prior to diversion.

Scenario 9: Quasar Subdivision is a thirty-lot subdivision located in the City of Pocatello, which is within the ESPA GWMA. Quasar Subdivision has been fully built out for fifty years. A home has been constructed on every subdivision lot. All homes are supplied with water for inside and outside use from the City of Pocatello municipal system. Sanders owns a lot in Quasar Subdivision and is no longer interested in paying the city water rate for his outdoor uses. Sanders proposes to construct an individual domestic well on his property to water his lawn and trees. Does Sanders' proposed use require a water right?

Response 9: Sanders proposed use would require a water right. Because Sanders property is in a subdivision and within an area with restrictions on ground water development, pursuant to Idaho Code § 42-227(4), the only exempt use from the Sanders well would be in-home domestic use. Any other use, including irrigation, would require a recorded water right prior to diversion.

Scenario 10: Pedri owns a 20-acre tract of land in Bingham County, which is within the Amended Snake River Moratorium area. There is no home on Pedri's land. Pedri proposes to drill a well for stockwater use and intends to irrigate up to ½ acre of pasture grass around the stockwater trough. Does Pedri's proposed use require a recorded water right?

Response 10: Pursuant to Idaho Code § 42-111(1)(a)(i), the phrase "domestic use" includes water for livestock, including irrigation of up to ½ acre of land. Pedri's property is not in a subdivision. Therefore, Pedri may divert water from the well for stockwater and up to ½ acre of irrigation, as long as the total use does not exceed 13,000 gallons per day. If the proposed use exceeds 13,000 gallons per day or ½ acre of irrigation, Pedri must obtain a water right.

Scenario 11: Neptune Subdivision is a twenty-lot subdivision in Twin Falls County, which is within the Amended Snake River Moratorium area. The original developer for Neptune Subdivision intended for each lot owner to drill their own domestic well and develop their own exempt domestic use. Bellingham owns a lot in the subdivision. Because he is aware of the changes to the domestic laws, Bellingham hires a well drilling company to construct a well on his property on June 30, 2025, one day prior to

[6] As noted above, the Department is aware of interest in amending Idaho Code § 42-111(1)(b) to only refer to the volume limit set forth in Idaho Code § 42-111(1)(a)(ii) (2.8 acre-feet per year).

the change in statute. Bellingham does not construct a home on the property until May 2026 and does not use any water from the well until the home is constructed. Bellingham plans on using water from the well for in-home domestic use and to irrigate ¼ acre of landscaping around his home. Does Bellingham's proposed use require a recorded water right?

Response 11: Bellingham's well is in a subdivision and is within an area with restrictions on ground water development. The fact that Bellingham's well was constructed on June 30, 2025, is of no consequence. An exempt domestic use is developed the day the water begins to be beneficially used. Although Bellingham's well was constructed prior to July 1, 2025, his domestic use was not established until May 2026. Pursuant to Idaho Code § 42-227(4), Bellingham may divert water for domestic use from the well without applying for a water right. The exempt domestic use, however, would be limited to in-home use and stockwater. Any diversion of water from the Bellingham well for irrigation would negate the exemption and trigger the requirement to apply for a water right or otherwise obtain a water right.[7]

[7] As noted above, the Department is aware of interest in revising Section 42-227 to allow property owners in subdivisions existing prior to July 1, 2025, to irrigate up to ½ acre in conjunction with their in-home use under the domestic exemption. If the statute is amended, this memo will be updated to reflect the change. Until the laws are changed, Department staff should administer the statute as adopted.

APPENDIX A

DOMESTIC EXEMPTION DECISION TABLE

Application of the domestic exemption after updates to
Idaho Code §§ 42-111 and 42-227, as of July 1, 2025.

DOMESTIC EXEMPTION DECISION TABLE

AFTER JULY 1, 2025

	Shared Well(s) - No			Shared Well(s) - Yes			
Within "Regulated Area"[1]	Not in a Subdivision[2]	Use is within a Subdivision		Not in a Subdivision		Use is within a Subdivision	
	"In-home use" &/or domestic irrigation	In-home use[3] only	Domestic Irrigation[4] included	In-home use only	Domestic Irrigation included	In-home use only	Domestic Irrigation included
No	**Exempt**[5] 42-111(1)(a), 42-227(1)	**Exempt** 42-111(1)(a), 42-227(1)	**Exempt** 42-111(1)(a), 42-227(1)	**Exempt** 42-111(3)	**Permit required** if collective use exceeds ½ acre of irrigation or diversion of more than 13,000 gpd. 42-111(a)(i)	**Exempt** 42-111(1)(b)(iii), 42-111(3)	**Permit Required** 42-111(1)(b)(iii), 42-111(3)
Yes	**Exempt** 42-111(1)(a), 42-227(1)	**Exempt** 42-227(4)	**Permit Required**[6] 42-227(4)	**Exempt** 42-227	**Permit required** if collective use exceeds ½ acre of irrigation or diversion of more than 13,000 gpd. 42-111(a)(i)	**Exempt** 42-227	**Permit Required** 42-111(1)(b)(iii), 42-111(3), 42-227(4)

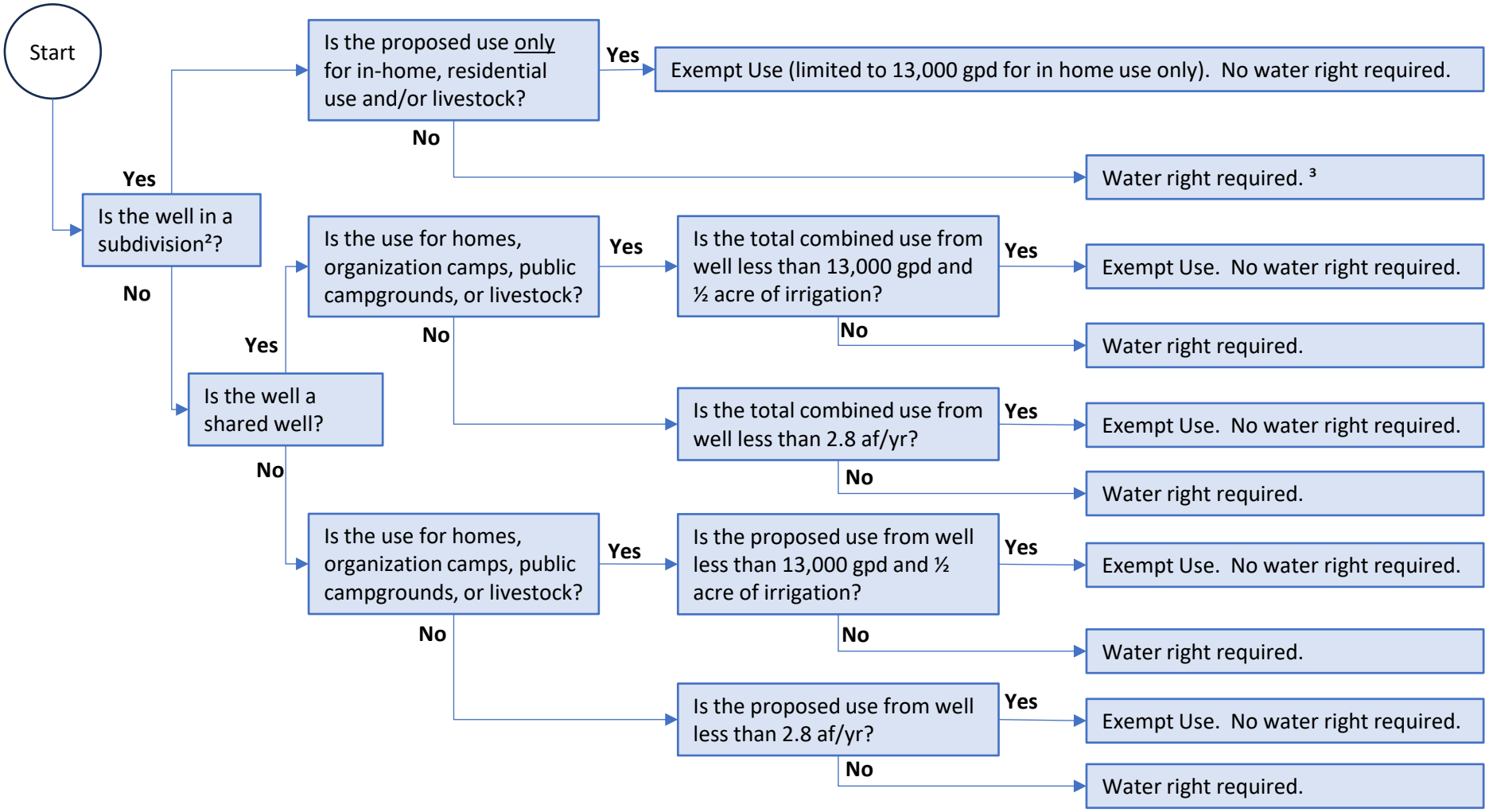
[1] **Regulated Area** - An area where the Director of the Department of Water Resources ("IDWR") has issued a moratorium order on the development of new water rights or has designated a critical ground water area or ground water management area.
[2] **Subdivision** - Idaho Code § 50-1301(18) defines "subdivision" as "[a] tract of land divided into five (5) or more lots, parcels, or sites for the purpose of sale or building development . . . ."
[3] **In-home use** – Pursuant to Idaho Code § 42-111(3) the term "in-home use" means the utilization of water within a residence or house hold, including all activities that require water, such as drinking, cooking, bathing, and cleaning within and around the household. It does not include irrigation of lawns, gardens, landscaping, pastures, or other open spaces.
[4] **Domestic Irrigation** - Total irrigation use does not exceed 1/2 acre. Pursuant to Section 42-111(1)(a)(i), the phrase "domestic use" includes water for livestock, including irrigation of up to ½ acre of land. This means use could include stockwater with up to 1/2 acre of irrigation even if there is no home on the property.
[5] **Exempt** – A water right permit is not required to diver and use water.
[6] **Permit Required** - A water right permit issued by IDWR is required to divert and use water.

APPENDIX B

DOMESTIC EXEMPTION FLOW CHART

Application of the domestic exemption after updates to
Idaho Code §§ 42-111 and 42-227, as of July 1, 2025

Domestic Exemption Flow Chart for Areas Under GW Regulation[1]

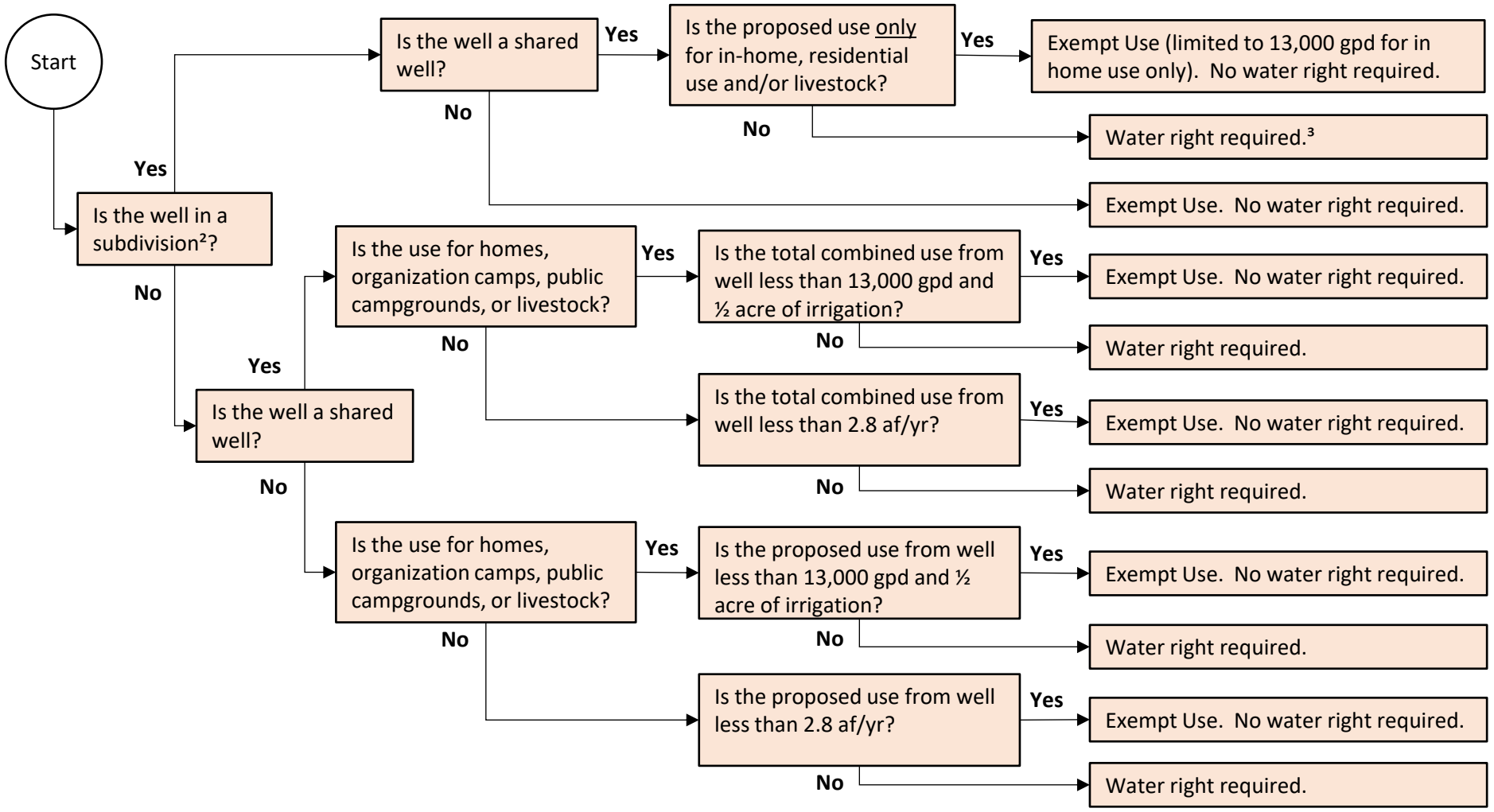


[1] **Areas Under GW Regulation** - An area where the director of the department of water resources has issued a moratorium order on the development of new water rights or has designated a critical ground water area or ground water management area.

[2] **Subdivision** - Idaho Code § 50-1301(18) defines "subdivision" as "[a] tract of land divided into five (5) or more lots, parcels, or sites for the purpose of sale or building development . . . ."

[3] **Water Right Required** - Obtain a new water right or transfer an existing water right. Applications for Permit will require mitigation for new consumptive uses such as irrigation.

Domestic Exemption Flow Chart for Areas **Not** Under GW Regulation[1]



[1] **Areas Under GW Regulation** - An area where the director of the department of water resources has issued a moratorium order on the development of new water rights or has designated a critical ground water area or ground water management area.

[2] **Subdivision** - Idaho Code § 50-1301(18) defines "subdivision" as "[a] tract of land divided into five (5) or more lots, parcels, or sites for the purpose of sale or building development . . . ."

[3] **Water Right Required** - Obtain a new water right or transfer an existing water right. Applications for Permit will require mitigation for new consumptive uses such as irrigation.

Appendix D: Annual Meeting Guidance

D1. State Controller's Office Registry and Townhall Posting Information

D2. Memo from Attorney John Homan to the Department Regarding Voting by Corporations and Other Legal Entities in Water District Elections January 9, 2014

D3. Memo Voting in Water District Elections October 16, 2006

D4. Guidance from Attorney General to the Department Regarding Water District Elections under Idaho Code §42-605 Jan 15, 2001

D5. Roberts Rules of Order

Important Updates Concerning Public Meeting Notices and Government Entity Registration Requirements

Public Meeting Notices – Townhall Idaho

As of April 15, 2022, any meeting held by state executive branch agencies (Water Districts included) must be posted on the Townhall Idaho website (https://townhall.idaho.gov/). This includes meeting notices, agendas, and meeting minutes. The Townhall Idaho posting requirements are additional to those required by Idaho Open Meeting laws.

Water district staff do not have the ability to post documents directly to the Townhall Idaho website. Consequently, water districts must send the required documents to IDWR so IDWR staff can post them to Townhall Idaho. Questions regarding these posting requirements should be directed to your nearest IDWR office or email idwrinfo@idwr.idaho.gov

Local Government Entity Registration

On or before December 1st of each year, water districts must complete the Local Government Registry with the State Controller's office and submit administrative, financial, and audit information. Prior to 2022, water districts completed the required registry through the Legislative Services office.

Please contact the Local Government Registry Team at registry@sco.idaho.gov or 208-334-3100, option 1 with any related questions.

MEMORANDUM

TO: Allen Merritt

FROM: John Homan

RE: Voting by Corporations and other Legal Entities in Water District Elections

DATE: January 9, 2014

I.C. § 42-605 (4) provides that voting in a water district election shall be by majority vote of the water users present unless the voting by dollar amount assessed alternative is requested. I.C. § 42-605 (4) imposes a requirement that water users must be present at the meeting in order to vote. This restriction prevents the water user from absentee voting and voting by proxy whether or not the proxy is enhanced with a "Power of Attorney" or other written authorization. Because corporations and other legal entities own water rights and must be afforded the opportunity to vote at water district elections, I.C. § 42-605 (7) allows the corporation or other legal entity owning the water rights to designate a representative to vote in the water district election. I.C. § 42-605 (7) does not restrict or otherwise limit who corporations may designate as representatives to vote on its behalf at water district elections. Nothing in I.C. § 42-605 prevents different corporations owning water rights from designating the same representative to attend the meeting and cast votes on behalf of multiple corporations or legal entities in the water district election. Nor does there appear to be any prohibition in chapter 6, title 42 of the Idaho Code that prevents the designee of one corporation from acting as the designee for another corporation owning water rights in the same water district election. Unlike proxies for individual water users, I.C. § 42-605 (7) affords corporations and similar legal entities the ability to designate someone to vote on its behalf. Corporations, notwithstanding their legal existence authorized by law, have no other way to initiate the act of voting in a water district election without designating someone to attend the meeting and vote on its behalf.

A person designated by a corporation to vote at a water district election shall provide documentation of the designation prior to voting. In the event a person is designated by more than one corporation to vote at the water district election, the designee shall provide documentation from each corporation establishing the authority to vote. Upon satisfactory review of the documentation establishing the corporate designation, each corporate water user shall be determined to be present at the meeting and its designee shall be entitled to vote in the water district election.

If a voice vote or a vote by a show of hands is not a preferable alternative to conduct the election, a water district may authorize the use of written ballots in elections. In some cases, the use of a written ballot may serve to preserve secrecy or promote clarity and eliminate confusion in the event one person is designated by more than one corporation to vote in the election.

MEMORANDUM

TO: Nick Miller
FROM: John Homan
RE: Voting in Water District Elections under I.C. § 42-605
DATE: October 16, 2006

This Memorandum responds to the questions raised in your correspondence dated September 25, 2006. Phillip J. Rassier, Deputy Attorney General has already answered to a large degree the questions raised herein in a memorandum dated January 15, 2001 and a letter dated November 20, 1992. Attached hereto are copies of both documents. I have reviewed the relevant statutory provisions as well as both documents and concur completely with the interpretation of I.C. § 42-605.

In your first question you ask whether a water right owner could designate another person to vote in a water district election pursuant to a specific power of attorney, which only authorizes the task of voting the water right at the annual meeting. I.C. § 42-605 requires the water users to be present at the meeting and does not allow votes by proxy. The analysis is the same for the second question. There is no special provision that allows a family member to vote a relative's water right at the water district election. However, the language in I.C. § 42-605 (4) does allow a person other than the owner *"having the use for the ensuing season of any water right"* to cast a vote in a water district election. If requested, a lessee or renter could provide a copy of a lease or rental agreement for the ensuing season to the credential committee. A management type employee, family member or any other person may also vote in a water district election provided they have obtained full authority over the use of a water right for the ensuing season. If requested, an employee or family member will need to produce to the credential committee a notarized and recorded power of attorney authorizing full control over the water right for the ensuing season.

Finally, your third question asks who is the appropriate party to cast a vote for a water right owned by a business entity at the water district election. I.C. § 42-605 (7) establishes that a corporation or other type of water delivery organization shall be considered a person for voting purposes and authorizes that entity to designate someone to vote on its behalf at the annual meeting. A corporate resolution or other type of document should be presented to the credential committee indicating an authorized officer or person representing the business entity has designated the person to the cast vote at the annual meeting. The guidance provided herein is based solely on IDWR's interpretation of the statutory provisions and is not an opinion of the Office of the Attorney General.

MEMORANDUM

TO: Allen Merritt, Southern Regional Manager, IDWR
FROM: Phillip J. Rassier, Deputy A.G., IDWR PJR
RE: Water District Elections under I.C. § 42-605
DATE: January 15, 2001

You have requested guidance on the issue of whether a person, through a power of attorney, may be allowed to vote at a water district election on behalf of another person. Section 42-605, Idaho Code, provides in relevant part:

> (4) Voting shall be by majority vote of the water users present at the meeting unless one (1) or more water users requests voting using the procedure which follows in this subsection. In such case the meeting chairman shall appoint a credentials committee to determine the number of votes each water user present is authorized to cast. If requested, each person present, owning or having the use for the ensuing season of any water right in the stream or water supply comprising such water district . . . shall be entitled to a number of votes equal to the average annual dollar amount and any fraction thereof assessed for that person's qualifying water right . . .

In previous correspondence, I have related IDWR's position to be that "a proxy vote should not be allowed in water district elections in the absence of the owner of a water right, except that in the absence of the owner a right may be voted by another person present who has the use of the right for the ensuing irrigation season such as a contract purchaser, tenant, renter or lessor." *See* Letter to Kent W. Foster, dated November 20, 1992.

Your question in essence asks whether the requirement of the statute that a water user be present at the meeting in order to vote may be avoided if the document authorizing a person to vote for another not present at the meeting is characterized as a "power of attorney" as opposed to a "proxy." The answer is that, for purposes of authorizing a person to vote at a water district election, a power of attorney should be treated, in most cases, the same as a proxy. A "power of attorney" is defined as "a legal instrument authorizing one to act as the attorney or agent of the grantor." The term "proxy" is similarly defined as "authority or power to act for another; a power of attorney authorizing a specified person to vote corporate stock." *See* Webster's New Collegiate Dictionary (1977 ed.). Therefore, a power of attorney authorizing another person to cast a vote in one's place is really just another term for a proxy.

There is a circumstance in which a power of attorney would entitle a person to vote for another. That is where the power of attorney extends to the person seeking to vote full authority over the use of the water right for the ensuing irrigation season. Such a power of attorney should be acknowledged before a notary public and filed for record with the county recorder before being accepted as authorization to vote at a water district election.

The guidance provided in this memorandum is based solely upon IDWR's interpretation of the statutory provision and is not an opinion of the Office of the Attorney General.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

November 20, 1992

Kent W. Foster, Esq.
HOLDEN,KIDWELL,HAHN & CRAPO
West One Bank
P.O. Box 50130
Idaho Falls, ID 83405

Dear Kent:

This letter responds to your request of October 27, 1992 asking for my thoughts and comments or reference to prior decision or opinion on several questions relating to voting in water districts under I.C. § 42-605 and § 42-605A. My response to your questions is based solely upon IDWR's interpretation of these statutory provisions and should not be construed to represent an expression of the views of the Office of the Attorney General unless reference is made to a prior Attorney General opinion.

Question 1: How, pending the ultimate court decree in the Snake River Basin Adjudication Proceeding, is it determined, for voting purposes under § 42-605 (and § 42-605A), whether a particular claimed right is sufficiently valid? What criteria is a credentials committee to use?

Response: The list of water rights entitled to be voted under I.C. § 42-605 and § 42-605A is comprised of and limited to those water rights which have previously been "adjudicated or decreed by the court" or are "represented by valid permit or license issued by the department of water resources." I.C. § 42-605.

Question 2: Idaho Code § 42-605(4) speaks of voting by "water users present," "each person present," and "a person present." Section 42-605A(6) has similar language, "each person present," and "a person present." We wonder if this means present either in person or by proxy? In other words, can someone such as a contract purchaser or a tenant, vote, if duly authorized by a written proxy or power of attorney from the owner? Since the language discusses "owning or having the use for the ensuing season" it seems like a contract purchaser or tenant might have been anticipated in the statutory language. It appears clear that a corporation can designate someone on its behalf to cast a vote (§ 42-605(7)).

Response: The Department in the past has advised that a proxy vote should not be allowed in water district elections in the absence of the owner of a water right, except that in the absence of the owner a right may be voted by another person present who has the use of the right for the ensuing irrigation season such as a contract purchaser, tenant, renter or lessor. The Department concurs with your reading of I.C. § 42-605(7) which authorizes a water delivery organization to designate someone to cast a vote on its behalf.

The Department's interpretation rejecting the use of proxies under § 42-605(4) as described above is supported by a comparison of the language in the statute with the language in I.C. § 42-2401(3) which specifically provides for the use of proxies in irrigation or canal company elections for the election of directors and to transact any other business of the corporation. I.C. § 42-2401(3) authorizes those "stockholders who are represented in person or by proxy" to vote at the regular annual meetings of the corporation.

Question 3: If not by written proxy or power of attorney, how does one satisfactorily demonstrate he has "the use for the ensuing season" of a particular right? Is a copy of the sale contract or lease agreement adequate?

Response: A contract, lease agreement or similar written document is considered adequate to demonstrate that a person is entitled to the use of a water right for the ensuing season.

Question 4: What specific documents does a credentials committee consult to determine the list of the rights entitled to vote? For instance, assuming the district officials desire to have a list of valid rights prepared before the annual meeting so that when the people come it is possible to check any claims of "having the use for the ensuing season" against the list of valid rights, how would the Department suggest they go about such preparations?

Response: Idaho Code § 42-606 requires watermasters to make an annual report to the Department prior to the expiration of the watermasters's appointment for the current year. This report is to show the total amount of water delivered by the watermaster during the year, the amount delivered to each water user, the total expense of delivery and the apportionment of expenses among users and all debits and credits to be carried over to the following year. The watermaster report together with a list of the water rights in the district should provide the credentials committee with the information necessary to determine the list of

rights entitled to vote. The Department will made available an updated list of the water rights in the district prior to the annual water district meeting if requested.

Question 5: And, under either § 42-605 or § 42-605A, if the right has not previously been assessed, how does the district go about determining the "dollar amount and any fraction thereof which the right would have been assessed had it existed and been reasonably used when water was available under the priority of the right during the previous season"?

Response: The method of determining the vote to which a right not previously assessed is entitled requires a good faith estimate of the amount of water which would have been delivered under the right had it been used during the previous season. The process for making this estimate requires a review of the water delivery records of the district to determine the number of days that the right would have been allowed to divert water during the previous season given the available water supply and the priority date of the right in question.

Once an estimate of the amount of water that would have been delivered is made it is necessary to multiply this number times the dollar amount per unit of water delivered used to determine water user assessments in the district. The total dollar amount that would have been assessed had the right been delivered in the previous season equals the number of votes that the owner of the right is entitled to cast for that right.

I hope that these responses to your questions are adequate for your needs. Please let me know if I may provide further assistance.

Sincerely,

Phillip J. Rassier

PHILLIP J. RASSIER
Deputy Attorney General
Department of Water Resources

cc: Skip Jones - Eastern Region

ROBERTS RULES CHEAT SHEET

To:	You say:	Interrupt Speaker	Second Needed	Debatable	Amendable	Vote Needed
Adjourn	"I move that we adjourn"	No	Yes	No	No	Majority
Recess	"I move that we recess until…"	No	Yes	No	Yes	Majority
Complain about noise, room temp., etc.	"Point of privilege"	Yes	No	No	No	Chair Decides
Suspend further consideration of something	"I move that we table it"	No	Yes	No	No	Majority
End debate	"I move the previous question"	No	Yes	No	No	2/3
Postpone consideration of something	"I move we postpone this matter until…"	No	Yes	Yes	Yes	Majority
Amend a motion	"I move that this motion be amended by…"	No	Yes	Yes	Yes	Majority
Introduce business (a primary motion)	"I move that…"	No	Yes	Yes	Yes	Majority

The above listed motions and points are listed in established order of precedence. When any one of them is pending, you may not introduce another that is listed below, but you may introduce another that is listed above it.

To:	You say:	Interrupt Speaker	Second Needed	Debatable	Amendable	Vote Needed
Object to procedure or personal affront	"Point of order"	Yes	No	No	No	Chair decides
Request information	"Point of information"	Yes	No	No	No	None
Ask for vote by actual count to verify voice vote	"I call for a division of the house"	Must be done before new motion	No	No	No	None unless someone objects
Object to considering some undiplomatic or improper matter	"I object to consideration of this question"	Yes	No	No	No	2/3
Take up matter previously tabled	"I move we take from the table…"	Yes	Yes	No	No	Majority
Reconsider something already disposed of	"I move we now (or later) reconsider our action relative to…"	Yes	Yes	Only if original motion was debatable	No	Majority
Consider something out of its scheduled order	"I move we suspend the rules and consider…"	No	Yes	No	No	2/3
Vote on a ruling by the Chair	"I appeal the Chair's decision"	Yes	Yes	Yes	No	Majority

The motions, points and proposals listed above have no established order of preference; any of them may be introduced at any time except when meeting is considering one of the top three matters listed from the first chart (Motion to Adjourn, Recess or Point of Privilege).

PROCEDURE FOR HANDLING A MAIN MOTION

NOTE: Nothing goes to discussion without a motion being on the floor.

Obtaining and assigning the floor

A member raises hand when no one else has the floor

- The chair recognizes the member by name

How the Motion is Brought Before the Assembly

- The member makes the motion: *I move that (or "to")* ... and resumes his seat.
- Another member seconds the motion: *I second the motion* or *I second it* or *second.*
- The chair states the motion: *It is moved and seconded that ... Are you ready for the question?*

Consideration of the Motion

1. Members can debate the motion.
2. Before speaking in debate, members obtain the floor.
3. The maker of the motion has first right to the floor if he claims it properly
4. Debate must be confined to the merits of the motion.
5. Debate can be closed only by order of the assembly (2/3 vote) or by the chair if no one seeks the floor for further debate.

The chair puts the motion to a vote

1. The chair asks: *Are you ready for the question?* If no one rises to claim the floor, the chair proceeds to take the vote.
2. The chair says: *The question is on the adoption of the motion that ... As many as are in favor, say 'Aye'.* (Pause for response.) *Those opposed, say 'Nay'.* (Pause for response.) *Those abstained please say 'Aye'.*

The chair announces the result of the vote.

1. *The ayes have it, the motion carries, and* ... (indicating the effect of the vote) or
2. *The nays have it and the motion fails*

WHEN DEBATING YOUR MOTIONS

1. Listen to the other side
2. Focus on issues, not personalities
3. Avoid questioning motives
4. Be polite

HOW TO ACCOMPLISH WHAT YOU WANT TO DO IN MEETINGS

MAIN MOTION

You want to propose a new idea or action for the group.

- After recognition, make a main motion.
- Member: "Madame Chairman, I move that _____."

AMENDING A MOTION

You want to change some of the wording that is being discussed.

- After recognition, "Madame Chairman, I move that the motion be amended by adding the following words _____."
- After recognition, "Madame Chairman, I move that the motion be amended by striking out the following words _____."
- After recognition, "Madame Chairman, I move that the motion be amended by striking out the following words, _____, and adding in their place the following words _____."

REFER TO A COMMITTEE

You feel that an idea or proposal being discussed needs more study and investigation.

- After recognition, "Madame Chairman, I move that the question be referred to a committee made up of members Smith, Jones and Brown."

POSTPONE DEFINITELY

You want the membership to have more time to consider the question under discussion and you want to postpone it to a definite time or day, and have it come up for further consideration.

- After recognition, "Madame Chairman, I move to postpone the question until _____."

PREVIOUS QUESTION

You think discussion has gone on for too long and you want to stop discussion and vote.

- After recognition, "Madam President, I move the previous question."

LIMIT DEBATE

You think discussion is getting long, but you want to give a reasonable length of time for consideration of the question.

- After recognition, "Madam President, I move to limit discussion to two minutes per speaker."

COMMITTEE OF THE WHOLE

You are going to propose a question that is likely to be controversial and you feel that some of the members will try to kill it by various maneuvers. Also you want to keep out visitors and the press.

- After recognition, "Madame Chairman, I move that we go into a committee of the whole."

POINT OF ORDER

It is obvious that the meeting is not following proper rules.

- Without recognition, "I rise to a point of order," or "Point of order."

POINT OF INFORMATION

You are wondering about some of the facts under discussion, such as the balance in the treasury when expenditures are being discussed.

- Without recognition, "Point of information."

POINT OF PARLIAMENTARY INQUIRY

You are confused about some of the parliamentary rules.

- Without recognition, "Point of parliamentary inquiry."

APPEAL FROM THE DECISION OF THE CHAIR

Without recognition, "I appeal from the decision of the chair."

Rule Classification and Requirements

Class of Rule	Requirements to Adopt	Requirements to Suspend
Charter	Adopted by majority vote or as proved by law or governing authority	Cannot be suspended
Bylaws	Adopted by membership	Cannot be suspended
Special Rules of Order	Previous notice & 2/3 vote, or a majority of entire membership	2/3 Vote
Standing Rules	Majority vote	Can be suspended for session by majority vote during a meeting
Modified Roberts Rules of Order	Adopted in bylaws	2/3 vote

Appendix E: Watermaster Annual Documents

E1. Example of Agenda and Meeting Minutes

E2. Watermaster Report Template

E3. Example of Watermaster Report

E4. Watermaster Budget Template

E5. Example of Approved Resolutions and Budget

Notice of Meeting and Agenda

Water District 02 Annual Meeting

Tuesday January 14th, 2025, 1:00pm
Glenns Ferry Idaho, City Hall
110 E 2nd Ave

Rob Whitney
Watermaster

Jes Erling
Assistant Watermaster

Chris Alzola
Treasurer

Advisory Committee

Mark Frost
Chairman

Jeff Blanksma
Vice-Chairman

Kresta Davis

Vic Conrad

Billy Wolfe

Rusty Lynn Johnson

Casey Martinez

Nate Jones

Justin Wootan

Action Items

1. Call meeting to order
   - Select meeting chairman and secretary
   - Review and approve minutes from January 09, 2024, meeting
2. Financial report - Treasurer
3. 2024 water diversion summary
4. Review proposed resolutions and budget - Watermaster
   - Elect watermaster
   - Elect treasurer
   - Elect advisory committee
   - Adopt resolutions and budget

Discussion Items

5. Other discussion (non-action items only)
6. Adjourn meeting (Chairman)

This facility is ADA accessible. If you require special accommodations to attend, participate in, or understand the meeting, please contact Kensie Thorneycroft at kensie.thorneycroft@idwr.idaho.gov or (208) 287-4958 at least 72-hours prior to the meeting.

Water District No. 02
Annual Meeting Minutes
January 14, 2025

Water District No. 02 annual meeting was held at the Glenns Ferry City Hall, 110 E 2nd Ave., Glenns Ferry, Idaho on Tuesday January 14, 2025 at 1:00 PM. Refer to attached Roster of Attendance sheet for attendees.

Chairman Mark Frost called annual meeting to order at 1:04 PM.

Motion by Jeff Blanksma, seconded by Justin Wootan to appoint Mark Frost chairman for 2025 meeting. Vote taken, all in favor, none opposed, motion passed.

Motion by Vic Conrad, seconded by Kresta Davis to appoint Chris Alzola secretary for 2025 meeting. Vote taken, all in favor, none opposed, motion passed.

Motion by Justin Wootan, seconded by Lynn "Rusty" Johnson to approve January 9, 2024 annual meeting minutes as written. Vote taken, all in favor, none opposed, motion passed.

Treasurer Chris Alzola provided financial information. Motion by Vic Conrad, seconded by Lynn "Rusty" Johnson to approve financial reports. Vote taken all in favor, none opposed, motion passed.

IDWR, Kellie Smith explained the 2024 water diversion was 501,171 acre feet diverted, year before was 495,660 acre feet. Kellie said the cost factor /acre foot this year will be .136505. Kellie said there is 112 minimum users and she didn't have any major issues for the year. Kellie provided minimum stream flow spreadsheet. She said on March 11th was at minimum stream flow. Kellie said Steve Visosky has Rob Whitney's position at IDWR.

IDWR, Jess Erling talked about flow meters and telemetry sites. He has one flow meter that still needs to be fixed, it will be fixed before spring. Jes said all telemetry sites are working. He said he is sending in eight radios to get repaired. He said repair cost is around $175. compared to new $800. Jes said he has around 60 telemetry batteries stored at IDWR. Jes said he spent 48 days in the field for 453 hours and traveled 11,053 miles for Water District 02. Jes said modems might start having problems. Kellie said she doesn't see any problems coming up in the future.

Discussion regarding 2025 Proposed Resolution and Budget. Discussion about Watermaster services. Kellie Smith said she hasn't changed positions. Mark Frost said we need more information to have discussion about replacement of Watermaster in the future. Kellie said she is working on job description and who's responsible for what. Justin Wootan said when that information is available the Advisory Committee needs to have a meeting to discuss what is really necessary from Water District 02 and Watermaster. Justin Wootan thinks some of the information that is provided is not necessary for Water District 02 Watermaster to provide. Justin Wootan said he likes and uses the information that is available just doesn't think it's the responsibility of Water District 02's Watermaster. Kellie Smith said you need to look at Order to see what Water District 02 is responsible for, She said Water District 2 has to make water calls. Mark Frost said he has the Water District Operations Manual Part II: Water District Administrative Processes that the Advisory Committee will need to review. Mark Frost said this is a process that we need to figure out within 2 to 5 years. Skyler Cheerer from IDWR was introduced. Discussion about what other Water Districts pay their Watermaster compared to cfs use. Justin Wootan made motion to approve IDWR to provide Watermaster services and appoint Kellie Smith from IDWR as the Watermaster, motion second by Vic Conrad. Motion passed
Bethany Johns made motion to elect Chris Alzola as Treasurer, second by Lynn " Rusty" Johnson. Motion passed.
Discussion regarding Lynn "Rusty" Johnson wanting to be replaced by Bret Andersen on the Advisory Committee. Vic Conrad made motion to appoint the same Advisory Committee as last year except replacing Lynn "Rusty" Johnson position with Bret Andersen and to reelect Mark Frost as Chairman and Jeff Blanksma as Vice Chairman, second by Bethany Johns. Motion passed
Advisory Committee:
Mark Frost – Chairman
Jeff Blanksma – Vice Chairman
Vic Conrad
Kresta Davis
Billy Wolfe
Bret Andersen
Casey Martnez
Nate Jones
Justin Wootan

Motion made by Bethany Johns to approve the 2025 Proposed Resolution and Budget in the amount of $144,467.29 as presented except removing Lynn "Rusty" Johnson from Advisory Committee and adding Bret Andersen. Motion was seconded by Justin Wootan. Vote taken all in favor, none opposed, motion passed.

Kellie Smith said there is 127,097 acres in Water District 2.

Justin Wootan made motion to adjourn. Seconded by Bret Andersen. Vote taken, all in favor, none opposed, motion passed. Meeting adjourned at 2:10 PM.

Chris Alzola

Chris Alzola, Secretary/Treasurer
Page 2

Water Dist 2 - annual meeting

Jan. 14th

1:00 Glenns Ferry City Hall

NAME	ADDRESS	REPRESENTING
Bret Andersen	901 South River Rd. Heyburn Id. 83336	
John P. Anderson	9779 W Ospreyst Hammett Id 83627	
Steve Mulberry	1662 S Thacker Rd. Hammett ID 83627	
John Solosabal	3140 W Stick Ranch Rd. Glenns Ferry 83623	
Derrick Lee	4540 N Columbine St Boise, Id 83713	
Skyler cheever	IDWR	IDWR
Jes Erling	IDWR	IDWR
Kellie Smith	IDWR	IDWR
Lynn Johnson	~~[illegible]~~ RES1026@hotmail.com	FAC
Vic Conrad	1099 W. Front Street, Boise	J.R. Simplot Company
Catherine Elias	52512 Hwy 78 83627	Hammett Livestock Co.
Krista Davis	1221 W Idaho Boise 83702	Idaho Power
Mark Frost	27270 River Rd Bruneau 83604	G.V.I.D.
Bethany		
Jeff Blanksma		
Justin Wootan		

WATERMASTER'S ANNUAL REPORT

From: _____, 20_____ **To:** _____, 20_____

Water District No. _____

Water District Name: _____

Name of Watermaster: _____

Mailing Address: _____

AFFIDAVIT OF WATERMASTER

As the appointed watermaster of water district no. _____, I hereby certify that the information contained in this report is true and correct to the best of my knowledge.

_____

Watermaster signature *Date*

Pursuant to Section 42-606 Idaho Code, this Watermaster's Annual Report shall be filed prior to the end of the watermaster's appointment for the current year, and kept in the office of the Idaho Department of Water Resources (IDWR). The Watermaster's Daily Diversion Records should be attached to this report if those records are not submitted electronically to IDWR.

	WATER RIGHT OWNER	IDWR WATER RIGHT NO (S)	DIVERSION NAME / REMARKS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
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26			
27			
28			
29			
30			

YEAR			1	2	3	4	5
Total 24-Hour Sec Feet Delivered			Total Delivery to water user 24-Hr Sec Ft	Water User Total Cost	*See instruction no. 3, page 4* Initial Assessment	Credits	Debits
Total Days Watermaster		1					
days at $ /day	$	2					
Total Days Asst.Watermaster		3					
days at $ /day	$	4					
Other expenses charged pro rata	$	5					
TOTAL COST	**$**	6					
Cost per 24-Hour Sec Ft Delivered	$	7					
		8					
Notes and Calculations:		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
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		18					
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		28					
		29					
		30					

SECTION 42-606 IDAHO CODE

REPORTS OF WATERMASTERS. All watermasters shall make an annual report to the department of water resources prior to the expiration of the watermaster's appointment for the current year. This report shall show the total amount of water delivered by the watermaster during the preceding year, the volume delivered to each water user, the total expense of delivery and the apportionment of expenses among users and all debits and credits to be carried over to the following year. Such report shall also include the number of days the watermaster and watermaster assistants have devoted to the distribution of such water and any records of stream flow the watermaster used or made in the process of distributing water supplies. The director may ask for other information deemed necessary in assuring proper distribution of water supplies within the district. The reports of watermasters to the department of water resources shall be filed and kept in the office of the department.

Instructions for Completing Annual Watermaster's Report

This form has been developed to assist the watermaster in complying with some of the annual reporting requirements of Section 42-606, Idaho Code. The form provides for summary of the amount of water delivered by the watermaster to each user, the total expense of delivery and the apportionment of expenses among water users, including debits and credits. Water distribution and hydrologic information including stream flow records, daily diversion data, water right information and water right priority cut summaries should be presented in a separate water distribution report.

Complete this annual report form of delivery and costs as follows:

1) Enter water right holder name, corresponding IDWR water right number or numbers, and corresponding diversion name and/or remarks on page 2;

2) Enter the total amount of water delivered to each user as total 24-hour second feet under column 1, page 3. Total 24-hour second feet is a flow rate expressed in terms of one day or 24 hours. For example, a continuous diversion of 2 cfs over 20 days would equal 40 24-hour second feet.

3) In the work space provided on the left hand side of page 3, add up total watermaster salary costs and expenses and enter as 'TOTAL COST'. Then divide this total cost by the total number of 24-hour second feet delivered (sum of column 1) to obtain the cost per 24 hour second feet delivered, or the unit cost factor.

4) Under column 2, page 3, multiply the unit cost factor (obtained in step number 3 above) by each user's total 24-hour second feet delivery in column 1 to obtain the total cost against each user for the current season.

5) Under column 3, page 3, enter the amount of money assessed or billed to each user at the beginning of the year. The assessment may be found in the previous year's adopted budget report. **If the district has adopted a resolution pursuant to I.C 42-612 that amounts shown in the adopted budget constitute a final amount due in the coming year, columns 3, 4 and 5 will not be used. Skip to Step 7.**

6) For each user, subtract the total cost amount in column 2 from the adopted budget in column 3 and enter the difference either as a credit or debit (negative differences entered as debits, positive differences entered as credits).

7) Sign and date the report and submit the original to the appropriate regional office of the Department of Water Resources. Retain one copy for the Water District.

Water District 02

2024

WATERMASTER'S ANNUAL REPORT

From: January 10, 2024

To: January 13, 2025

Water District Name: Snake River from Milner to Murphy

Name of Watermaster: Kellie Smith

Mailing Address: 322 East Front Street, Boise, Idaho 83720

AFFIDAVIT OF WATERMASTER

As the appointed watermaster of Water District 02, I hereby certify that the information contained in this report is true and correct to the best of my knowledge.

Kellie Smith 2/13/2025

Watermaster signature *Date*

Adopted Expenses Budget and Assessments Fiscal Year 2026

Expenses	
Watermaster Services (IDWR)	$93,000.00
Financial Review	$0.00
Treasurer	$4,500.00
Telemetry Network O & M	$7,000.00
Verizon Wireless (Cellular Data Plans)	$1,600.00
Cash Reserve	$38,367.29
Total Expenses	**$144,467.29**

Distribution of FY 2026 Budget	
Total Adopted Budget	$144,467.29
Cash Reserve	($38,367.29)
Total to Collect by Assessment	**$106,100.00**

Distribution of FY 2026 Assessment Collection	
Total Assessment to Collect	$106,100.00
IPCO (15%)	$15,915.00
IWRB (15%)	$15,915.00
Remainder to Collect	$74,270.00
Number of Minimum Assessments	112
Total Collected Minimum Charge	$5,600.00
Remainder After Minimum	$68,670.00
Cost per Acre-Foot ($/AF)	$0.136505
Total Collected by Volume Charge	$68,670.00
Total Volume Attributed to Minimum Users (AF)	3,142.38
Total Volume Delivered (AF)	501,171.67

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
IDAHO POWER CO (Non-Irrigation) 15%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$15,915.00
STATE OF IDAHO (IWRB) 15%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$15,915.00
AGENBROAD, DARREL L	2,254.07	2,254.07	2,480.37	2,480.37	2,263.83	2,263.83	2,246.76	2,246.76	2,170.23	2,170.23	2,283.05	$311.65
ALFREDSON, PETER J AND WENDY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
ALLEY, DOROTHY; ALLEY, FRANK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
ANCHUSTEGUI, JOHN	731.40	731.40	746.68	746.68	867.45	867.45	722.15	722.15	697.55	697.55	753.05	$102.80
ANDERSON FAMILY TRUST 61-2152 and Rental	829.45	829.45	785.58	785.58	773.62	773.62	707.97	707.97	942.00	942.00	807.72	$110.26
ANDERSON, DOROTHY; ANDERSON, JOHN	7.24	7.24	6.86	6.86	6.17	6.17	6.24	6.24	7.44	7.44	6.79	$50.00
ANDREWS, BILLY ANDREWS JUDY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.01	$50.00
ASTLE, KIM	1,697.66	1,697.66	1,868.10	1,868.10	1,705.01	1,705.01	1,613.65	1,613.65	1,634.51	1,634.51	1,703.79	$232.58
ASTLE, LAYNE H	2,384.03	2,384.03	2,623.39	2,623.39	2,394.36	2,394.36	2,266.06	2,266.06	2,295.35	2,295.35	2,392.64	$326.61
BACHMAN, CINDY L; BACHMAN, FRANK L	627.70	627.70	627.70	627.70	627.70	627.70	627.70	627.70	605.69	605.69	623.30	$85.08
BECKLEY, BRIAN AND TRACI	0.00	0.00	0.00	0.00	16.95	16.95	17.16	17.16	20.47	20.47	10.92	$50.00
BENNETT, LORI; BENNETT, SCOTT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
BILLINGSLY BAY FARM LLC	58.80	58.80	34.51	34.51	33.94	33.94	58.80	58.80	58.80	58.80	48.97	$50.00
BLACK MESA FARMS LLC; BRYANT, BRENDA; BRYANT, DON J; WOOTAN, CHRISTINE W; WOOTAN, WESLEY R	2,654.08	2,654.08	3,368.11	3,368.11	3,051.07	3,051.07	2,688.40	2,688.40	2,288.78	2,288.78	2,810.09	$383.59
BLANKSMA LAND & STORAGE LLC	2,750.70	-	2,351.86	-	2,505.00	-	1,936.75	-	2,505.00	-	-	-
BLANKSMA LAND & STORAGE LLC	2,314.75	5,065.45	2,754.00	5,105.86	2,754.00	5,259.00	2,754.00	4,690.75	2,299.51	4,804.51	4,985.11	$680.49
BLEDSOE, BOBBY WAYNE	1,413.20	1,413.20	1,542.83	1,542.83	1,706.40	1,706.40	1,747.43	1,747.43	1,761.03	1,761.03	1,634.18	$223.07
BOECKNER, JEREMY D; BOECKNER, KARLITA	909.75	909.75	1,001.09	1,001.09	913.69	913.69	864.73	864.73	875.91	875.91	913.03	$124.63
BOIES, O STEVEN; BOIES, ROBIN L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
BROWN, GARDNER I; BROWN, MELANIE E	89.28	89.28	89.72	89.72	82.21	82.21	72.91	72.91	81.93	81.93	83.21	$50.00
BROWN, MERRILL J; BROWN, SANDRA J	291.19	291.19	222.48	222.48	208.97	208.97	243.93	243.93	316.33	316.33	256.58	$50.00
BRUNEAU GRAND VIEW JOINT SCHOOL DISTRICT #365	64.98	64.98	71.51	71.51	65.26	65.26	61.77	61.77	62.24	62.24	65.15	$50.00
BRUNEAU LANDS	2,301.12	2,301.12	3,018.75	3,018.75	2,369.53	2,369.53	2,590.20	2,590.20	2,364.46	2,364.46	2,528.81	$345.20
CALDWELL, CHERYL; CALDWELL, RICH	9.05	9.05	8.58	8.58	7.71	7.71	7.80	7.80	9.30	9.30	8.49	$50.00
CANTRELL, SANDY; CANTRELL, TED	477.00	477.00	486.96	486.96	565.73	565.73	470.97	470.97	454.93	454.93	491.12	$67.04
CANYON BEND RANCH LTD; LEAVELL, ALONZO B; NEATHERLIN FAMILY LTD PARTNERSHIP II	436.00	436.00	569.29	569.29	517.62	517.62	496.26	496.26	589.94	589.94	521.82	$71.23
CARNAHAN, DONALD R; CARNAHAN, DONNA L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
CASA DEL NORTE LP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
CAVEN PROPERTIES LLC	488.51	488.51	528.34	528.34	448.27	448.27	518.69	518.69	536.91	536.91	504.14	$68.82
CISCO, BARBARA J; CISCO, RALPH C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
CITY OF BOISE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
CITY OF GLENNS FERRY	176.48	176.48	190.46	190.46	194.93	194.93	0.00	0.00	186.92	186.92	149.76	$50.00
CLONINGER, LOREN; ROBERT W SILACCI & RUSTI LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
CLOVER HOLLOW CO LLC	12,408.00	12,408.00	10,248.30	10,248.30	9,409.60	9,409.60	12,408.00	12,408.00	13,066.33	13,066.33	11,508.05	$1,570.91
COLLETT, MAGGIE; COLLETT, STEVEN M	0.00	0.00	52.80	52.80	52.80	52.80	0.00	0.00	0.00	0.00	21.12	$50.00
COLYER HEREFORDS INC	1,449.10	1,449.10	1,374.03	1,374.03	1,492.72	1,492.72	1,370.97	1,370.97	1,495.32	1,495.32	1,436.43	$196.08
CRANE FALLS ACRES LLC	2,790.13	2,790.13	2,946.74	2,946.74	2,733.34	2,733.34	2,748.88	2,748.88	3,106.99	3,106.99	2,865.22	$391.12
CT INDIAN COVE LLC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	265.86	265.86	53.17	$50.00
DANIEL E & RUTH B WICHER FAMILY TRUST	16.15	16.15	5.27	5.27	8.81	8.81	0.01	0.01	0.74	0.74	6.20	$50.00
DANSKIN CATTLE LLC	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
DARLINGTON, W KELLY	230.55	230.55	235.37	235.37	273.44	273.44	227.63	227.63	219.88	219.88	237.37	$50.00

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
DAVIS CATTLE CO INC; HOWARD, PAMELA; HOWARD, ROBERT N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
DERUYTER PROPERTIES LP	5,368.86	5,368.86	5,105.01	5,105.01	5,250.34	5,250.34	4,685.85	4,685.85	4,822.41	4,822.41	5,046.49	$688.87
DIRKS, MECHELLE; DIRKS, ROBERT G	1,588.00	1,588.00	576.52	576.52	526.19	526.19	995.99	995.99	501.80	501.80	837.70	$114.35
DIRKS, MICHELLE; DIRKS, KENTON G	1,047.84	1,047.84	1,153.04	1,153.04	1,052.38	1,052.38	497.99	497.99	1,008.86	1,008.86	952.02	$129.96
DRAPER, BONNI C; DRAPER, C ROBERT	7.95	7.95	8.12	8.12	9.43	9.43	7.85	7.85	7.58	7.58	8.19	$50.00
DUFFIN, DORIAN; VADER, SUSANNE	39.83	39.83	37.74	37.74	0.00	0.00	0.00	0.00	0.00	0.00	15.52	$50.00
DUKE, BARBARA J; DUKE, WARREN F	0.00	0.00	0.00	0.00	0.00	0.00	9.60	9.60	8.82	8.82	3.68	$50.00
EAGLE CREEK NORTHWEST LLC	2,449.80	2,449.80	2,343.67	2,343.67	2,188.63	2,188.63	2,089.68	2,089.68	2,225.03	2,225.03	2,259.36	$308.41
EDGEWATER RANCH LLC	623.44	623.44	814.03	814.03	740.15	740.15	709.61	709.61	843.57	843.57	746.16	$101.85
ESTATE OF MARGARET A LE MOYNE; LE MOYNE, JOHN R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
FARM DEVELOPMENT CORP	1,047.18	1,047.18	1,099.66	1,099.66	2,994.51	2,994.51	3,558.00	3,558.00	3,075.84	3,075.84	2,355.04	$321.48
FARM HOLDINGS LLC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
FIELD, HOWARD J	3,195.92	3,195.92	3,262.66	3,262.66	3,790.38	3,790.38	3,155.49	3,155.49	3,048.01	3,048.01	3,290.49	$449.17
FIELD, J TERRY	2,055.06	2,055.06	2,200.44	2,200.44	2,084.35	2,084.35	3951.89	3,951.89	1,978.62	1,978.62	2,454.07	$334.99
FITZGERALD, JOHN O; STOVER, KELLY J; STOVER, TIMOTHY J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
FLOPET INC	2,446.81	2,446.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	489.36	$66.80
FLYING H FARMS PARTNERSHIP	1,912.77	1,912.77	2,067.80	2,067.80	2,028.63	2,028.63	2,072.58	2,072.58	2,341.96	2,341.96	2,084.75	$284.58
FRANK TIEGS LLC	4,014.00	-	3,557.17	-	2,886.93	-	3,074.43	-	3,324.86	-	-	-
FRANK TIEGS LLC (Indian Hills)	1,185.92	5,199.92	8,620.80	12,177.97	6,267.86	9,154.79	8,620.80	11,695.23	7,131.75	10,456.61	9,736.90	$1,329.14
GALLOWAY, KELLY; STANDS, BRADY; STANDS, DUAN	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
GARDNER, AMY; GARDNER, CHRISTOPHER	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
GGC ENTERPRISES LLC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
GINGERICH BROTHERS FARMS	1,539.16	-	1,625.55	-	1,490.72	-	1,499.19	-	1,694.50	-	-	-
GINGERICH BROTHERS FARMS	3,883.38	5,422.53	3,934.18	5,559.73	3,809.19	5,299.91	3,717.14	5,216.33	3,755.21	5,449.71	5,389.64	$735.71
GLERUM, HAROLD A; GLERUM, LUCY B	175.11	175.11	261.84	261.84	155.45	155.45	175.77	175.77	195.54	195.54	192.74	$50.00
GLOBAL AG PROPERTIES	3,722.60	-	3,770.44	-	3,620.55	-	3,856.03	-	3,694.46	-	-	-
GLOBAL AG PROPERTIES	3,600.57	-	4,006.67	-	3,564.40	-	3,312.00	-	3,312.00	-	-	-
GLOBAL AG PROPERTIES	1,819.78	-	2,265.06	-	1,891.51	-	1,766.86	-	1,731.66	-	-	-
GLOBAL AG PROPERTIES	28,283.52	37,426.47	32,331.05	42,373.22	22,496.49	31,572.95	32,274.00	41,208.89	27,900.41	36,638.53	37,844.01	$5,165.91
GOULD, GINA; GOULD, TODD	89.12	89.12	52.06	52.06	28.53	28.53	28.53	28.53	28.53	28.53	45.36	$50.00
GRAND VIEW IRRIGATION DISTRICT	69,977.88	69,977.88	64,463.75	64,463.75	71,207.65	71,207.65	60,695.10	60,695.10	61,488.50	61,488.50	65,566.58	$8,950.19
GRANDVIEW MUTUAL CANAL CO	23,166.41	23,166.41	23,650.24	23,650.24	27,475.57	27,475.57	22,873.39	22,873.39	22,094.28	22,094.28	23,851.98	$3,255.92
GREEN, MARKUS	198.67	198.67	129.95	129.95	174.00	174.00	214.00	214.00	194.63	194.63	182.25	$50.00
HAGERMAN WINGS FARM LLC	8.91	8.91	1.73	1.73	8.14	8.14	6.96	6.96	7.24	7.24	6.60	$50.00
HALL, HELEN G	24.22	24.22	7.91	7.91	13.22	13.22	0.02	0.02	1.05	1.05	9.28	$50.00
HALL, ROBERT K	207.56	207.56	201.99	201.99	168.84	168.84	132.31	132.31	159.89	159.89	174.12	$50.00
HAMILTON, NEVA ANN	225.37	225.37	210.00	210.00	210.00	210.00	197.73	197.73	227.50	227.50	214.12	$50.00
HAMMETT PUBLIC PARK	35.49	35.49	33.62	33.62	0.00	0.00	0.00	0.00	0.00	0.00	13.82	$50.00
HAMMOND, LARRY C; HAMMOND, TERESA R	0.00	0.00	0.00	0.00	0.00	0.00	4.50	4.50	0.78	0.78	1.06	$50.00
HARPER, JACKIE; HARPER, JEFF C	4,874.95	4,874.95	1,847.11	1,847.11	1,812.11	1,812.11	1,851.38	1,851.38	2,092.01	2,092.01	2,495.51	$340.65
HATCHETT, CHRISTIAN, LAIB, CHRISTOPHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
HILT, DARYL; HILT, ELAINE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
HOOLEY, DALE W	315.24	-	386.68	-	332.47	-	314.09	-	302.47	-	-	-
HOOLEY, DALE W	501.65	-	439.32	-	1,849.81	-	1,769.35	-	2,232.97	-	-	-
HOOLEY, DALE; HOOLEY, DIANA	1,470.89	2,287.78	1,737.02	2,563.02	423.00	2,605.28	485.20	2,568.64	423.00	2,958.44	2,596.63	$354.45
HOWARTH, CHARLES H	657.28	657.28	674.60	674.60	638.65	638.65	642.71	642.71	465.25	465.25	615.70	$84.05

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
IDAHO POWER CO	34.74	-	43.86	-	30.83	-	36.90	-	39.25	-	-	-
IDAHO POWER CO	79.60	-	79.60	-	15.00	-	35.30	-	37.92	-	-	-
IDAHO POWER CO	21.64	-	20.43	-	79.60	-	76.05	-	63.55	-	-	-
IDAHO POWER CO	26.68	-	27.41	-	21.99	-	22.01	-	0.00	-	-	-
IDAHO POWER CO	37.70	-	44.85	-	24.35	-	30.21	-	21.32	-	-	-
IDAHO POWER CO	10.59	-	10.25	-	10.91	-	37.93	-	24.27	-	-	-
IDAHO POWER CO	32.70	-	17.54	-	34.29	-	17.26	-	31.22	-	-	-
IDAHO POWER CO (Black Mesa Farms POD)	0.00	-	0.00	-	0.00	-	0.00	-	19.69	-	-	-
IDAHO POWER CO (Dolman Rapid Weir)	0.00	243.66	0.00	243.94	42.27	259.25	77.44	333.10	76.35	313.57	278.70	$50.00
IHLI, LINDA M; IHLI, MICHAEL B	0.00	0.00	0.00	0.00	0.00	0.00	22.87	22.87	122.42	122.42	29.06	$50.00
INDIAN COVE IRRIGATION DISTRICT	4,420.08	4,420.08	4,966.01	4,966.01	4,742.74	4,742.74	4,893.44	4,893.44	5,021.28	5,021.28	4,808.71	$656.41
IRREVOCABLE TRUST OF RYAN L MC CARTHY	161.46	161.46	212.78	212.78	210.04	210.04	239.95	239.95	244.57	244.57	213.76	$50.00
ISAAC, ANDREW	89.12	89.12	52.12	52.12	28.53	28.53	28.53	28.53	28.53	28.53	45.37	$50.00
ISAAC, KIMBERLY J; ISAAC, STANLEY J	284.30	284.30	312.84	312.84	285.53	285.53	270.23	270.23	273.72	273.72	285.32	$50.00
ISAAC, LAMAR T; ISAAC, MARCIA D	40.61	40.61	44.69	44.69	40.79	40.79	38.60	38.60	39.10	39.10	40.76	$50.00
J R SIMPLOT CO	674.53	-	831.86	-	660.84	-	266.48	-	376.45	-	-	-
J R SIMPLOT CO	1,285.05	-	1,128.76	-	1,051.12	-	988.80	-	1,141.34	-	-	-
J R SIMPLOT CO	11,315.82	-	12,451.92	-	11,364.85	-	10755.88	-	10,894.91	-	-	-
J R SIMPLOT CO	124.60	-	69.09	-	0.00	-	4.64	-	291.55	-	-	-
J R SIMPLOT CO	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	-	-
J R SIMPLOT CO	4,020.03	-	4,398.34	-	4,116.98	-	4168.99	-	4,224.00	-	-	-
J R SIMPLOT CO	1,330.59	-	2,003.50	-	1,940.51	-	1795.34	-	1,674.21	-	-	-
J R SIMPLOT CO	3,182.39	-	1,993.02	-	2,278.63	-	1323.60	-	2,241.94	-	-	-
J R SIMPLOT CO	3,086.93	-	3,578.75	-	3,037.88	-	3740.40	-	3,740.40	-	-	-
J R SIMPLOT CO	2,269.95	-	2,886.36	-	2,751.45	-	2703.98	-	3,030.23	-	-	-
J R SIMPLOT CO	5,102.97	32,392.85	5,402.14	34,743.74	5,152.58	32,354.84	5005.79	30753.90	5,079.19	32,694.21	32,587.91	$4,448.42
J R SIMPLOT SELF DECLARATION REVOCABLE TRUST	593.88	-	947.12	-	854.78	-	752.51	-	1,145.42	-	-	-
J R SIMPLOT SELF DECLARATION REVOCABLE TRUST	844.77	1,438.65	929.58	1,876.70	848.43	1,703.21	802.97	1,555.48	813.34	1,958.76	1,706.56	$232.95
JAMES R MARTELL & CARMELA M MARTELL LIVING T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
JEFFREY, LOUIS D	80.84	80.84	102.10	102.10	82.40	82.40	100.97	100.97	58.93	58.93	85.05	$50.00
JEWETT, JOAN C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
JK POTATOES LLC	5,077.66	5,077.66	5,469.87	5,469.87	5,472.92	5,472.92	5,048.16	5,048.16	5,237.08	5,237.08	5,261.14	$718.17
JOHNS SAND DUNES LLC	1,820.17	1,820.17	1,515.40	1,515.40	1,431.00	1,431.00	1,201.67	1,201.67	1,431.00	1,431.00	1,479.85	$202.01
JOHNSON, ANDREW	155.51	-	174.42	-	166.32	-	171.68	-	176.60	-	-	-
JOHNSON, ANDREW	1,820.17	1,975.68	517.80	692.22	517.80	684.12	517.80	689.48	787.35	963.95	1,001.09	$136.65
JONES, BRADLEY; YAO, ANDREA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
JONES, RYIN AND JENNIFER	0.00	0.00	70.72	70.72	0.00	0.00	0.00	0.00	0.00	0.00	14.14	$50.00
K TERRY MILLER REVOCABLE TRUST	0.00	0.00	0.00	0.00	7.43	7.43	7.93	7.93	8.03	8.03	4.68	$50.00
KENITZER, C L; KENITZER, EDNA M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
KHID BLACK MESA	29,067.10	-	30,244.70	-	27,101.60	-	25,953.50	-	26,336.00	-	-	-
KHID HAMMETT					0.00	-	5,947.25	-	6,697.52	-	-	-
KHID GLENNS FERRY	19,766.20	-	22,177.00	-	20,642.90	-	8,231.53	-	4,485.00	-	-	-
KHID WILEY	4,864.30	-	5,017.00	-	4,925.80	-	6,525.72	-	6,773.60	-	-	-
KHID KING HILL	6,909.50	60,607.10	6,745.50	64,184.20	5,843.90	58,514.20	5,154.20	51,812.20	6,054.40	50,346.52	57,092.84	$7,793.48
KNIGHT, LLOYD; KNIGHT, ORLA	0.49	0.49	42.23	42.23	45.69	45.69	8.40	8.40	7.06	7.06	20.77	$50.00
KNOX II, HARRY W	174.05	-	147.00	-	147.00	-	195.25	-	0.78	-	-	-
KNOX II, HARRY W	0.00	174.05	0.00	147.00	0.00	147.00	4.50	199.75	235.28	236.06	180.77	$50.00
KOOPMAN, CHERYL; KOOPMAN, JESSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
KRANZ, ALAN AND NICOLE	0.37	0.37	31.67	31.67	34.27	34.27	6.30	6.30	5.30	5.30	15.58	$50.00
LAMPMAN, BRUCE; LAMPMAN, REBECCA	34.93	34.93	36.89	36.89	34.22	34.22	34.41	34.41	38.90	38.90	35.87	$50.00
LANDIS, MELODY F; LANDIS, TIM	998.30	998.30	998.30	998.30	998.30	998.30	998.30	998.30	963.31	963.31	991.30	$135.32
LEE, MAURICE D; LEE, SONYA E	491.43	-	540.77	-	493.56	-	467.11	-	473.15	-	-	-
LEE, MAURICE D; LEE, SONYA E	2,196.42	2,687.85	2,306.49	2,847.26	521.75	1,015.31	487.98	955.09	538.53	1,011.68	1,703.44	$232.53
LEONARD, DONALD J; MALLANE, KATHY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
LITTLE VALLEY MUTUAL IRRIGATION CO	11,230.80	11,230.80	12,166.63	12,166.63	10,980.42	10,980.42	9,595.36	9,595.36	10,851.11	10,851.11	10,964.86	$1,496.76
MAC FARMS LLC	434.85	434.85	541.14	541.14	533.81	533.81	495.00	495.00	508.10	508.10	502.58	$68.60
MACDONALD, CAMERON LUCAS; MACDONALD, JAMIE R	39.28	39.28	22.44	22.44	23.80	23.80	16.26	16.26	18.71	18.71	24.10	$50.00
MALLANE, TOM; MALLANE, VONNIE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
MALONEY III, JAMES E; MALONEY, HYON S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
MARTELL, JAMES R	145.21	-	119.81	-	118.84	-	126.85	-	364.80	-	-	-
MARTELL, JAMES R; MARTELL, CARMELA,M LIVING TRUST	275.88	421.08	364.80	484.61	349.30	468.14	294.44	421.29	128.44	493.24	457.67	$62.47
MARTINEZ, DANIELLE K; MARTINEZ, LEROY J	89.12	89.12	52.06	52.06	28.53	28.53	28.53	28.53	28.53	28.53	45.36	$50.00
MC BRIDE, SHANNON R	0.00	421.08	52.12	52.12	0.00	0.00	0.00	0.00	0.00	0.00	94.64	$50.00
MCCOLLUM ENTERPRISES LLC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
MCFADDEN, SHAWN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
MELLUM, GREG; MELLUM, NANCY	154.16	154.16	151.91	151.91	194.99	194.99	207.92	207.92	192.17	192.17	180.23	$50.00
MEYERS, KATHI L; MEYERS, ROBERT J	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	-	-
MEYERS, ROBERT J	3,985.07	3,985.07	4,236.27	4,236.27	3,786.12	3,786.12	2,878.58	2,878.58	3,617.10	3,617.10	3,700.63	$505.16
MININGER, LINDA K; MININGER, STUART	1,185.92	1,185.92	1,169.01	1,169.01	1,191.06	1,191.06	1,127.24	1,127.24	1,141.80	1,141.80	1,163.01	$158.76
MULBERRY, ELLIE; MULBERRY STEVEN N	1.39	1.39	119.14	119.14	128.91	128.91	23.70	23.70	19.93	19.93	58.61	$50.00
MURPHY FLATS WATER CO INC	9,966.37	9,966.37	10,688.83	10,688.83	12,080.46	12,080.46	10,954.50	10,954.50	13,145.40	13,145.40	11,367.11	$1,551.67
MURPHY LAND CO LLC	775.43	775.43	979.52	979.52	728.43	728.43	605.76	605.76	640.50	640.50	745.93	$101.82
NETTLETON, NICK S	600.00	600.00	807.74	807.74	600.00	600.00	644.39	644.39	659.23	659.23	662.27	$90.40
NIEFFENEGGER, JOAN M; NIEFFENEGGER, KEITH L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
NYQUIST, ANNE L; NYQUIST, TODD T	12.64	12.64	4.13	4.13	6.90	6.90	0.01	0.01	0.58	0.58	4.85	$50.00
OBSIDIAN INVESTMENTS	1,275.00	1,275.00	1,272.00	1,272.00	1,272.00	1,272.00	63.72	63.72	101.90	101.90	796.92	$108.78
OLD TEAL OUTING LLC	0.00	-	0.00	-	0.00	-	166.64	-	248.32	-	-	-
OLD TEAL OUTING LLC	0.00	0.00	0.00	0.00	266.87	266.87	240.47	407.11	588.38	836.70	377.67	$51.55
OLSON, DELL D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
OSPREY DYNAMICS LLC; REECE, ARTHUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
PARRISH, SCOTT	0.70	0.70	60.33	60.33	65.27	65.27	12.00	12.00	10.09	10.09	29.68	$50.00
PARRISH, TIMOTHY	110.70	110.70	69.00	69.00	35.44	35.44	35.44	35.44	35.44	35.44	57.21	$50.00
PEARSON, JOYCE WUNDERLICH	865.49	865.49	820.03	820.03	736.76	736.76	745.57	745.57	889.41	889.41	811.45	$110.77
PETIT, PAUL; PETIT, SARA	24.86	24.86	12.07	12.07	18.97	18.97	7.96	7.96	7.96	7.96	14.36	$50.00
PETRUS LAND INVESTORS VI LP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	386.47	386.47	386.47	$52.76
PETRUS LAND INVESTORS VI LP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
POST, JACK	1,405.24	-	2,717.24	-	2,480.02	-	2,347.13	-	2,377.47	-	-	-
POST, JACKIE P	1,510.83	-	1,662.52	-	1,517.38	-	1,436.07	-	1,454.63	-	-	-
POST, JACKIE P; POST, KARLA KAY	679.50	3,595.57	586.62	4,966.38	450.79	4,448.19	679.50	4,462.70	746.98	4,579.08	4,410.38	$602.04
POTUCEK, EDWARD T	663.60	663.60	746.71	746.71	768.46	768.46	621.70	621.70	824.84	824.84	725.06	$98.97
PULLEN, DONNA L; PULLEN, MICHAEL V	95.40	95.40	97.39	97.39	113.15	113.15	94.19	94.19	90.99	90.99	98.22	$50.00
R & C GINGERICH PROPERTIES LLC	28.05	28.05	28.42	28.42	24.50	24.50	26.85	26.85	27.13	27.13	26.99	$50.00
REALI, SCOTT	592.50	592.50	162.32	162.32	188.58	188.58	156.99	156.99	151.64	151.64	250.40	$50.00
RIVENDALE LLC	348.00	348.00	592.50	592.50	138.88	138.88	139.18	139.18	267.09	267.09	297.13	$50.00
RIVER VALLEY FARMS INC	592.50	592.50	253.50	253.50	212.25	212.25	174.68	174.68	0.00	0.00	246.59	$50.00

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
ROCKIN S RANCH INC	593.34	593.34	631.60	631.60	721.67	721.67	699.74	699.74	686.96	686.96	666.66	$91.00
ROELOFFS, CORA LEE; SOUTHFIELD, CAROL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SALMON FALLS LAND & LIVESTOCK CO INC	6,655.92	6,655.92	7,012.96	7,012.96	6,079.68	6,079.68	6,460.68	6,460.68	7,038.67	7,038.67	6,649.58	$907.70
SCHIERMEIER, DONALD; SCHIERMEIER, KRISTI	1,305.11	1,305.11	1,712.13	1,712.13	1,343.91	1,343.91	1,469.07	1,469.07	1,341.04	1,341.04	1,434.25	$195.78
SCHIERMEIER, RUSSELL	888.56	-	938.44	-	581.74	-	585.05	-	661.27	-	-	-
SCHIERMEIER, RUSSELL; SCHIERMEIER, KARLI	778.49	1,667.05	1,021.27	1,959.71	1,199.50	1,781.24	1,311.21	1,896.26	1,196.93	1,858.20	1,832.49	$250.15
SEYEDBAGHERI, KATHLEEN ANN; SEYEDBAGHERI, MIR-MOHAMMAD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SHETLER, IVAN AND JANIS	257.56	257.56	240.00	240.00	240.00	240.00	225.97	225.97	260.00	260.00	244.71	$50.00
SHULTZ, CRAIG E; SHULTZ, NICOLE S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SIEGWEIN, VIRGINIA ANN	169.29	169.29	150.09	150.09	156.00	156.00	74.71	74.71	146.38	146.38	139.29	$50.00
SIERRA DEL RIO RANCH LLC	4,573.99	4,573.99	818.66	818.66	994.00	994.00	756.56	756.56	864.66	864.66	1,601.57	$218.62
SMITH, ELAINE	7.24	7.24	6.86	6.86	6.17	6.17	6.24	6.24	7.44	7.44	6.79	$50.00
SNAKE RIVER INVESTMENTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SNAKE RIVER IRRIGATION DISTRICT	63,847.46	63,847.46	67,590.66	67,590.66	64,468.22	64,468.22	62,631.56	62,631.56	63,549.91	63,549.91	64,417.56	$8,793.34
SNIDER, DAVID AND JOY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SOUTH ELMORE IRRIGATION CO	28,098.00	28,098.00	24,257.29	24,257.29	18,640.67	18,640.67	28,098.00	28,098.00	30,888.38	30,888.38	25,996.47	$3,548.66
SOUTHSIDE GRAZING ASSN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
STANDLEY, DOUGLAS E; STANDLEY, TAMARA S	10.86	10.86	10.29	10.29	9.25	9.25	214.68	214.68	11.16	11.16	51.25	$50.00
STATE OF IDAHO IDFG	890.84	890.84	1,636.33	1,636.33	2,657.48	2,657.48	2,480.84	2,480.84	864.80	864.80	1,706.06	$232.89
STATE OF IDAHO Parks and Rec.	596.59	-	475.70	-	624.05	-	620.71	-	679.68	-	-	-
STATE OF IDAHO Parks and Rec.	110.73	707.32	98.40	574.10	104.15	728.20	110.60	731.31	105.20	784.88	705.16	$96.26
STATE OF IDAHO, WATER RESOURCE BOARD	810.18	810.18	507.39	507.39	580.10	580.10	336.97	336.97	570.76	570.76	561.08	$76.59
STATE OF IDAHO; YOUNG, ROGER G	0.00	0.00	0.00	0.00	42.78	42.78	43.02	43.02	48.62	48.62	26.88	$50.00
STRALEY, JAMES; STRALEY, SHIRLEY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
SUNDBERG, ANITA G; SUNDBERG, SHERWIN	672.91	-	873.20	-	727.42	-	621.45	621.45	639.75	639.75	630.60	$86.08
SUNDBERG, ANITA G; SUNDBERG, SHERWIN R	56.08	728.99	913.62	1,786.82	513.49	1,240.91	634.38	634.38	674.56	674.56	1,013.13	$138.30
SUNDBERG, SHERWIN R; SUNDBERG, TANYA	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	-	-
SUNDBERG, SHERWIN R; SUNDBERG, TANYA	56.08	-	100.95	-	56.74	-	70.10	-	518.03	-	-	-
SUNDBERG, SHERWIN R; SUNDBERG, TANYA	724.88	780.96	290.24	391.19	394.34	451.08	487.18	557.28	74.54	592.57	554.62	$75.71
THE C RAYMOND DRAPER FAMILY TRUST	609.21	-	670.37	-	611.85	-	579.06	-	586.55	-	-	-
THE C RAYMOND DRAPER FAMILY TRUST	1,105.06	1,714.26	1,128.13	1,798.50	1,310.61	1,922.46	1,091.08	1,670.14	1,053.91	1,640.46	1,749.16	$238.77
THE ORDER OF TRANQUILITY	150.27	150.27	300.29	300.29	150.92	150.92	290.43	290.43	144.68	144.68	207.32	$50.00
THE TEANJAI WATKINS FAMILY TRUST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
THOMAS JR, CONRAD E; THOMAS, JEREMY A and THOMAS, CONRAD E; THOMAS, JEREMY A	585.90	585.90	720.58	720.58	650.43	650.43	679.39	679.39	768.24	768.24	680.91	$92.95
TINGSTROM, GRACE; TINGSTROM, S LEROY	97.84	97.84	70.72	70.72	61.23	61.23	74.71	74.71	122.08	122.08	85.32	$50.00
TRAIL, TERRIE E; TRAIL, WALTER L	1,900.30	1,900.30	2,411.54	2,411.54	2,184.54	2,184.54	2,114.28	2,114.28	1,638.75	1,638.75	2,049.88	$279.82
TRIANGLE DAIRY INC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.74	54.74	10.95	$50.00
UNITED STATES OF AMERICA ACTING THROUGH	496.40	-	88.85	-	107.88	-	82.11	-	93.84	-	-	-
UNITED STATES OF AMERICA ACTING THROUGH	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	-	-
UNITED STATES OF AMERICA ACTING THROUGH	183.16	-	152.49	-	144.00	-	120.92	-	144.00	-	-	-

OWNERS 2024	2020 acre-feet	2020 Volume for user	2021 acre-feet	2021 Volume for user	2022 acre-feet	2022 Volume for user	2023 acre-feet	2023 Volume for user	2024 acre-feet	2024 Volume for user	5-year average acre-feet	2024 Assess at $/AF
UNITED STATES OF AMERICA ACTING THROUGH	28.25	707.82	30.08	271.42	34.37	286.24	33.32	236.35	32.71	270.55	354.48	$50.00
UNRUH, CATHERINE; UNRUH, DAVID CHRIS	2,438.86	2,438.86	2,683.72	2,683.72	2,449.43	2,449.43	2,318.18	2,318.18	2,293.39	2,293.39	2,436.72	$332.62
UPPER GRAND VIEW CANAL CO	4,528.35	4,528.35	4,328.13	4,328.13	5,211.14	5,211.14	5,804.49	5,804.49	6,479.10	6,479.10	5,270.24	$719.42
UPTMOR, DOROTHY GAYLE; UPTMOR, ROBERT E	342.53	342.53	334.22	334.22	286.04	286.04	257.08	257.08	318.92	318.92	307.76	$50.00
US ECOLOGY IDAHO INC	52.67	52.67	82.86	82.86	123.28	123.28	46.90	46.90	83.56	83.56	77.85	$50.00
US ROW FARMLAND LLC	7,345.93	7,837.35	7,683.65	7,683.65	9,192.81	9,192.81	8,446.18	8,446.18	10,009.22	10,009.22	8,633.84	$1,178.57
V & E GINGERICH PROPERTIES LLC	72.22	-	128.32	-	93.89	-	98.64	-	105.30	-	-	-
V & E GINGERICH PROPERTIES LLC	763.03	835.25	711.00	839.32	735.00	828.89	692.05	790.69	796.24	901.54	839.14	$114.55
VAN ES, DALE ; VAN ES, JACKIE	8,798.15	8,798.15	7,880.73	7,880.73	7,931.21	7,931.21	7,321.64	7,321.64	8,081.33	8,081.33	8,002.61	$1,092.40
VANDER STELT, CARRI L; VANDER STELT, RICHARD D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
W HOME LLC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
WALKER PLOW LLP	889.44	-	978.74	-	893.30	-	845.43	-	856.35	-	-	-
WALKER PLOW LLP	1,458.79	2,348.23	1,733.64	2,712.38	1,548.46	2,441.76	1,415.70	2,261.13	1,200.00	2,056.35	2,363.97	$322.69
WEST INDIAN COVE WATER CO INC	2,873.82	2,873.82	2,996.85	2,996.85	2,808.51	2,808.51	2,463.74	2,463.74	2,770.60	2,770.60	2,782.70	$379.85
WHIPKEY, ROBERT E; WHIPKEY, WANDA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
WHITMARSH, BRYAN C; WHITMARSH, KRISTY L	0.00	0.00	2.05	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.41	$50.00
WILSON & WILSON CO INC	2,446.81	-	2,880.40	-	2,396.99	-	3,330.30	-	2,332.77	-	-	-
WILSON & WILSON CO INC	510.43	2,957.24	573.48	3,453.88	545.89	2,942.88	563.51	3,893.81	578.05	2,910.82	3,231.73	$441.15
WILSON, ALICE FAYE; WILSON, JEROME CARTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$50.00
WOLFE, JAMES D	505.70	-	611.45	-	572.81	-	539.73	-	532.64	-	-	-
WOLFE, JAMES D; WOLFE WILLIAM R	3,275.42	3,275.42	3,343.82	3,955.27	3,884.67	4,457.48	3,233.99	3,773.72	3,123.83	3,656.47	3,823.67	$521.95
WOLFE, VICTORIA R; WOLFE, WILLIAM R	835.30	835.30	1,103.79	1,103.79	1,047.96	1,047.96	780.00	780.00	780.00	780.00	909.41	$124.14
WOOTAN, MARVIN W; WOOTAN, NANCY L and WOOTAN, NANCY L	13.20	13.20	15.42	15.42	14.71	14.71	14.03	14.03	11.99	11.99	13.87	$50.00
YARBROUGH, LUCY R; YARBROUGH, WALTER H and YARBROUGH, WALTER H	93.00	93.00	40.20	40.20	40.20	40.20	0.00	0.00	0.00	0.00	34.68	$50.00
YOUNG, DENNIS	0.60	0.60	51.28	51.28	55.48	55.48	10.20	10.20	8.58	8.58	25.23	$50.00
YOUNG, ROGER G	184.90	-	243.66	-	240.53	-	274.78	-	280.08	-	-	-
YOUNG, ROGER G	1,159.28	1,344.18	1,224.35	1,468.01	1,135.69	1,376.22	1,142.14	1,416.92	1,290.93	1,571.01	1,435.27	$195.92

WATER DISTRICT BUDGET

FISCAL YEAR 20____

The budget when adopted shall be filed with the secretary of the meeting and the watermaster shall immediately prepare and file a certified copy of the budget, along with a copy of all resolutions adopted at the annual meeting with the Idaho Department of Water Resources. When a county or counties are designated to collect the funds for the water district, a certified copy of the budget and resolutions must additionally be filed with the designated county or counties. (§ 42-613, Idaho Code)

Water District No. _____

Water District Name (Stream/Source): _____

Watermaster:_____

Annual Meeting Secretary:_____

Annual Meeting Secretary Address:_____

Annual Meeting Secretary Telephone/Email:_____

Please check the appropriate box regarding the collection of water district funds.

☐ The water district collects its own funds.

☐ _____ County is designated to collect the water district funds.
(County name)

☐ **A complete copy of adopted resolutions must be attached to this document. Highlight any resolutions that were added or changed. A copy of the adopted budget and resolutions must additionally be filed with the designated county or counties.**

As the appointed watermaster of water district no. _____, I HEREBY CERTIFY that the adopted budget, and the resolutions included in this submittal, are true and correct to the best of my knowledge.

_____
Watermaster printed name

_____
Watermaster signature *Date*

WATERMASTER'S PROPOSED BUDGET

Each watermaster shall, at least fourteen (14) days prior to the annual meeting of the water users of the water district, prepare a proposed budget for the upcoming year, together with a distribution of the pro rata amounts of the budget assessed to the respective water users or water delivery organizations using the actual volume of water delivered for the past season or seasons. **The proposed budget and distribution of pro rata assessments shall be presented to the water users for consideration and approval at the next annual meeting.** (§ 42-612, Idaho Code)**.**

1. In the work space below, enter the past year or years watermaster salary, secretary and/or staff salaries, and expenses. Past season costs and expenses, or average past seasons' costs and expenses, may aid in determining next year's budget. A more detailed listing or itemization of expenses and salaries can be attached to this form.

PAST YEAR OR YEARS ACTUAL EXPENSES

	WATERMASTER		ASSISTANT WATERMASTER, SECRETARY, STAFF, ETC.		OTHER EXPENSES		TOTAL COSTS
YEAR	DAYS	SALARY	DAYS	SALARY	ITEM	COST	

2. Complete the proposed budget section below for the upcoming year. Using the total water delivered from the watermaster report, calculate the the distribution of the proposed budget among water users, and complete the table on pages 3 and 4.

   If this district uses a past-year average of deliveries for assessment purposes, please attach the record of past deliveries used to obtain average deliveries or complete the Delivery Averaging Worksheet on page 5.

WATERMASTER'S PROPOSED BUDGET

Watermaster Salary.....$ _____

Assistant Watermaster Salary (if any).....$ _____

Treasurer Salary .....$ _____

Other Expenses.....$ _____

Total Expenses for **20____**.....$ _____

3. Once a final budget is adopted, complete the Adopted Budget section on page three and make any adjustments to the Distribution of Budget table.

BUDGET ADOPTED AT THE ANNUAL MEETING OF THE WATER USERS

WATER DISTRICT NO. _____

Watermaster Salary $ _____

Assistant Watermaster Salary (if any) $ _____

Treasurer Salary $ _____

Other Expenses $ _____

Total Expenses for **20____** $ _____

DISTRIBUTION OF THE BUDGET AMONG USERS

INDIVIDUAL, DITCH OR CANAL COMPANY, ASSESSED	WATER RIGHT IDENT. NO.	ADDRESS	AMOUNT OF BUDGET	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	

INDIVIDUAL, DITCH OR CANAL COMPANY, ASSESSED	WATER RIGHT IDENT. NO.	ADDRESS	AMOUNT OF BUDGET	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
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			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	
			$	

WATER DISTRICT NO. _______ DELIVERY AVERAGING WORKSHEET

WATER USER	WATER RIGHT OR DIVERSION	PAST SEASON DELIVERIES IN 24-HR SEC FEET										AVG DELIVERY FOR PAST SEASONS 24-HR SEC FT	
		1		2		3		4		5			
		20___		20___		20___		20___		20___			

The water users of Water District 02 (Snake River from Milner Dam to Murphy Gage below Swan Falls Dam), meeting at the annual water district meeting on Tuesday, January 14, 2025, at City Hall in Glenns Ferry, Idaho, HEREBY ADOPT THE FOLLOWING RESOLUTIONS:

BE IT RESOLVED THAT:

1. The watermaster perform the duties as required by Chapter 6, Title 42, Idaho Code, and in accordance with the duties described in the Final Order Creating Water District 02, signed by the Director of the Idaho Department of Water Resources (IDWR), July 10, 2012.

2. IDWR shall be elected to provide the watermaster services for Water District 02 (or WD02) and that the Director of IDWR appoint an employee of IDWR, or other employees of IDWR as may be necessary, to serve as the watermaster or watermaster assistants for the ensuing year or as otherwise provided in Idaho Code § 42-608. An amount, no more than the dollar amount identified in the Adopted Budget for watermaster services, shall be reimbursed to IDWR by Water District 02. IDWR will provide a detailed invoice for watermaster services to Water District 02 on a monthly basis.

3. Chris Alzola shall be elected WD02 Treasurer for the 2026 fiscal year beginning February 1, 2025, and ending on January 31, 2026. The treasurer shall be compensated the fixed-sum amount approved in the adopted budget as authorized by Idaho Code § 42-619(6). The duties of the treasurer will be to prepare and collect annual assessments in coordination with and on behalf of the watermaster, maintain the WD02 checking account, approve expenses, oversee disbursement of water district funds, and prepare and authorize a review of financial affairs of the district at the end of each fiscal year, in accordance with Idaho Code § 42-619. The WD02 checking account is maintained at US Bank, 305 N 2nd E, Mountain Home, Idaho, 83647.

4. The adopted budget for the 2026 fiscal year shall be $143,285.18. The amount of cash reserve carried forward and retained by WD02 shall not exceed 30% of the adopted budget.

5. The watermaster or the water district treasurer is hereby authorized to collect the assessments of the water district in accordance with Idaho Code § 42-613(3). Pursuant to Idaho Code § 42-612(6), assessed amounts to users as shown on the adopted budget shall constitute a final determination of the amount due for that year.

6. The minimum assessment charge shall be $50. Pursuant to Idaho Code § 42-612(5), the watermaster is authorized to assess a minimum charge for watermaster services not to exceed $250. The minimum assessment shall be billed to each individual or entity owning a water right(s), whose share of the total budget would otherwise be less than the minimum. Water rights authorizing diversion of water solely for domestic purposes and with a total diversion rate less than or equal to 0.06 cfs shall not be assessed.

7. Assessments shall be consistent with Idaho Code § 42-610 and § 42-612, requiring proposed water district budgets and annual assessments to individual water right holders be prorated based upon the average amount of water delivered or used by the water right holders during the past season or seasons (not to exceed five seasons). The proportionate amounts proposed to be assessed to the water right holder(s) will be posted on the IDWR website at least 21 days prior to the annual meeting.

8. In accordance with Idaho Code § 42-605A, the Idaho Water Resource Board, holding the Bell Rapids water rights in Water District 02 (2-7353 and 2-10205), a majority of which are rented by the US Bureau of Reclamation for flow augmentation purposes, and the Idaho Power Company, holding numerous non-consumptive hydropower water rights in Water District 02, will each be assessed 15% of the 2025 fiscal year budget amount total to collect by assessment.

9. The owners or operators of all measuring devices must: 1) maintain such device in operational condition at all times while diverting water and, 2) energize and continue to provide power to flow meters and/or telemetry equipment from March 10 through November 25 of each year to allow the watermaster to obtain diversion data within Water District 02.

10. The operation and maintenance of telemetry stations will be the responsibility of WD02 and the current watermaster. Installation, maintenance, and use of existing radio telemetry equipment within WD02 is intended to reduce operational expenses and therefore benefit all water users. Failed, damaged, or otherwise non-functioning components will be purchased and replaced by WD02 and the associated expenses accounted for in the WD02 budget. The owners of the 49 existing telemetry stations must allow access to these stations by the watermaster and watermaster assistants for the purposes of collecting data and the repair and maintenance of telemetry equipment. Telemetry equipment does not include measuring devices and associated hardware or software needed by the water user to satisfy the requirements of the Measurement Order issued on August 26, 2013.

11. An advisory committee shall be selected to provide input to the watermaster and the Director of IDWR. Advisory committee seats for the 2026 fiscal year shall total nine (9). The number of advisory committee seats may be revised by adoption of resolutions at annual water district meetings. The advisory committee will meet as often as needed to address the structure, governance, and operation of the district. A quorum shall be made up of a minimum of six (6) advisory committee members. Decisions or recommendations of the advisory committee must be made by a majority vote of advisory committee members present. The advisory committee selected for the 2025 fiscal year is as follows:

Mark Frost	Jeff Blanksma	Vic Conrad
Kresta Davis	Billy Wolfe	Bret Andersen
Casey Martinez	Nate Jones	Justin Wootan

12. The elected chairman of the advisory committee for the 2026 fiscal year is Mark Frost, and vice-chairman is Jeff Blanksma. The water users of Water District 02 hereby empower the elected chairman of the advisory committee, created herein to do the following as approved by the committee:

    - Enter into a Memorandum of Understanding between Water District 02 and IDWR for watermaster services.

    - Enter into a service contract between Water District 02 and any qualified party, in exchange for monetary compensation, as necessary and as authorized by the adopted annual budget for expenses incurred by Water District 02 related to the delivery of water.

    - Authorize and schedule external financial reviews as needed.

13. The watermaster, working with the advisory committee, shall prepare a proposed budget prior to the annual meeting of the water users of Water District 02 in accordance with Idaho Code § 42-605(A) and § 42-612.

14. The watermaster, working with the advisory committee, shall make available a copy of the recommended resolutions and the recommended budget, at least 21 days prior to the annual meeting by posting a copy on IDWR's website. Any proposed changes to the resolutions made prior to the annual meeting will be highlighted. This shall not preclude introduction of any new resolution or changes to resolutions at the annual meeting.

15. Current year assessments shall be due to Water District 02 on or before April 1 of each year.

16. Payment of any assessment that is not received by January 1, 2026, shall accrue penalties in the amount of 10% of the charge plus interest in the amount of 1% per month from said April 1, due date, until paid, pursuant to Idaho Code § 42-613(4). The watermaster is authorized pursuant to Idaho Code § 42-613(5), to withhold or suspend delivery of water to any water user who has not paid their assessment, penalties, and interest in full by January 1, 2026.

17. The WD02 annual meeting shall hereafter be held on the second Tuesday of January of each year unless the Director of IDWR should find it necessary to change the meeting date or unless changed by resolution of the district at any annual meeting. The 2026 annual meeting date shall be January 13, 2026.

18. The watermaster and watermaster assistants are authorized as employees of IDWR under Idaho Code § 42-1701(5) to make reasonable entry on lands within the district, in accordance with IDWR policy, to carry out the duties of the watermaster as instructed by IDWR.

19. In the event that a vote by shares pursuant to Idaho Code § 42-605(4) is requested during any annual meeting, a credentials committee will be assembled to determine the number of votes cast by individual water users. The credentials committee shall be comprised of the following parties:

    a. the current appointed watermaster
    b. an IDWR representative (other than any IDWR representative appointed as watermaster)
    c. the current appointed treasurer

20. The advisory committee shall designate two advisory committee members with signing or approval authority to disperse water district funds jointly with the treasurer. Two signatures or approvals are required to disburse water district funds, one of which shall be the WD02 Treasurer.

Summary of Proposed Expenses and Budget FY2026

Expenses	
Watermaster Services (IDWR)	$93,000.00
Financial Review	$0.00
Treasurer	$4,500.00
Telemetry Network O & M	$7,000.00
Verizon Wireless (Cellular Data Plans)	$1,600.00
Cash Reserve	$38,367.29
Total Expenses	**$144,467.29**

Distribution of FY 2026 Budget	
Total Adopted Budget	$144,467.29
Cash Reserve	($38,367.29)
Total to Collect by Assessment	**$106,100.00**

Appendix F: Watermaster Cards for Control and Measurement

F1. Warning of Pending Curtailment. This tag would be placed on a diversion to warn the water user that a 10-day notice to install a measurement device has been issued.

F2. Warning. This headgate has been regulated by the watermaster of this water district. This tag would be placed on a diversion that is not delivered because of a water shortage and is administered in priority.

F3. Curtailment notice. The diversion has been shut off by the watermaster for failure to maintain or install a measurement device. This tag would be placed on a diversion after a 10-day notice.

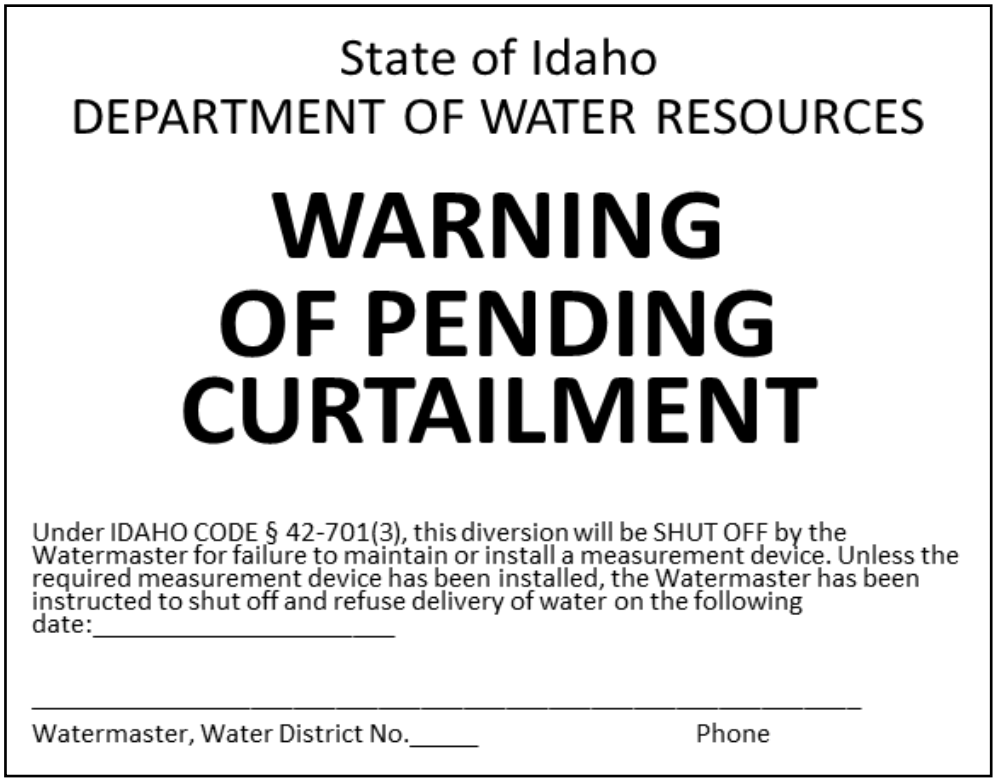


Figure F1. Warning of Pending Curtailment. This tag would be placed on a diversion to warn the water user that a 10-day notice to install a measurement device has been issued.

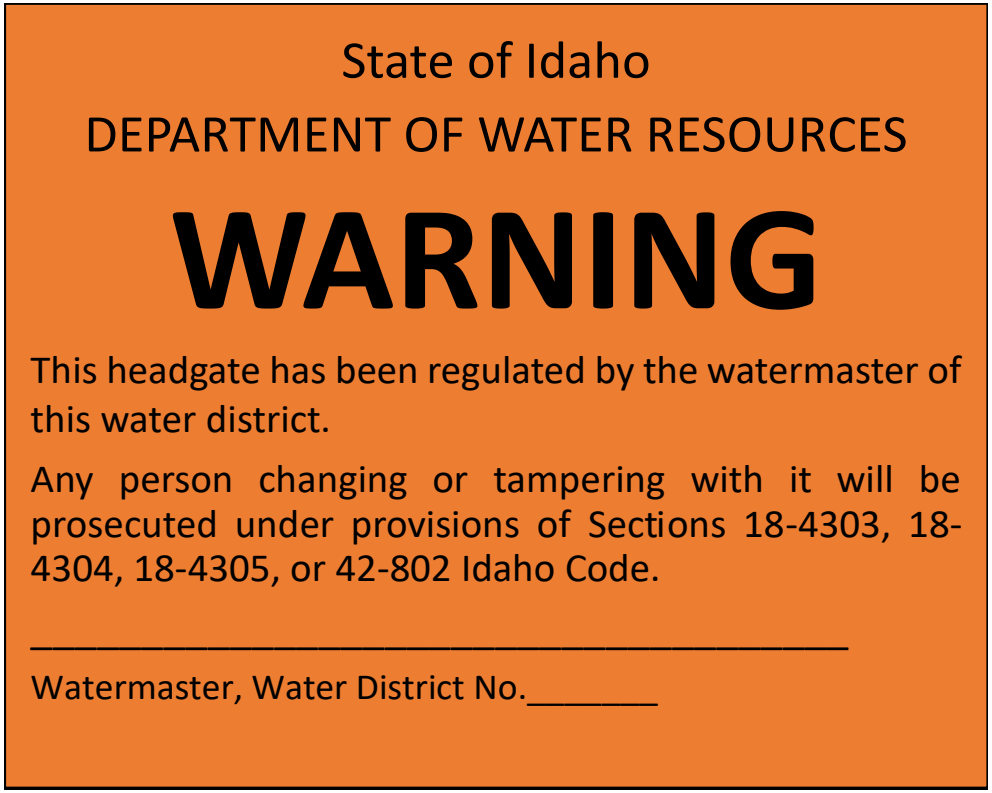


Figure F2. Warning. This headgate has been regulated by the watermaster of this water district. This tag would be place on a diversion that is not delivered because of a water shortage and is administered in priority.

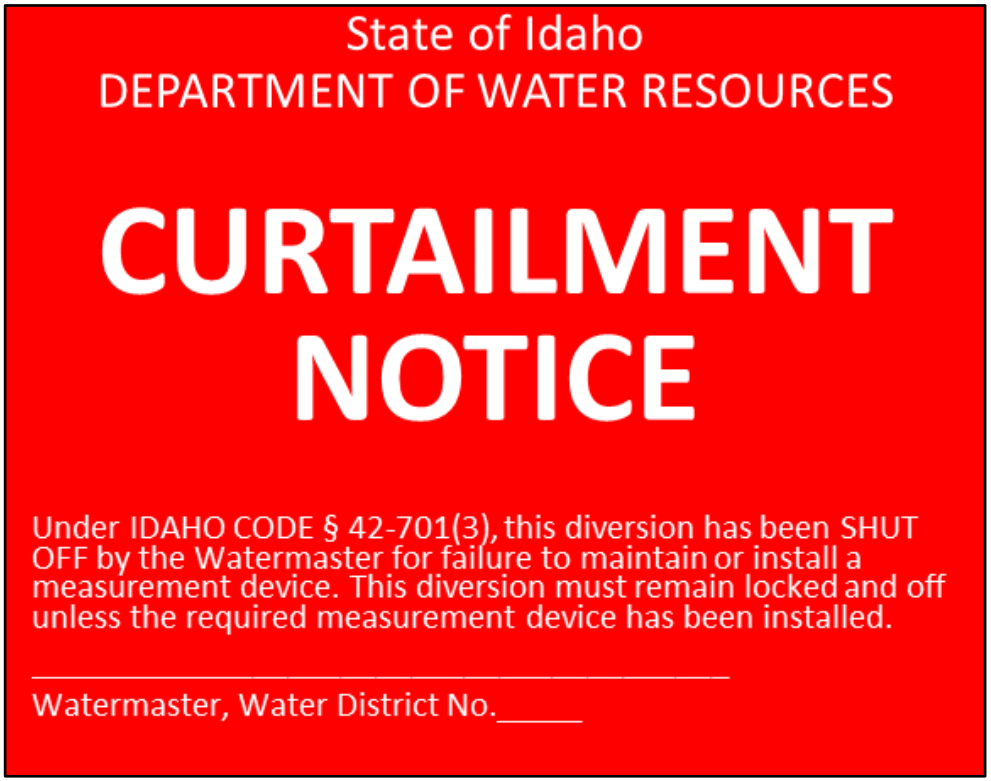


Figure F3. Curtailment notice. The diversion has been shut off by the watermaster for failure to maintain or install a measurement device. This tag would be placed on a diversion after a 10-day notice.

Appendix G: Examples of Common Conversions and Estimations

Examples of Common Conversions and Estimations

In Idaho, the legal standard for measurement of water is a cubic foot per second (**cfs**) and the volume converted from this rate of flow is acre-feet (**AF**).

Table G1. Most common unit conversions used in water measurement.

WATERMASTER					
MOST COMMON CONVERSIONS					
1 cubic foot per second	=	448.83 gallons per minute	1 cfs	=	448.83 gpm
1 cubic foot per second	=	1.9835 acre-feet per 24 hours	1 cfs	=	1.9835 24-hr AF
1 cubic foot per second	=	50 miner's inches	1 cfs	=	50 miner's inches
1 cubic foot	=	7.48 gallons	1 ft^3	=	7.48 gal
86,400 cubic feet	=	1 cubic foot per second for 24 hrs	86,400 ft^3	=	24-hr cfs
1 miner's inch	=	0.02 cubic feet per second	1 miner's inch	=	0.02 ft^3
50 miner's inches	=	1.0 cubic foot per second	50 miner's inches	=	1 ft^3
1 acre-foot	=	43,560 cubic feet	1 AF	=	43,560 ft^3
1 acre-foot	=	325,851 gallons	1 AF	=	325,851 gal
* 1 AF represents the amount of water that covers one acre of area to a depth of one foot					
* 86,400 ft^3 = 1.0 cfs flowing for 24 hours (24-hr cfs)					

Example 1.

What is a 24-hr second feet or 24-hr cfs, second feet, or 24-hour second foot anyway?

Another way to break it down is into the individual units, and it may make more logical sense. We know that each second one cubic foot passes. There are 60 seconds in 1 minute and 60 minutes in 1 hour, giving a rate of 3,600 cubic feet per hour. In a 24-hour period 86,400 ft^3 flow by.

$$\left[\left[\frac{1\ ft^3}{1\ second}\right]\left[\frac{60\ sec}{1\ minute}\right]\left[\frac{60\ min}{1\ hour}\right]\right] = \left[\frac{3{,}600\ ft^3}{1\ hour}\right][24\ hours] = 86{,}400\ ft^3$$

Example 2.

At the end of the irrigation season the flow meter display reads 146021.7 gal x 1000, but I need to report the total in acre-feet and 24-hr cfs.

First, make sure you have the correct total from the meter before we make any conversions. Since the meter reading has a unit of gal x 1000, first multiply the total by 1000. Second, the volume unit in gallons needs to be converted to Acre-Feet. Remember that there are 325,829 gallons in 1 acre-foot, so divide the total by 325,829.

$$146021.7gal * 1000 = 146{,}021{,}700\ gal\ \left[\frac{1\ AF}{325{,}829\ gal}\right] = \ 448.15\ AF$$

The best way to calculate a 24-hr cfs from the volume in AF is to divide by 1.9835.

$$448.15\ AF\ \left[\frac{1\ \text{cfs}}{1.9835\ 24-\text{hr AF}}\right] = 225.94\ 24\text{hr cfs}$$

Example 3.

Water user tells the watermaster that they are sure their farm gets 120 inches at one farm and 30 inches at the other and wants all their water this season. You confirm both places of use are delivered from the same diversion and their water right authorized rate is 3.0 cfs. The turnout is a standard 3-foot Cipolletti weir box and has a standard staff gage which reads in fractions of feet. What should the water level be on the staff gage to deliver all the water down the ditch? The rating table associated with this diversion (Table A7-5).

150 Miners Inches is equal to 3.0 cfs. The rating table A7-5 for a 3 ft Cipolletti weir read that 0.44 ft is 2.95 cfs and 0.45 is 3.05 cfs. The water flowing over the nappe of the weir blade should be right at 0.45 ft.

Example 4.

The reservoir manager tells me they estimate by using a rule of thumb 25 inches for 24 hours is 1 acre-foot. Is this correct?

We know 1 inch is 0.02 cfs, so 25 inches would be 0.5 cfs. And that 1 24-hr cfs is

We know that 1 AF = 43,560 cubic feet (ft^3)

86,400 ft^3 = 1.0 cfs flowing for 24 hours (24-hr cfs)

If 0.5 cfs is half of 1, and half of 86,400 ft^3 is 43,200 ft^3 which is almost exactly 1 AF. Great estimations

Table G2. Length Unit Conversions

LENGTH

METRIC CONVERSIONS					
1 centimeter	=	10 millimeters	1 cm	=	10 mm
1 meter	=	100 centimeteres	1 m	=	100 cm
1 kilometer	=	1000 meters	1 km	=	1000 m

STANDARD CONVERSIONS					
1 foot	=	12 inches	1 ft	=	12 in
1 yard	=	3 feet	1 yd	=	3 ft
1 yard	=	36 inches	1 yd	=	36 in
1 mile	=	1760 yards	1 mi	=	1760 yd

METRIC TO STANDARD CONVERSIONS					
1 millimeter	=	0.03937 inches	1 mm	=	0.03937 in
1 centimeter	=	0.39370 inches	1 cm	=	0.39370 in
1 meter	=	39.37008 inches	1 m	=	39.37008 in
1 meter	=	3.28084 feet	1 m	=	3.28084 ft
1 meter	=	1.09361 yards	1 m	=	1.09361 yd
1 kilometer	=	1093.6133 yards	1 km	=	1093.6133 yd
1 kilometer	=	0.62137 miles	1 km	=	0.62137 mi

STANDARD TO METRIC CONVERSIONS					
1 inch	=	2.54 centimeters	1 in	=	2.54 cm
1 foot	=	30.48 centimeters	1 ft	=	30.48 cm
1 yard	=	91.44 centimeters	1 yd	=	91.44 cm
1 yard	=	0.9144 meters	1 yd	=	0.9144 m
1 mile	=	1609.344 meters	1 mi	=	1609.344 m
1 mile	=	1.609344 kilometers	1 mi	=	1.609344 km

Table G3. Area Unit Conversions

AREA

METRIC CONVERSIONS					
1 sq centimeter	=	100 sq millimeters	1 sq cm	=	100 sq mm
1 sq meter	=	10,000 sq centimeters	1 sq m	=	10,000 sq cm
1 hectare	=	10,000 sq meters	1 ha	=	10,000 sq m
1 sq kilometer	=	100 hectares	1 sq km	=	100 ha
1 sq kilometer	=	1 million sq meters	1 sq km	=	1,000,000 sq m

STANDARD CONVERSIONS					
1 sq foot	=	144 sq inches	1 sq ft	=	144 sq in
1 sq yard	=	9 sq feet	1 sq yd	=	9 sq ft
1 acre	=	4840 sq yards	1 acre	=	4840 sq yd
1 acre	=	43,560 sq feet	1 acre	=	43,560 sq ft
1 sq mile	=	640 acres	1 sq mi	=	640 acres

METRIC TO STANDARD CONVERSIONS					
1 sq centimeter	=	0.15500 sq inches	1 sq cm	=	0.15500 sq in
1 sq meter	=	10.76391 sq feet	1 sq m	=	10.76391 sq ft
1 sq meter	=	1.19599 sq yards	1 sq m	=	1.19599 sq yd
1 hectare	=	2.47105 acres	1 ha	=	2.47105 acres
1 sq kilometer	=	0.386102 sq miles	1 sq km	=	0.386102 sq mi

STANDARD TO METRIC CONVERSIONS					
1 sq inch	=	6.45616 sq centimeters	1 sq in	=	6.4516 sq cm
1 sq foot	=	929.0304 sq centimeters	1 sq ft	=	929.0304 sq cm
1 sq foot	=	0.09290 sq meters	1 sq ft	=	0.09290 sq m
1 sq yard	=	0.83613 sq meters	1 sq yd	=	0.83613 sq m
1 acre	=	0.40469 hectares	1 acre	=	0.40469 ha
1 sq mile	=	258.99881 hectares	1 sq mi	=	258.99881 ha
1 sq mile	=	2.589988 sq kilometers	1 sq mi	=	2.589988 sq km

Table G4. Volume Unit Conversion

VOLUME

METRIC CONVERSIONS					
1 cubic centimeter	=	1000 cubic millimeters	1 cm^3	=	1000 mm^3
1 cubic meter	=	1 million cubic centimeters	1 m^3	=	1,000,000 cm^3

STANDARD CONVERSIONS					
1 cubic foot	=	1728 cubic inches	1 ft^3	=	1728 in^3
1 cubic yard	=	46,656 cubic inches	1 yd^3	=	46,656 in^3
1 cubic yard	=	27 cubic feet	1 yd^3	=	27 ft^3

METRIC TO STANDARD CONVERSIONS					
1 cubic centimeter	=	0.06102 cubic inches	1 cm^3	=	0.06102 in^3
1 cubic meter	=	35.31467 cubic feet	1 m^3	=	35.31467 ft^3
1 cubic meter	=	1.30795 cubic yards	1 m^3	=	1.30795 yd^3

STANDARD TO METRIC CONVERSIONS					
1 cubic inch	=	16.38706 cubic centimeters	1 in^3	=	2.54 cm
1 cubic foot	=	0.02832 cubic meters	1 ft^3	=	30.48 cm
1 cubic yard	=	0.76455 cubic meters	1 yd^3	=	91.44 cm

Appendix H: Measurement Standards for Measurement

H1. Minimum Acceptable Standards and Requirements for Open Channel and Closed Conduit Measuring Devices

H2. Idaho Department of Water Resources List of Approved Conduit Flow Meters

H3. Pictures of Approved Flow Meters to Support the Watermaster

H4. Closed Conduit Flow Meter Quick Sheet Guide to Proper Installation

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
- **Submerged Orifices:** submerged rectangular orifice, constant head orifice
- **Flumes:** Parshall flume, trapezoidal flume, ramped flume (ramped, broad-crested weir)
- **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 Reclamation[1] or the United Stated Geological Survey[2]. 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 (±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 use[3]. 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 (± 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/IDWR-flow-meter-list_2023.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 (±10%) for mechanical type meters, or plus or minus five percent (±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.

Idaho Department of Water Resources
List of Approved Closed Conduit Flow Meters

The tables below list flow meters (meters) that have been independently tested and subsequently approved by the Idaho Department of Water Resources (IDWR) for use in closed conduit measurement applications**.** These meters were tested by the Utah Water Research Laboratory at Utah State University using NIST* traceable instrumentation. Meters on this list performed at or above the standard established by IDWR for: 1) accuracy of +/- 2% of flow rate over the entire range of tested flows; and 2) repeatability of +/- 0.5% defined as the percent deviation of flow rate from average accuracy at each data point. More details on IDWR minimum acceptable standards can be at the following URL: https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/Measuring-Devices-Minimum-Acceptable-Standards.pdf

Prior to selecting a meter, review this list completely and consult the manufacturer's installation requirements to ensure that all installation specifications for the specific model can be achieved. The specific models listed below must also be installed consistent with IDWR installation requirements (below) and any applicable notes (see page 4). This list is subject to change as additional meters are added or removed. The most current list can be found in the Guideline section here: https://idwr.idaho.gov/water-data/water-measurement/

Straight Pipe Length - The required minimum length of straight pipe immediately upstream and downstream of the meter or meter transducers. Straight pipe lengths must be free of flow disturbers and be in-line with the meter or transducer location. For spooled (flanged) meters, this pipe length must be the same nominal diameter as the meter. ***Chemical injection ports must not be located upstream of a meter or meter transducer location.***
Flow Disturber - Any fitting or appliance in the piping that may disturb flow through the meter or meter transducer locations. Flow disturbers may include but are not limited to: pump discharges, elbows, valves (check, butterfly or gate), pipe reduction or expansion joints, couplings, intrusions, or bells.

IDWR Installation Requirements:
Magnetic meters and spooled ultrasonic meters must be installed with a minimum straight pipe length equivalent of three (3) pipe diameters upstream and two (2) pipe diameters downstream from the center of the meter. Ultrasonic meters with remote mount transducers require a minimum straight pipe length equivalent of ten (10) pipe diameters upstream and five (5) pipe diameters downstream of the nearest transducer. These straight pipe spacing requirements must be maintained regardless of the manufacturer specifications, unless a variance has been approved by IDWR. All other manufacturer installation specifications must be met.

Notice to Meter Installers:
Installation of flow meters included on this list may require a permit from a local electrical authority or the Idaho Division of Building Safety (DBS). Please contact DBS or your local electrical authority if you need information regarding electrical permitting requirements that may be associated with your specific application.

* NIST - National Institute of Standards and Technology

Approved Full Profile Magnetic Flow Meters

Manufacturer	Model/Specifications	Power Supply	IDWR-accepted Pipe Applications (Nominal Pipe Size)	NOTES (on last page)
ABB	WaterMaster	AC	3/8" to 96"	See note 1
ABB	AquaMaster 3 with FER Series Transmitter	INTERNAL	½” to 24”	See note 1 and 8
Badger	M2000 Amplifier with M2000 Detector	AC	1/4" to 54"	See note 1
Burkert	8054/8055 with Magflow Transmitter	AC	1" to 80"	See note 1
Endress+Hauser	ProMag L400	AC	1" to 90"	See note 1
Endress+Hauser	ProMag W400	AC	2" to 78"	See note 1
FloCat	MFE	AC	¾” to 24”	See note 1
GloTech	GEM	INTERNAL	2” to 80”	See note 1
GloTech	GEM2	INTERNAL	2” to 80”	See note 1
Growsmart by Lindsay	IM3000	INTERNAL	2” to 12”	See note 1
Hidroconta	Hidromag	INTERNAL	2” to 16”	See note 1
Krohne	Enviromag 2100 C/F	AC	3/8" to 80"	See note 1
Krohne	Waterflux 3100 C/F	AC	1" to 24"	See note 1
Krohne	Waterflux 3070 C/F	INTERNAL	1" to 24"	See note 1
McCrometer	Dura Mag	DC	4” to 12”	See notes 1 and 7
McCrometer	Dura Mag with ProComm GO	AC	2” to 18”	See note1

Approved Full Profile Magnetic Flow Meters (continued)				
Manufacturer	**Model/Specifications**	**Power Supply**	**IDWR-accepted Pipe Applications (Nominal Pipe Size)**	**NOTES (on last page)**
McCrometer	Dura Mag with ProComm GO	DC	2” to 18”	See note 1
McCrometer	Dura Mag with ProComm GO	INTERNAL	2” to 18”	See note 1
McCrometer	Ultra Mag with M-Series Converter	AC	2" to 48"	See note 1
Rosemount	8705 with 8732E Transmitter	AC	1/2" to 36"	See note 1
Rosemount	8750W with 8732 or 8712 Transmitter	AC	1/2" to 48"	See note 1
~~Seametrics~~	~~AG 2000 (retired)~~	~~DC~~	~~4" to 10"~~	See note 2
Seametrics	AG 3000	DC	4" to 12"	See notes 1 and 3
Seametrics	iMag 4700	DC	4" to 12"	See notes 1 and 3
Sensus	iPerl	INTERNAL	5/8” to 1”	See note 1
Siemens	Sitrans FMS500 w/ FMT020 Transmitter	AC	1" to 80"	See note 1
Siemens	Sitrans Mag5100W w/ Mag5000 Transmitter	AC	1" to 78"	See note 1
Siemens	Sitrans Mag8000	INTERNAL	1" to 24"	See note 1
~~Sparling~~	~~TigermagEP FM656 (Flanged)~~	~~AC~~	~~3/8" to 48"~~	See notes 5 and 9
Valmont	Valley 3000	DC	4” to 12”	See notes 1 and 3

Approved Full Profile Magnetic Flow Meters (continued)				
Zotexa	600 Series	AC	2” to 32”	See note 1
Approved Spooled Ultrasonic Flow Meters				
Manufacturer	**Model/Specifications**	**Power Supply**	**IDWR-accepted Pipe Applications (Nominal Pipe Size)**	**NOTES (on last page)**
Badger	E-Series	INTERNAL	3/4” to 2”	See note 1
Hidroconta	Nautilus	INTERNAL	2” to 16”	See note 1
Master Meter	Octave	INTERNAL	2” to 10”	See note 1
Netafim	Octave	INTERNAL	2” to 12”	See note 1
Approved Clamp-on and Wetted Transducer Ultrasonic Flow Meters				
Flexim	Fluxus F721 w/ K-series (0.5MHz) or M-series (1MHz) Transducers	AC	14”+	See notes 1 and 4
Fuji	Time Delta C w/ 1MHz Transducers	AC	14”+	See notes 1 and 4
GE Panametrics	AT868 w/ 1MHz Transducers	AC	14”+	See notes 1 and 4
Siemens	Sitrans FUS1010 w/ High Precision Sensor (type H)	AC	14”+	See notes 1, 4 and 6

Notes:

1. Installation must be consistent with manufacturer specifications and IDWR installation requirements.

2. Removed from approved list October, 2016 (retired and replaced by AG 3000). AG 2000 meters installed prior to October, 2016, may continue to be used unless the meter becomes inoperable or fails to meet the required accuracy standard.

3. Seametrics AG3000, iMag 4700, and Valmont Valley 3000 must be installed with external DC power supply. External power supply options may include: AC/DC transformer or external battery with solar panel. Power supplied must meet the manufacturer specification for DC input voltage sufficient to maintain the meter in a continuous sampling mode. A functional internal battery must remain in the meter.

4. Ultrasonic meters with remote transducers may not be used on pipe smaller than 14 inches unless a variance is approved by IDWR.

5. Sparling FM HT-hot tap model was not tested or approved.

6. Sitrans High Precision sensor selection is based on pipe wall thickness and may only be used on steel pipe.

7. McCrometer Dura Mag must be installed with an external DC power supply. External power supply options may include: an AC/DC transformer, external battery with solar panel, or other charging source. Power supplied must meet the manufacturer specification for DC input voltage sufficient to maintain the meter in a continuous sampling mode.

8. Meter may be operated in connection with an external power supply. Consult the manufacturer specifications for external power supply options. A functional internal battery must remain in the meter.

9. Removed from approved list August 10, 2020. Tigermag EP FM656 meters installed prior to August 10, 2020 may continue to be used unless the meter becomes inoperable or fails to meet the required accuracy standard.

Pictures of Approved Flow Meters to Support the Watermaster

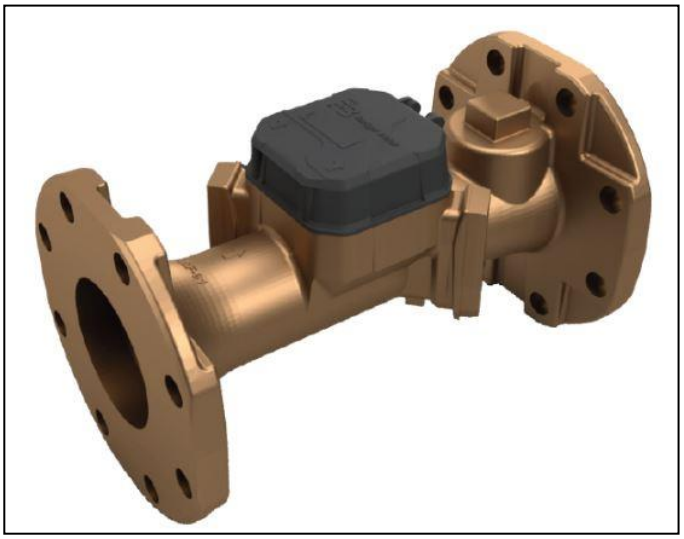
This appendix includes thumbnail images of each approved flow meter for a visual reference to be used in conjunction with the List of Approved Closed Conduit Flowmeters (Appendix H). These images are in alphabetical order by manufacturer along with the make, model, power requirements, and range of pipe size. Use the details in the Closed Conduit Quick Sheet - Guide to Proper Installation (Table H1) to help you make an assessment about the quality of installation in the field.

ABB WaterMaster AC 3/8" to 96"

ABB AquaMaster 3 with FER Series Transmitter INTERNAL ½" to 24"

Badger M2000 Amplifier with M2000 Detector AC 1/4" to 54"

Badger E-Series INTERNAL 3/4” to 2”



Burkert 8054/8055 with Magflow Transmitter AC 1" to 80"

8055

8054

Endress+Hauser

ProMag L400 AC 1" to 90"

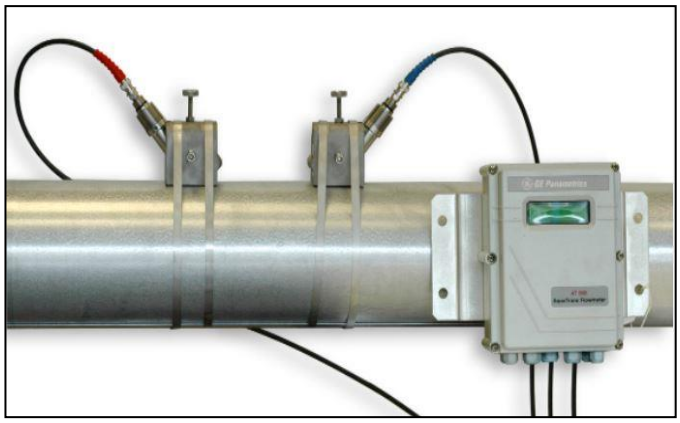
Endress+Hauser

ProMag W400 AC 2" to 78"

FloCat MFE AC ¾” to 24”

Fuji Time Delta C w/ 1MHz Transducers AC 14”+

GE Panametrics AT868 w/ 1MHz Transducers AC 14”+



GloTech GEM INTERNAL 2” to 80”

Growsmart by Lindsay IM3000 INTERNAL 2” to 12”

Hidroconta Hidromag INTERNAL 2” to 16”

Hidroconta Nautilus INTERNAL 2” to 16”

Krohne Enviromag 2100 C/F AC 3/8" to 80"

Krohne Waterflux 3100 C/F AC 1" to 24"

Krohne Waterflux 3070 C/F INTERNAL 1" to 24"

McCrometer Dura Mag DC 4” to 12”

McCrometer Dura Mag with ProComm GO AC 2” to 18’

McCrometer Dura Mag with ProComm GO DC 2” to 18”

McCrometer Ultra Mag with M-Series Converter AC 2" to 48"

McCrometer Dura Mag with ProComm GO INTERNAL 2” to 18”

Master Meter Octave INTERNAL 2” to 10”

Netafim Octave INTERNAL 2” to 12”

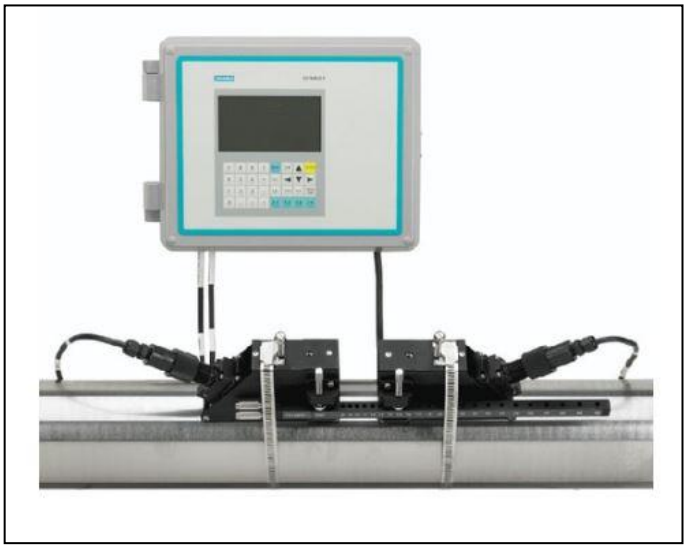
Rosemount 8750W with 8732 or 8712 Transmitter AC 1/2" to 48"

Rosemount 8705 with 8732E Transmitter AC 1/2" to 36"

Seametrics AG 3000 DC 4" to 12"

Seametrics iMag 4700 DC 4" to 12"

Siemens Sitrans FUS1010 w/ High Precision Sensor (type H) AC 14”+



Siemens Sitrans Mag8000 INTERNAL 1" to 24”

Siemens Sitrans Mag5100W w/ Mag5000 Transmitter AC 1" to 78"

Sensus iPerl INTERNAL 5/8” to 1”

Valmont Valley 3000 DC 4” to 12”

Zotexa 600 Series AC 2” to 32”

Closed Conduit Flow Meter Quick Sheet Guide to Proper Installation[1]									
Manufacturer	**IDWR Approved Model with Specifications**	**Meter Type**	**Manufacturers Required Straight Pipe Spacing[2]**	**Pipe Reducer Requirements[3]**	**Meter Installation Orientation (Reference clock position)[4]**	**Grounding[5]**	**IDWR approved pipe diameter**	**Power Supply Requirements**	**Technical Support**
ABB	AquaMaster 3 with FER Series Transmitter	Full Profile Magnetic	5 up, 2 down; 0 Up, 0 Down for reduced bore meter model only and in certain elbow configs		Vertical orientation (12 o'clock) is recommended but may be oriented between 10 and 2 o'clock	Meter and pipe flanges connected to grounding rings. Jumper wire from exterior / interior flanges to grounding ring.	½" to 24"	INTERNAL	Clifford McKeown, Applications Engineer, 215-674-6375 Clifford.Mckeown@us.abb.com
ABB	WaterMaster	Full Profile Magnetic	5 up, 2 down		Vertical orientation (12 o'clock) is recommended but may be oriented between 10 and 2 o'clock	Meter and pipe flanges connected to grounding rings. Jumper wire from exterior / interior flanges to grounding ring.	3/8" to 96"	AC	Clifford McKeown, Applications Engineer, 215-674-6375 Clifford.Mckeown@us.abb.com
Badger	E-Series	Spooled Ultrasonic	5 up, 0 down		Meter should be installed without rotation (12 o'clock)	A suitable, electrical grounding wire attached to the upstream and downstream pipe connections of the meter.	3/4" to 2"	INTERNAL	
Badger	M2000 Amplifier w/M2000 Detector	Full Profile Magnetic	3 up (following Elbow Tee or Gate Valve); 7 up (following Check, Globe or Butterfly Valves, or Pump); 2 down (prior to Elbow, Tee or any Valve)	Custom pipe reducers must have an approximate slope of 15 degrees.	If vertical, rotate meter so that cable connectors are hanging down. Horizontal, orientation is at 12 o'clock	Metal pipes: Grounding straps between the grounding bolts and mating flanges. Grounding straps must be copper wire and connected on both sides of the detector and to an earth ground. Plastic pipes: Grounding ring between the mating flanges at both ends of meter. Grounding straps should be connected to both of the grounding rings and to an earth ground.	1/4" to 54"	AC	(877)-243-1010 Press #2 for Technical Support
Burkert	8054/8055 w/Magflow Transmitter	Full Profile Magnetic	3 up, 2 down (from center)		Meter should be installed without rotation (12 o'clock)	Sensor and transmitter connected to earth ground	1" to 80"	AC	
Endress+Hauser	ProMag L400	Full Profile Magnetic	5 up, 2 down (from center)	A maximum slope of 8 degrees	Meter should be installed without rotation (12 o'clock)	Metal Pipes: connect sensor flange to pipe flange with grounding cables; cables between flanges connected to earth ground and to sensor's ground terminal connection. If DN ≤ 300 (12""): Mount the ground cable directly on the conductive flange coating of the sensor with the flange screws. If DN ≥ 350 (14"") - Mount the ground cable directly on the metal transport bracket. Plastic pipes: Ground disks connected to the sensor's ground terminal via the ground cable and connected to ground potential (earth ground)	1" to 90"	AC	
Endress+Hauser	ProMag W400	Full Profile Magnetic	5 up, 2 down (from center)	A maximum slope of 8 degrees	Meter should be installed without rotation (12 o'clock)	Metal Pipes: connect sensor flange to pipe flange with grounding cables; cables between flanges connected to earth ground and to sensor's ground terminal connection. If DN ≤ 300 (12""): Mount the ground cable directly on the conductive flange coating of the sensor with the flange screws. If DN ≥ 350 (14"") - Mount the ground cable directly on the metal transport bracket. Plastic pipes: Ground disks connected to the sensor's ground terminal via the ground cable and connected to ground potential (earth ground)	2" to 78"	AC	

Manufacturer	IDWR Approved Model with Specifications	Meter Type	Manufacturers Required Straight Pipe Spacing[2]	Pipe Reducer Requirements[3]	Meter Installation Orientation (Reference clock position)[4]	Grounding[5]	IDWR approved pipe diameter	Power Supply Requirements	Technical Support
Flexim	Fluxus F721 w/ K-series (0.5MHz) or M-series (1MHz) Transducers	Clamp-on or Wetted Transducer Ultrasonic	10 up, 5 down		NA	NA	14”+	AC	
FloCat	MFE	Full Profile Magnetic	5 up, 2 down (from center)	None	Meter should be installed without rotation (12 o'clock)	Metal pipe: Grounding cables between meter and pipe flanges on each side; Both meter flanges connected to a common earth ground; Plastic Pipe: Meter flanges connected to grounding rings; One meter flange connected to earth ground; Diagram displays a cable connection from pipe flange to pipe flange.	3/4" to 24"	AC	Call Instrumart for technical support 1(800) 884-4967 and you will be directed to available technician
Fuji	Time Delta C w/ 1MHz Transducers	Clamp-on or Wetted Transducer Ultrasonic	Recommendations vary depending on disturbace: Up - Between 10D to 50D; Down - Between 5D to 10D		Transducer placement within 45 degrees of horizontal - between 2 and 4 o'clock	NA	14”+	AC	
GE Panametrics	AT868 w/ 1MHz Transducers	Clamp-on or Wetted Transducer Ultrasonic	10 up, 5 down		Transducer placement within 45 degrees of horizontal - between 2 and 4 o'clock	NA	14”+	AC	
GloTech	GEM	Full Profile Magnetic	2 up, 1 down (from flanges)		Vertical orientation (12 o'clock) is recommended but may be oriented between 10 and 2 o'clock	On both sides of the meter, flow meter grounding screw and wire on the meter flange is connected to the ground lug on the pipe flange. Grounding must be completely isolated from the flow meter. Plastic Pipe - grouding includes installation of a ground to earth connection.	2” to 80”	INTERNAL	
Growsmart by Lindsay	IM3000	Full Profile Magnetic	2 up, 1 down	None	Vertical orientation (12 o'clock) is recommended but may be oriented between 10 and 2 o'clock	For metal pipe, make sure the ground wire or lug is between the flange bolt head (or nut) and the outside surface of the mating pipe flange. The grounding must be completely isolated from the flowmeter. With plastic pipe, a grounding rod must be installed.	2" to 12"	INTERNAL	Service Department (877) 474 5463 for all service and technical questions; or Josh Egan 435-770-2934
Hidroconta	Hidromag	Full Profile Magnetic	3 up, 0 down (from flanges)		Meter should be installed without rotation (12 o'clock)	Metal pipe: Grounding wires connecting meter flanges to pipe flanges, and connected to earth ground. Plastic pipe: Grounding rings connected to meter flanges and earth ground	2” to 16”	INTERNAL	
Hidroconta	Nautilus	Spooled Ultrasonic	0 up, 0 down (2" to 12" pipes); 5 up, 5 down (14" and 16" pipes)		Diagrams in manual indicate vertical orientation - 12 o'clock	Grounding not required	2” to 16”	INTERNAL	
Krohne	Enviromag 2100 C/F	Full Profile Magnetic	From center: 10 up after T-section; 10 up after bend in 3 dimensions; 5 up after bend in 2 dimensions; 2 down; Place meter upstream of control valves		Meter orientation is at 12 or 6 o'clock	Metal pipes: Sensor connected to pipe flanges, and earth ground; Non-conductive pipes: Sensor connected to grounding rings and earth ground	3/8" to 80"	AC	The Krohne 2000 manual applies to multiple series of this meter (including the 2100 C/F)
Krohne	Waterflux 3070 C/F	Full Profile Magnetic	0 up, 0 down; 3 up when meter is after a pump		Meter orientation is at 12 or 6 o'clock	Grounding rings can be omitted when the reference electrode is used and connected to earth ground.	1" to 24"	INTERNAL	

Manufacturer	IDWR Approved Model with Specifications	Meter Type	Manufacturers Required Straight Pipe Spacing[2]	Pipe Reducer Requirements[3]	Meter Installation Orientation (Reference clock position)[4]	Grounding[5]	IDWR approved pipe diameter	Power Supply Requirements	Technical Support
Krohne	Waterflux 3100 C/F	Full Profile Magnetic	3 up, 1 down (from center)	NONE	Meter orientation is at 12 or 6 o'clock	Grounding rings can be omitted when the reference electrode is used and connected to earth ground.	1" to 24"	AC	U.S. Technical Applications Support Center 1 (800) 356-9464 extension 1301
Master Meter	Octave	Spooled Ultrasonic	2 up, 2 down	NONE	Meter should be installed without rotation (12 o'clock)	The ring terminal lug, flat and serrated washer are attached to the Fork Terminal Lug. The washers and ring terminal lug are attached to the bolt on the meter's flange side with another serrated and flat washer on the opposite side	2" to 10"	INTERNAL	(817) 842-8000 ask for Greg Land he is the Octave Engineer.
McCrometer	Dura Mag	Full Profile Magnetic	2 up, 1 down (from flanges)		Meter should be installed without rotation (12 o'clock)	All Dura Mag flow meter installations require minimum grounding with a 12-gauge ground wire to an earth ground. Grounding rings recommended for plastic pipes.; Attach the provided 12 gauge wire, or equivalent, to the sensor ground lug. Then connect this sensor ground lug to pipe flanges (metal) or grounding rings and to an earth ground point;	4″ to 12″	AC, DC, Internal Battery	
McCrometer	Dura Mag with ProComm GO	Full Profile Magnetic	2 up, 1 down (4" diameter and above); 3 up, 1 down (smaller pipes)		Meter should be installed without rotation (12 o'clock)	All Dura Mag flow meter installations require minimum grounding with a 12-gauge ground wire to an earth ground. Grounding rings recommended for plastic pipes.; Attach the provided 12 gauge wire, or equivalent, to the sensor ground lug. Then connect this sensor ground lug to pipe flanges (metal) or grounding rings and to an earth ground point;	2″ to 18″	AC	
McCrometer	Ultra Mag with M-Series Converter	Full Profile Magnetic	1 up, 0 down from most flow disturbers. 5-up from pump discharge		Meter should be installed without rotation (12 o'clock)	Meter grounding: Sensor connected to grounding rings Converter gounding: Attach ground wire to the enclosure's ground terminal lug.	2" to 48"	AC	Dick McDougall 509-590-5042 RichardM@mccrometer.com
Netafim	Octave	Spooled Ultrasonic	2 up, 2 down	NONE	Meter should be installed without rotation (12 o'clock)	The ring terminal lug, flat and serrated washer are attached to the Fork Terminal Lug. The washers and ring terminal lug are attached to the bolt on the meter's flange side with another serrated and flat washer on the opposite side	2" to 12"	INTERNAL	(888) 638-2346 ask for Tech Department
Rosemount	8705 with 8732E Transmitter	Full Profile Magnetic	5 up, 2 down (from center)		"The electrodes in the Rosemount 8711 are properly oriented when the top of the sensor is either vertical or horizontal." (12, 3, or 9 o'clock)	Earth ground is required for all installations; Metal pipes: Sensor connected to pipe flanges. If using grounding rings, rings connected to sensor and pipe flanges. Plastic pipes: Sensor connected to grounding rings. grounding rings connected to sensor and pipe flanges. "For line sizes 10-in. and larger, the ground strap may come attached to the sensor body near the flange." Ground straps connected to pipe flanges.	1/2" to 36"	AC	The manual applies to the 8700 series of this meter
Rosemount	8750W with 8732 or 8712 Transmitter	Full Profile Magnetic	5 up, 2 down (from center)		Meter can be oriented at 12 or 6 o'clock, or 45 degrees away from horizontal (2, 4, 8, or 10 o'clock)	Earth ground is required for all installations; Metal pipes: Sensor connected to pipe flanges. If using grounding rings, rings connected to sensor and pipe flanges. Plastic pipes: Sensor connected to grounding rings. grounding rings connected to sensor and pipe flanges. "For line sizes 10-in. and larger, the ground strap may come attached to the sensor body near the flange." Ground straps connected to pipe flanges.	1/2" to 48"	AC	

Manufacturer	IDWR Approved Model with Specifications	Meter Type	Manufacturers Required Straight Pipe Spacing[2]	Pipe Reducer Requirements[3]	Meter Installation Orientation (Reference clock position)[4]	Grounding[5]	IDWR approved pipe diameter	Power Supply Requirements	Technical Support
Seametrics	AG 2000 (retired)	Full Profile Magnetic	2 up, 1 down (from flanges)		10 or 2 o'clock only	Metal Pipes: Run wire from equalization lug (on the meter) to both pipe flanges; Be sure the lock washer fits between the pipe flange and the flange plate (end of the wire for grounding); Plastic pipes: Connect equalization lug (on the meter) to earth ground.	4" to 10"	DC	
Seametrics	AG 3000	Full Profile Magnetic	2 up, 1 down (from flanges); 5 up, 1 down (After expanded pipe or swirling flow)	NONE	10 or 2 o'clock only	Metal Pipes: Run wire from equalization lug (on the meter) to both pipe flanges; Be sure the lock washer fits between the pipe flange and the flange plate (on the end of the wire for grounding); Plastic pipes: Connect equalization lug (on the meter) to grounding rings (up and down stream) and to earth ground.	4" to 12"	DC	Technical Support: (253)872-0284 or (800) 975-8153 Check out the FAQs http://www.seametrics.com/faqs; or Katie Englin, Bus Dev Mgmt - Ag, 253-246-4451 katiee@seametrics.com
Seametrics	iMag 4700	Full Profile Magnetic	2 up, 1 down; 5 up, 1 down (After expanded pipe or swirling flow)		10 or 2 o'clock only	Metal Pipes: Run wire from equalization lug (on the meter) to both pipe flanges; Be sure the lock washer fits between the pipe flange and the flange plate (on the end of the wire for grounding); Plastic pipes: Connect equalization lug (on meter) to grounding rings instead of the flange bolts. An earth ground is advisable.	4" to 12"	DC	
Sensus	iPerl	Full Profile Magnetic	10 down - if pump is installed on outlet side of meter		Meter should be installed without rotation (12 o'clock)	"Make sure that metallic water service plumbing is properly grounded as per local electrical codes."	5/8" to 1"	INTERNAL	
Siemens	Sitrans FUS1010 w/ High Precision Sensor (type H)	Clamp-on or Wetted Transducer Ultrasonic	"Select a location with the longest straight run of pipe"		NA	NA	14"+	AC	
Siemens	Sitrans Mag5100W w/ Mag5000 Transmitter	Full Profile Magnetic	5 up, 3 down (from center)	A maximum slope of 8 degrees	Meter can be oriented at 12 o'clock or 45 degrees away from vertical (2, 4, 8, or 10 o'clock)	There are built in grounding electrodes but the sensor body must be grounded using grounding straps and/or grounding rings. On metal pipes conect the straps to both flanges. On plastic pipes, grounding rings must be used at both ends.	1" to 78"	AC	Scott Lee, Siemens 714-921-9900 (o) or 714-307-6500 (cell) scottlee@siemens.com; or Norm Kramer "Mag Guy" (215) 439-5698, Customer Service 1(800)365-8766
Siemens	Sitrans Mag8000	Full Profile Magnetic	5 up, 3 down (from center)	Must have 8 degree reducer	Meter can be oriented at 12 o'clock or 45 degrees away from vertical (2, 4, 8, or 10 o'clock)	There are built in grounding electrodes but the sensor body must be grounded using grounding straps and/or grounding rings. On metal pipes conect the straps to both flanges. On plastic pipes, grounding rings must be used at both ends.	1" to 24"	INTERNAL	Norm Kramer "Mag Guy" (215) 439-5698, Customer Service 1(800)365-8766
Sparling	TigermagEP – FM656 (Flanged)	Full Profile Magnetic	3 up (from center)	NONE	Vertical orientation (12 o'clock) is recommended but may be oriented between 10 and 2 o'clock	Metal pipes: grounding cables from sensor connected to pipe flanges, with flange bolt and tooth lock washer in direct contact with the metal of the pipe; Plastic or lined pipe with low conductivity use grounding rings.	3/8" to 48"	AC	Chris Carter, Senior Technical Support (626)899-4596 or Yosufi Tyebkhan 626-899-4553 ytyebkhan@sparlinginstruments.com
Valmont	Valley 3000	Full Profile Magnetic	2 up, 1 down (reduced pipe); 5 up, 1 down (expanded pipe)	NONE	Meter should be oriented at 10 or 2 o'clock only	Metal pipes: Secure flange plates to each pipe flange at one of the bolt holes. Be sure the lock washer fits between the pipe flange and the flange plate. Plastic pipes: connect equalizing wires to the grounding ring tabs instead of the flange bolts. Connect to earth ground.	4" to 12"	IDWR requires that meter have AC power supply **and** a working battery must remain in the unit	888-223-0639

Manufacturer	IDWR Approved Model with Specifications	Meter Type	Manufacturers Required Straight Pipe Spacing[2]	Pipe Reducer Requirements[3]	Meter Installation Orientation (Reference clock position)[4]	Grounding[5]	IDWR approved pipe diameter	Power Supply Requirements	Technical Support
Zotexa	600 Series	Full Profile Magnetic	Recommendations vary depending on disturbace: (from center) Up - Between 0D and 10D; Down - Between 0D and 2D		Meter should be installed without rotation (12 o'clock)	"Proper installation and grounding of the flow meter is important for accurate, reliable measurement performance." (see manual - p.11)	2" to 32"	AC	

[1]In general flow meter and display should be protected from the elements with shielding or housing. At the minumum, the displays should be shielded from direct sunlight. Flow meters should be installed in locations that avoid pipe vibrations and disruptive electromagnetic fields, i.e. transformers.

[2]Manufacturers straight pipe requirements are measured from the *flange* unless noted as measured from *center* of the flow tube. The IDWR minimum requirement of 3 up, 2 down is measured from the center of the flow tube.

[3]If no specific requirement, pipe reducers should be treated as if they were fittings and installed with the required amount of straight pipe.

[4]Meters can be installed both horizontally and vertically. If no rotation is required this is the 12 o'clock position relative to the pipe. Vertical installation always requires flow to be moving in the upwards direction.

[5]Grounding is critical for accurate measurements and especially with magnetic meters. There are four fundamental grounding locations: grounded at the flowmeter tube, transmitter, recieving instrument, and the fluid (potential equilization). There should be some evidence of earth grounding.

Appendix I: Standard Rating Tables for Weirs, Flumes, and Submerged Orifices from the USBOR Water Measurement Manual

I1. Rating Tables Pertaining to Weirs

I2. Rating Tables Pertaining to Flumes

I3. Rating Tables Pertaining to Submerged and Constand Head Orifices

Table A7-2. Discharge of standard contracted rectangular weirs in ft^3/sec. Shaded entries determined experimentally. All others computed from the formula $Q = 3.33(L - 0.2h_1)h_1^{1.5}$.

Head, h_1	Weir Length, L, ft								
ft	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	7.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
0.18	0.122	-----	-----	-----	-----	-----	-----	-----	-----
.19	.132	-----	-----	-----	-----	-----	-----	-----	-----
.20	.142	0.286	0.435	0.584	0.882	1.18	1.48	1.78	2.07
.21	.152	.307	.467	.627	.948	1.27	1.59	1.91	2.23
.22	.162	.329	.500	.672	1.02	1.36	1.70	2.05	2.39
.23	.173	.350	.534	.718	1.09	1.45	1.82	2.19	2.55
.24	.184	.373	.568	.764	1.16	1.55	1.94	2.33	2.72
.25	.195	.395	.604	.812	1.23	1.64	2.06	2.48	2.89
.26	-----	.419	.639	.860	1.30	1.74	2.18	2.63	3.07
.27	-----	.442	.676	.909	1.38	1.84	2.31	2.78	3.25
.28	-----	.466	.712	.959	1.45	1.95	2.44	2.93	3.43
.29	-----	.490	.750	1.01	1.53	2.05	2.57	3.09	3.61
.30	-----	.514	.788	1.06	1.61	2.16	2.70	3.25	3.80
.31	-----	.539	.827	1.11	1.69	2.26	2.84	3.41	3.99
.32	-----	.564	.866	1.17	1.77	2.37	2.98	3.58	4.18
.33	-----	.590	.905	1.22	1.85	2.48	3.11	3.75	4.38
.34	-----	.615	.945	1.28	1.94	2.60	3.26	3.92	4.58
.35	-----	.658	.986	1.33	2.02	2.71	3.40	4.09	4.78
.36	-----	.686	1.03	1.39	2.11	2.83	3.54	4.26	4.98
.37	-----	.714	1.07	1.44	2.19	2.94	3.69	4.44	5.19
.38	-----	.743	1.11	1.50	2.28	3.06	3.84	4.62	5.40
.39	-----	.772	1.15	1.56	2.37	3.18	3.99	4.80	5.61
.40	-----	.801	1.20	1.62	2.46	3.30	4.14	4.99	5.83
.41	-----	.830	1.24	1.68	2.55	3.43	4.30	5.17	6.05
.42	-----	.860	1.28	1.74	2.64	3.55	4.46	5.36	6.27
.43	-----	.890	1.33	1.80	2.74	3.68	4.61	5.55	6.49
.44	-----	.920	1.37	1.86	2.83	3.80	4.77	5.75	6.72
.45	-----	.950	1.42	1.92	2.93	3.93	4.94	5.94	6.95
.46	-----	.981	1.46	1.98	3.02	4.06	5.10	6.14	7.18
.47	-----	1.01	1.51	2.05	3.12	4.19	5.26	6.34	7.41
.48	-----	1.04	1.55	2.11	3.22	4.32	5.43	6.54	7.65
.49	-----	1.08	1.60	2.17	3.31	4.46	5.60	6.74	7.88
.50	-----	1.11	1.65	2.24	3.41	4.59	5.77	6.95	8.12
.51	-----	-----	-----	2.30	3.51	4.73	5.94	7.15	8.37
.52	-----	-----	-----	2.37	3.62	4.86	6.11	7.36	8.61
.53	-----	-----	-----	2.43	3.72	5.00	6.29	7.57	8.86
.54	-----	-----	-----	2.50	3.82	5.14	6.46	7.79	9.11
.55	-----	-----	-----	2.57	3.93	5.28	6.64	8.00	9.36
.56	-----	-----	-----	2.63	4.03	5.43	6.82	8.22	9.61
.57	-----	-----	-----	2.70	4.14	5.57	7.00	8.43	9.87
.58	-----	-----	-----	2.77	4.24	5.71	7.18	8.65	10.1
.59	-----	-----	-----	2.84	4.35	5.86	7.37	8.88	10.4
.60	-----	-----	-----	2.91	4.46	6.00	7.55	9.10	10.6

Table A7-2 [continued]. Discharge of standard contracted rectangular weirs in ft^3/sec. Shaded entries determined experimentally. All others computed from the formula $Q = 3.33(L - 0.2h_1)h_1^{1.5}$

Head, h_1 ft	2.0	3.0	4.0	5.0	6.0	7.0
0.61	2.98	4.57	6.15	7.74	9.33	10.9
.62	3.05	4.68	6.30	7.93	9.55	11.2
.63	3.12	4.79	6.45	8.12	9.78	11.4
.64	3.19	4.90	6.60	8.31	10.0	11.7
.65	3.26	5.01	6.75	8.50	10.2	12.0
.66	3.34	5.12	6.91	8.69	10.5	12.3
.67	3.41	5.23	7.06	8.89	10.7	12.5
.68	3.58	5.35	7.22	9.08	10.9	12.8
.69	3.66	5.46	7.37	9.28	11.2	13.1
.70	3.74	5.58	7.53	9.48	11.4	13.4
.71	3.82	5.69	7.69	9.68	11.7	13.7
.72	3.90	5.81	7.84	9.88	11.9	13.9
.73	3.98	5.93	8.00	10.1	12.2	14.2
.74	4.06	6.05	8.17	10.3	12.4	14.5
.75	4.14	6.16	8.33	10.5	12.7	14.8
.76	4.22	6.28	8.49	10.7	12.9	15.1
.77	4.30	6.40	8.65	10.9	13.2	15.4
.78	4.38	6.52	8.82	11.1	13.4	15.7
.79	4.46	6.65	8.98	11.3	13.7	16.0
.80	4.54	6.77	9.15	11.5	13.9	16.3
.81	4.62	6.89	9.32	11.7	14.2	16.6
.82	4.70	7.01	9.49	12.0	14.4	16.9
.83	4.78	7.14	9.65	12.2	14.7	17.2
.84	4.87	7.26	9.82	12.4	15.0	17.5
.85	4.96	7.39	9.99	12.6	15.2	17.8
.86	5.05	7.51	10.2	12.8	15.5	18.1
.87	5.14	7.64	10.3	13.0	15.7	18.4
.88	5.23	7.76	10.5	13.3	16.0	18.8
.89	5.32	7.89	10.7	13.5	16.3	19.1
.90	5.41	8.02	10.9	13.7	16.5	19.4
.91	5.50	8.15	11.0	13.9	16.8	19.7
.92	5.59	8.27	11.2	14.2	17.1	20.0
.93	5.68	8.40	11.4	14.4	17.4	20.4
.94	5.77	8.53	11.6	14.6	17.6	20.7
.95	5.86	8.66	11.7	14.8	17.9	21.0
.96	5.95	8.80	11.9	15.1	18.2	21.3
.97	6.04	8.93	12.1	15.3	18.5	21.7
.98	6.13	9.06	12.3	15.5	18.8	22.0
.99	6.22	9.19	12.5	15.8	19.0	22.3
1.00	6.31	9.32	12.7	16.0	19.3	22.6
1.01	-----	-----	12.8	16.2	19.6	23.0
1.02	-----	-----	13.0	16.5	19.9	23.3
1.03	-----	-----	13.2	16.7	20.2	23.6
1.04	-----	-----	13.4	16.9	20.5	24.0
1.05	-----	-----	13.6	17.2	20.7	24.3

Table A7-2 [continued]. Discharge of standard contracted rectangular weirs in ft^3/sec. Shaded entries determined experimentally. All others computed from the formula $Q = 3.33(L - 0.2h_1)h_1^{1.5}$

Head, h_1	Weir Length, L, ft				Head, h_1	Weir Length, L, ft		
ft	4.0	5.0	6.0	7.0	ft	5.0	6.0	7.0
1.06	13.8	17.4	21.0	24.7	1.51	29.0	35.2	41.4
1.07	14.0	17.6	21.3	25.0	1.52	29.3	35.5	41.8
1.08	14.1	17.9	21.6	25.4	1.53	29.6	35.9	42.2
1.09	14.3	18.1	21.9	25.7	1.54	29.9	36.2	42.6
1.10	14.5	18.4	22.2	26.0	1.55	30.1	36.6	43.0
1.11	14.7	18.6	22.5	26.4	1.56	30.4	36.9	43.4
1.12	14.9	18.9	22.8	26.7	1.57	30.7	37.2	43.8
1.13	15.1	19.1	23.1	27.1	1.58	31.0	37.6	44.2
1.14	15.3	19.3	23.4	27.4	1.59	31.3	37.9	44.6
1.15	15.5	19.6	23.7	27.8	1.60	31.5	38.3	45.0
1.16	15.7	19.8	24.0	28.2	1.61	31.8	38.6	45.4
1.17	15.9	20.1	24.3	28.5	1.62	32.1	39.0	45.8
1.18	16.1	20.3	24.6	28.9	1.63	32.4	39.3	46.3
1.19	16.3	20.6	24.9	29.2	1.64	32.7	39.7	46.7
1.20	16.5	20.8	25.2	29.6	1.65	33.0	40.0	47.1
1.21	16.7	21.1	25.5	30.0	1.66	33.2	40.4	47.5
1.22	16.9	21.3	25.8	30.3	1.67	33.5	40.7	47.9
1.23	17.1	21.6	26.1	30.7	1.68	-----	41.1	48.3
1.24	17.3	21.9	26.4	31.0	1.69	-----	41.4	48.7
1.25	17.5	22.1	26.8	31.4	1.70	-----	41.8	49.2
1.26	17.7	22.4	27.1	31.8	1.71	-----	42.1	49.6
1.27	17.9	22.6	27.4	32.2	1.72	-----	42.5	50.0
1.28	18.1	22.9	27.7	32.5	1.73	-----	42.8	50.4
1.29	18.3	23.1	28.0	32.9	1.74	-----	43.2	50.8
1.30	18.5	23.4	28.3	33.3	1.75	-----	43.6	51.3
1.31	18.7	23.7	28.6	33.6	1.76	-----	43.9	51.7
1.32	18.9	23.9	29.0	34.0	1.77	-----	44.3	52.1
1.33	19.1	24.2	29.3	34.4	1.78	-----	44.6	52.5
1.34	-----	24.4	29.6	34.8	1.79	-----	45.0	53.0
1.35	-----	24.7	29.9	35.2	1.80	-----	45.4	53.4
1.36	-----	25.0	30.3	35.5	1.81	-----	45.7	53.8
1.37	-----	25.2	30.6	35.9	1.82	-----	46.1	54.3
1.38	-----	25.5	30.9	36.3	1.83	-----	46.4	54.7
1.39	-----	25.8	31.2	36.7	1.84	-----	46.8	55.1
1.40	-----	26.0	31.6	37.1	1.85	-----	47.2	55.6
1.41	-----	26.3	31.9	37.5	1.86	-----	47.5	56.0
1.42	-----	26.6	32.2	37.8	1.87	-----	47.9	56.4
1.43	-----	26.8	32.5	38.2	1.88	-----	48.3	56.9
1.44	-----	27.1	32.9	38.6	1.89	-----	48.6	57.3
1.45	-----	27.4	33.2	39.0	1.90	-----	49.0	57.7
1.46	-----	27.7	33.5	39.4	1.91	-----	49.4	58.2
1.47	-----	27.9	33.9	39.8	1.92	-----	49.8	58.6
1.48	-----	28.2	34.2	40.2	1.93	-----	50.1	59.1
1.49	-----	28.5	34.5	40.6	1.94	-----	50.5	59.5
1.50	-----	28.8	34.9	41.0	1.95	-----	50.9	59.9

Table A7-2 [continued]. Discharge of standard contracted rectangular weirs in ft^3/sec. Shaded entries determined experimentally. All others computed from the formula $Q = 3.33(L - 0.2h_1)h_1^{1.5}$

Head, h_1 ft	6.0	7.0
1.96	51.2	60.4
1.97	51.6	60.8
1.98	52.0	61.3
1.99	52.4	61.7
2.00	52.7	62.2
2.01	-----	62.6
2.02	-----	63.1
2.03	-----	63.5
2.04	-----	64.0
2.05	-----	64.4
2.06	-----	64.9
2.07	-----	65.3
2.08	-----	65.8
2.09	-----	66.2
2.10	-----	66.7
2.11	-----	67.1
2.12	-----	67.6
2.13	-----	68.1
2.14	-----	68.5
2.15	-----	69.0
2.16	-----	69.4
2.17	-----	69.9
2.18	-----	70.4
2.19	-----	70.8
2.20	-----	71.3
2.21	-----	71.7
2.22	-----	72.2
2.23	-----	72.7
2.24	-----	73.1
2.25	-----	73.6
2.26	-----	74.1
2.27	-----	74.6
2.28	-----	75.0
2.29	-----	75.5
2.30	-----	76.0
2.31	-----	76.4
2.32	-----	76.9
2.33	-----	77.4

Table A7-2 [continued]. Discharge of standard contracted rectangular weirs in ft^3/sec. Shaded entries determined experimentally. All others computed from the formula $Q = 3.33(L - 0.2h_1)h_1^{1.5}$

Head, h_1	Weir Length, L, ft						
ft	8.0	9.0	10.0	12.0	15.0	18.0	20.0
-----	-----	-----	-----	-----	-----	-----	-----
0.20	2.37	2.67	2.97	3.56	4.46	5.35	5.94
.30	4.34	4.89	5.44	6.53	8.17	9.82	10.91
.40	6.67	7.51	8.36	10.0	12.6	15.1	16.8
.50	9.30	10.5	11.7	14.0	17.5	21.1	23.4
.60	12.2	13.7	15.3	18.4	23.0	27.7	30.8
.70	15.3	17.3	19.2	23.1	29.0	34.8	38.7
.80	18.7	21.1	23.4	28.2	35.4	42.5	47.3
.90	22.2	25.1	27.9	33.6	42.1	50.7	56.4
1.00	26.0	29.3	32.6	39.3	49.3	59.3	65.9
1.10	29.9	33.7	37.6	45.3	56.8	68.3	76.0
1.20	34.0	38.3	42.7	51.5	64.6	77.7	86.5
1.30	38.2	43.1	48.1	57.9	72.8	87.6	97.4
1.40	42.6	48.1	53.6	64.6	81.2	97.7	109.
1.50	47.1	53.2	59.3	71.6	89.9	108.	121.
1.60	51.8	58.5	65.2	78.7	98.9	119.	133.
1.70	56.5	63.9	71.3	86.1	108.	130.	145.
1.80	61.4	69.5	77.5	93.6	118.	142.	158.
1.90	66.5	75.2	83.9	101.	128.	154.	171.
2.00	71.6	81.0	90.4	109.	138.	166.	185.
2.10	76.8	86.9	97.1	117.	148.	178.	198.
2.20	82.1	93.0	104.	126.	158.	191.	213.
2.30	87.6	99.2	111.	134.	169.	204.	227.
2.40	93.1	105.	118.	143.	180.	217.	242.
2.50	98.7	112.	125.	151.	191.	230.	257.
2.60	104.	118.	132.	160.	202.	244.	272.
2.70	110.	125.	140.	169.	214.	258.	287.
2.80	-----	132.	147.	178.	225.	272.	303.
2.90	-----	138.	155.	188.	237.	286.	319.
3.00	-----	145.	163.	197.	249.	301.	336.
3.10	-----	-----	170.	207.	261.	316.	352.
3.20	-----	-----	178.	217.	274.	331.	369.
3.30	-----	-----	186.	226.	286.	346.	386.
3.40	-----	-----	-----	236.	299.	362.	403.
3.50	-----	-----	-----	246.	312.	377.	421.
3.60	-----	-----	-----	257.	325.	393.	439.
3.70	-----	-----	-----	267.	338.	409.	456.
3.80	-----	-----	-----	277.	351.	425.	475.
3.90	-----	-----	-----	288.	365.	442.	493.
4.00	-----	-----	-----	298.	378.	458.	511.
4.10	-----	-----	-----	-----	392.	475.	530.
4.20	-----	-----	-----	-----	406.	492.	549.
4.30	-----	-----	-----	-----	420.	509.	568.
4.40	-----	-----	-----	-----	434.	526.	588.
4.50	-----	-----	-----	-----	448.	544.	607.

Table A7-3. Discharge of standard suppressed rectangular weirs in ft^3/sec. Computed from the formula $Q = 3.33Lh_1^{1.5}$

Head h_1, ft	Weir Length, L, ft					
	1.0	1.5	2.0	3.0	4.0	5.0
0.20	0.298	0.447	0.596	0.894	1.19	1.49
.21	.320	.481	.641	.961	1.28	1.60
.22	.344	.515	.687	1.03	1.37	1.72
.23	.367	.551	.735	1.10	1.47	1.84
.24	.392	.587	.783	1.17	1.57	1.96
.25	.416	.624	.833	1.25	1.67	2.08
.26	.441	.662	.883	1.32	1.77	2.21
.27	.467	.701	.934	1.40	1.87	2.34
.28	.493	.740	.987	1.48	1.97	2.47
.29	.520	.780	1.04	1.56	2.08	2.60
.30	.547	.821	1.09	1.64	2.19	2.74
.31	.575	.862	1.15	1.72	2.30	2.87
.32	.603	.904	1.21	1.81	2.41	3.01
.33	.631	.947	1.26	1.89	2.53	3.16
.34	-----	.990	1.32	1.98	2.64	3.30
.35	-----	1.03	1.38	2.07	2.76	3.45
.36	-----	1.08	1.44	2.16	2.88	3.60
.37	-----	1.12	1.50	2.25	3.00	3.75
.38	-----	1.17	1.56	2.34	3.12	3.90
.39	-----	1.22	1.62	2.43	3.24	4.06
.40	-----	1.26	1.68	2.53	3.37	4.21
.41	-----	1.31	1.75	2.62	3.50	4.37
.42	-----	1.36	1.81	2.72	3.63	4.53
.43	-----	1.41	1.88	2.82	3.76	4.69
.44	-----	1.46	1.94	2.92	3.89	4.86
.45	-----	1.51	2.01	3.02	4.02	5.03
.46	-----	1.56	2.08	3.12	4.16	5.19
.47	-----	1.61	2.15	3.22	4.29	5.36
.48	-----	1.66	2.21	3.32	4.43	5.54
.49	-----	1.71	2.28	3.43	4.57	5.71
.50	-----	1.77	2.35	3.53	4.71	5.89
.51	-----	-----	2.43	3.64	4.85	6.06
.52	-----	-----	2.50	3.75	4.99	6.24
.53	-----	-----	2.57	3.85	5.14	6.42
.54	-----	-----	2.64	3.96	5.29	6.61
.55	-----	-----	2.72	4.07	5.43	6.79
.56	-----	-----	2.79	4.19	5.58	6.98
.57	-----	-----	2.87	4.30	5.73	7.17
.58	-----	-----	2.94	4.41	5.88	7.35
.59	-----	-----	3.02	4.53	6.04	7.55
.60	-----	-----	3.10	4.64	6.19	7.74
.61	-----	-----	3.17	4.76	6.35	7.93
.62	-----	-----	3.25	4.88	6.50	8.13
.63	-----	-----	3.33	5.00	6.66	8.33
.64	-----	-----	3.41	5.11	6.82	8.52

Table A7-3 [continued]. Discharge of standard suppressed rectangular weirs in ft^3/sec. Computed from the formula $Q = 3.33Lh_1^{1.5}$

Head h_1, ft	Weir Length, L, ft				Head h_1, ft	Weir Length, L, ft		Head h_1, ft	L
	2.0	3.0	4.0	5.0		4.0	5.0		5.0
0.65	3.49	5.24	6.98	8.73	1.10	15.4	19.2	1.55	32.1
.66	3.57	5.36	7.14	8.93	1.11	15.6	19.5	1.56	32.4
.67	3.65	5.48	7.30	9.13	1.12	15.8	19.7	1.57	32.8
.68	-----	5.60	7.47	9.34	1.13	16.0	20.0	1.58	33.1
.69	-----	5.73	7.63	9.54	1.14	16.2	20.3	1.59	33.4
.70	-----	5.85	7.80	9.75	1.15	16.4	20.5	1.60	33.7
.71	-----	5.98	7.97	9.96	1.16	16.6	20.8	1.61	34.0
.72	-----	6.10	8.14	10.2	1.17	16.9	21.1	1.62	34.3
.73	-----	6.23	8.31	10.4	1.18	17.1	21.3	1.63	34.6
.74	-----	6.36	8.48	10.6	1.19	17.3	21.6	1.64	35.0
.75	-----	6.49	8.65	10.8	1.20	17.5	21.9	1.65	35.3
.76	-----	6.62	8.83	11.0	1.21	17.7	22.2	1.66	35.6
.77	-----	6.75	9.00	11.2	1.22	17.9	22.4	1.67	35.9
.78	-----	6.88	9.18	11.5	1.23	18.2	22.7		
.79	-----	7.01	9.35	11.7	1.24	18.4	23.0		
.80	-----	7.15	9.53	11.9	1.25	18.6	23.3		
.81	-----	7.28	9.71	12.1	1.26	18.8	23.5		
.82	-----	7.42	9.89	12.4	1.27	19.1	23.8		
.83	-----	7.55	10.1	12.6	1.28	19.3	24.1		
.84	-----	7.69	10.3	12.8	1.29	19.5	24.4		
.85	-----	7.83	10.4	13.0	1.30	19.7	24.7		
.86	-----	7.97	10.6	13.3	1.31	20.0	25.0		
.87	-----	8.11	10.8	13.5	1.32	20.2	25.3		
.88	-----	8.25	11.0	13.7	1.33	20.4	25.5		
.89	-----	8.39	11.2	14.0	1.34	-----	25.8		
.90	-----	8.53	11.4	14.2	1.35	-----	26.1		
.91	-----	8.67	11.6	14.5	1.36	-----	26.4		
.92	-----	8.82	11.8	14.7	1.37	-----	26.7		
.93	-----	8.96	11.9	14.9	1.38	-----	27.0		
.94	-----	9.10	12.1	15.2	1.39	-----	27.3		
.95	-----	9.25	12.3	15.4	1.40	-----	27.6		
.96	-----	9.40	12.5	15.7	1.41	-----	27.9		
.97	-----	9.54	12.7	15.9	1.42	-----	28.2		
.98	-----	9.69	12.9	16.2	1.43	-----	28.5		
.99	-----	9.84	13.1	16.4	1.44	-----	28.8		
1.00	-----	9.99	13.3	16.7	1.45	-----	29.1		
1.01	-----	-----	13.5	16.9	1.46	-----	29.4		
1.02	-----	-----	13.7	17.2	1.47	-----	29.7		
1.03	-----	-----	13.9	17.4	1.48	-----	30.0		
1.04	-----	-----	14.1	17.7	1.49	-----	30.3		
1.05	-----	-----	14.3	17.9	1.50	-----	30.6		
1.06	-----	-----	14.5	18.2	1.51	-----	30.9		
1.07	-----	-----	14.7	18.4	1.52	-----	31.2		
1.08	-----	-----	14.9	18.7	1.53	-----	31.5		
1.09	-----	-----	15.2	18.9	1.54	-----	31.8		

Table A7-4. Discharge of 90° V-notch weirs, in ft^3/sec, computed from the formula $Q = 2.49 h_1^{2.48}$.

Head H, ft	Discharge Q, ft^3/sec	Head H, ft	Discharge Q, ft^3/sec	Head H, ft	Discharge Q, ft^3/sec	Head H, ft	Discharge Q, ft^3/sec
0.20	0.046	0.65	0.856	1.10	3.15	1.55	7.38
.21	.052	.66	.889	1.11	3.23	1.56	7.50
.22	.058	.67	.922	1.12	3.30	1.57	7.62
.23	.065	.68	.957	1.13	3.37	1.58	7.74
.24	.072	.69	.992	1.14	3.45	1.59	7.86
.25	.080	.70	1.03	1.15	3.52	1.60	7.99
.26	.088	.71	1.06	1.16	3.60	1.61	8.11
.27	.097	.72	1.10	1.17	3.68	1.62	8.24
.28	.106	.73	1.14	1.18	3.75	1.63	8.36
.29	.116	.74	1.18	1.19	3.83	1.64	8.49
.30	.126	.75	1.22	1.20	3.91	1.65	8.62
.31	.136	.76	1.26	1.21	3.99	1.66	8.75
.32	.148	.77	1.30	1.22	4.08	1.67	8.88
.33	.159	.78	1.34	1.23	4.16	1.68	9.02
.34	.172	.79	1.39	1.24	4.25	1.69	9.15
.35	.184	.80	1.43	1.25	4.33	1.70	9.28
.36	.198	.81	1.48	1.26	4.42	1.71	9.42
.37	.212	.82	1.52	1.27	4.50	1.72	9.56
.38	.226	.83	1.57	1.28	4.59	1.73	9.70
.39	.241	.84	1.62	1.29	4.68	1.74	9.83
.40	.257	.85	1.66	1.30	4.77	1.75	9.98
.41	.273	.86	1.71	1.31	4.86	1.76	10.1
.42	.290	.87	1.76	1.32	4.96	1.77	10.3
.43	.307	.88	1.81	1.33	5.05	1.78	10.4
.44	.325	.89	1.87	1.34	5.15	1.79	10.6
.45	.344	.90	1.92	1.35	5.24	1.80	10.7
.46	.363	.91	1.97	1.36	5.34	1.81	10.8
.47	.383	.92	2.02	1.37	5.44	1.82	11.0
.48	.403	.93	2.08	1.38	5.53	1.83	11.1
.49	.425	.94	2.14	1.39	5.63	1.84	11.3
.50	.446	.95	2.19	1.40	5.74	1.85	11.4
.51	.469	.96	2.25	1.41	5.84	1.86	11.6
.52	.492	.97	2.31	1.42	5.94	1.87	11.8
.53	.516	.98	2.37	1.43	6.05	1.88	11.9
.54	.540	.99	2.43	1.44	6.15	1.89	12.1
.55	.565	1.00	2.49	1.45	6.26	1.90	12.2
.56	.591	1.01	2.55	1.46	6.36	1.91	12.4
.57	.618	1.02	2.62	1.47	6.47	1.92	12.6
.58	.645	1.03	2.68	1.48	6.58	1.93	12.7
.59	.673	1.04	2.74	1.49	6.69	1.94	12.9
.60	.701	1.05	2.81	1.50	6.81	1.95	13.0
.61	.731	1.06	2.88	1.51	6.92	1.96	13.2
.62	.761	1.07	2.94	1.52	7.03	1.97	13.4
.63	.792	1.08	3.01	1.53	7.15	1.98	13.5
.64	.823	1.09	3.08	1.54	7.27	1.99	13.7

Table A7-5. Discharge of standard Cipolletti weirs in ft³/sec.

Shaded entries determined experimentally. Others computed from the formula $Q = 3.367 L h_1^{1.5}$

Head H, ft	Weir Length, L, ft						
	0.5	1.0	1.5	2.0	3.0	4.0	5.0
-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----
.18	.129	-----	-----	-----	-----	-----	-----
.19	.139	-----	-----	-----	-----	-----	-----
.20	.151	.301	.452	.602	.903	1.20	1.51
.21	.162	.324	.486	.648	.972	1.30	1.62
.22	.174	.347	.521	.695	1.04	1.39	1.74
.23	.186	.371	.557	.743	1.11	1.49	1.86
.24	.200	.396	.594	.792	1.19	1.58	1.98
.25	.214	.421	.631	.842	1.26	1.68	2.10
.26	-----	.446	.670	.893	1.34	1.79	2.23
.27	-----	.472	.709	.945	1.42	1.89	2.36
.28	-----	.499	.748	.998	1.50	2.00	2.49
.29	-----	.526	.789	1.05	1.58	2.10	2.63
.30	-----	.553	.830	1.11	1.66	2.21	2.77
.31	-----	.581	.872	1.16	1.74	2.32	2.91
.32	-----	.609	.914	1.22	1.83	2.44	3.05
.33	-----	.638	.957	1.28	1.91	2.55	3.19
.34	-----	.668	1.00	1.34	2.00	2.67	3.34
.35	-----	.697	1.05	1.39	2.09	2.79	3.49
.36	-----	.727	1.09	1.45	2.18	2.91	3.64
.37	-----	.758	1.14	1.52	2.27	3.03	3.79
.38	-----	.789	1.18	1.58	2.37	3.15	3.94
.39	-----	.820	1.23	1.64	2.46	3.28	4.10
.40	-----	.852	1.28	1.70	2.56	3.41	4.26
.41	-----	.884	1.33	1.77	2.65	3.54	4.42
.42	-----	.916	1.37	1.83	2.75	3.67	4.58
.43	-----	.949	1.42	1.90	2.85	3.80	4.75
.44	-----	.983	1.47	1.97	2.95	3.93	4.91
.45	-----	1.02	1.52	2.03	3.05	4.07	5.08
.46	-----	1.05	1.58	2.10	3.15	4.20	5.25
.47	-----	1.08	1.63	2.17	3.25	4.34	5.42
.48	-----	1.12	1.68	2.24	3.36	4.48	5.60
.49	-----	1.16	1.73	2.31	3.46	4.62	5.77
.50	-----	1.20	1.79	2.38	3.57	4.76	5.95
.51	-----	-----	-----	2.45	3.68	4.91	6.13
.52	-----	-----	-----	2.53	3.79	5.05	6.31
.53	-----	-----	-----	2.60	3.90	5.20	6.50
.54	-----	-----	-----	2.67	4.01	5.34	6.68
.55	-----	-----	-----	2.75	4.12	5.49	6.87
.56	-----	-----	-----	2.82	4.23	5.64	7.05
.57	-----	-----	-----	2.90	4.35	5.80	7.24
.58	-----	-----	-----	2.97	4.46	5.95	7.44
.59	-----	-----	-----	3.05	4.58	6.10	7.63
.60	-----	-----	-----	3.13	4.69	6.26	7.82

Table A7-5 [continued]. Discharge of standard Cipolletti weirs in ft^3/sec. Shaded entries determined experimentally. Others computed from the formula $Q = 3.367 L h_1^{1.5}$

Head H, ft	Weir Length, L, ft 2.0	3.0	4.0	5.0	Head H, ft	Weir Length, L, ft 3.0	4.0	5.0	Head H, ft	L 5.0
0.61	3.21	4.81	6.42	8.02	1.06	11.3	14.7	18.4	1.51	31.2
.62	3.29	4.93	6.57	8.22	1.07	11.4	14.9	18.6	1.52	31.5
.63	3.37	5.05	6.73	8.42	1.08	11.6	15.1	18.9	1.53	31.9
.64	3.45	5.17	6.90	8.62	1.09	11.7	15.3	19.2	1.54	32.2
.65	3.53	5.29	7.06	8.82	1.10	11.9	15.5	19.4	1.55	32.5
.66	3.61	5.42	7.22	9.03	1.11	12.1	15.8	19.7	1.56	32.8
.67	3.69	5.54	7.39	9.23	1.12	12.2	16.0	20.0	1.57	33.1
.68	3.81	5.66	7.55	9.44	1.13	12.4	16.2	20.2	1.58	33.4
.69	3.90	5.79	7.72	9.65	1.14	12.5	16.4	20.5	1.59	33.8
.70	3.98	5.92	7.89	9.86	1.15	12.7	16.6	20.8	1.60	34.1
.71	4.06	6.04	8.06	10.1	1.16	12.9	16.8	21.0	1.61	34.4
.72	4.15	6.17	8.23	10.3	1.17	13.0	17.0	21.3	1.62	34.7
.73	4.24	6.30	8.40	10.5	1.18	13.2	17.3	21.6	1.63	35.0
.74	4.33	6.43	8.57	10.7	1.19	13.4	17.5	21.9	1.64	35.4
.75	4.42	6.56	8.75	10.9	1.20	13.6	17.7	22.1	1.65	35.7
.76	4.51	6.69	8.92	11.2	1.21	13.7	17.9	22.4	1.66	36.0
.77	4.60	6.82	9.10	11.4	1.22	13.9	18.1	22.7	1.67	36.3
.78	4.69	6.96	9.28	11.6	1.23	14.1	18.4	23.0		
.79	4.78	7.09	9.46	11.8	1.24	14.3	18.6	23.2		
.80	4.87	7.23	9.64	12.0	1.25	14.4	18.8	23.5		
.81	4.96	7.36	9.82	12.3	1.26	14.6	19.0	23.8		
.82	5.05	7.50	10.0	12.5	1.27	14.8	19.3	24.1		
.83	5.14	7.64	10.2	12.7	1.28	15.0	19.5	24.4		
.84	5.24	7.78	10.4	13.0	1.29	15.2	19.7	24.7		
.85	5.34	7.92	10.6	13.2	1.30	15.4	20.0	25.0		
.86	5.44	8.06	10.7	13.4	1.31	15.5	20.2	25.2		
.87	5.54	8.20	10.9	13.7	1.32	15.7	20.4	25.5		
.88	5.64	8.34	11.1	13.9	1.33	15.9	20.7	25.8		
.89	5.74	8.48	11.3	14.1	1.34	16.1	-----	26.1		
.90	5.84	8.62	11.5	14.4	1.35	16.2	-----	26.4		
.91	5.94	8.77	11.7	14.6	1.36	16.4	-----	26.7		
.92	6.04	8.91	11.9	14.9	1.37	16.6	-----	27.0		
.93	6.14	9.06	12.1	15.1	1.38	16.8	-----	27.3		
.94	6.25	9.21	12.3	15.3	1.39	17.0	-----	27.6		
.95	6.36	9.35	12.5	15.6	1.40	17.2	-----	27.9		
.96	6.47	9.50	12.7	15.8	1.41	17.4	-----	28.2		
.97	6.58	9.65	12.9	16.1	1.42	17.6	-----	28.5		
.98	6.69	9.80	13.1	16.3	1.43	17.8	-----	28.8		
.99	6.80	9.95	13.3	16.6	1.44	18.0	-----	29.1		
1.00	6.91	10.1	13.5	16.8	1.45	18.2	-----	29.4		
1.01	-----	10.5	13.7	17.1	1.46	18.3	-----	29.7		
1.02	-----	10.6	13.9	17.3	1.47	18.5	-----	30.0		
1.03	-----	10.8	14.1	17.6	1.48	18.7	-----	30.3		
1.04	-----	10.9	14.3	17.9	1.49	18.9	-----	30.6		
1.05	-----	11.1	14.5	18.1	1.50	19.1	-----	30.9		

Table A7-5 [continued]. Discharge of standard Cipolletti weirs in ft^3/sec. Shaded entries determined experimentally. Others computed from the formula $Q = 3.367 L h_1^{1.5}$

Head H, ft	Weir Length, L, ft 6.0	7.0	8.0	9.0	Head H, ft	Weir Length, L, ft 6.0	7.0	8.0	9.0
0.20	1.81	2.11	2.41	2.71	0.65	10.6	12.4	14.1	15.9
.21	1.94	2.27	2.59	2.92	.66	10.8	12.6	14.4	16.2
.22	2.08	2.43	2.78	3.13	.67	11.1	12.9	14.8	16.6
.23	2.23	2.60	2.97	3.34	.68	11.3	13.2	15.1	17.0
.24	2.38	2.77	3.17	3.56	.69	11.6	13.5	15.4	17.4
.25	2.53	2.95	3.37	3.79	.70	11.8	13.8	15.8	17.7
.26	2.68	3.12	3.57	4.02	.71	12.1	14.1	16.1	18.1
.27	2.83	3.31	3.78	4.25	.72	12.3	14.4	16.5	18.5
.28	2.99	3.49	3.99	4.49	.73	12.6	14.7	16.8	18.9
.29	3.15	3.68	4.21	4.73	.74	12.9	15.0	17.1	19.3
.30	3.32	3.87	4.43	4.98	.75	13.1	15.3	17.5	19.7
.31	3.49	4.07	4.65	5.23	.76	13.4	15.6	17.8	20.1
.32	3.66	4.27	4.88	5.49	.77	13.6	15.9	18.2	20.5
.33	3.83	4.47	5.11	5.74	.78	13.9	16.2	18.6	20.9
.34	4.01	4.67	5.34	6.01	.79	14.2	16.5	18.9	21.3
.35	4.18	4.88	5.58	6.27	.80	14.5	16.9	19.3	21.7
.36	4.36	5.09	5.82	6.55	.81	14.7	17.2	19.6	22.1
.37	4.55	5.30	6.06	6.82	.82	15.0	17.5	20.0	22.5
.38	4.73	5.52	6.31	7.10	.83	15.3	17.8	20.4	22.9
.39	4.92	5.74	6.56	7.38	.84	15.6	18.1	20.7	23.3
.40	5.11	5.96	6.81	7.67	.85	15.8	18.5	21.1	23.7
.41	5.30	6.19	7.07	7.96	.86	16.1	18.8	21.5	24.2
.42	5.50	6.42	7.33	8.25	.87	16.4	19.1	21.9	24.6
.43	5.70	6.65	7.60	8.54	.88	16.7	19.5	22.2	25.0
.44	5.90	6.88	7.86	8.84	.89	17.0	19.8	22.6	25.4
.45	6.10	7.11	8.13	9.15	.90	17.2	20.1	23.0	25.9
.46	6.30	7.35	8.40	9.45	.91	17.5	20.5	23.4	26.3
.47	6.51	7.59	8.68	9.76	.92	17.8	20.8	23.8	26.7
.48	6.72	7.84	8.96	10.1	.93	18.1	21.1	24.2	27.2
.49	6.93	8.08	9.24	10.4	.94	18.4	21.5	24.5	27.6
.50	7.14	8.33	9.52	10.7	.95	18.7	21.8	24.9	28.1
.51	7.36	8.58	9.81	11.0	.96	19.0	22.2	25.3	28.5
.52	7.58	8.84	10.1	11.4	.97	19.3	22.5	25.7	28.9
.53	7.79	9.09	10.4	11.7	.98	19.6	22.9	26.1	29.4
.54	8.02	9.35	10.7	12.0	.99	19.9	23.2	26.5	29.8
.55	8.24	9.61	11.0	12.4	1.00	20.2	23.6	26.9	30.3
.56	8.47	9.88	11.3	12.7	1.01	20.5	23.9	27.3	30.8
.57	8.69	10.1	11.6	13.0	1.02	20.8	24.3	27.7	31.2
.58	8.92	10.4	11.9	13.4	1.03	21.1	24.6	28.2	31.7
.59	9.16	10.7	12.2	13.7	1.04	21.4	25.0	28.6	32.1
.60	9.39	11.0	12.5	14.1	1.05	21.7	25.4	29.0	32.6
.61	9.62	11.2	12.8	14.4	1.06	22.0	25.7	29.4	33.1
.62	9.86	11.5	13.1	14.8	1.07	22.4	26.1	29.8	33.5
.63	10.1	11.8	13.5	15.2	1.08	22.7	26.5	30.2	34.0
.64	10.3	12.1	13.8	15.5	1.09	23.0	26.8	30.7	34.5

Table A7-5 [continued]. Discharge of standard Cipolletti weirs in ft^3/sec. Shaded entries determined experimentally. Others computed from the formula $Q = 3.367 L h_1^{1.5}$

Head H, ft	Weir Length, L, ft 6.0	7.0	8.0	9.0	Head H, ft	Weir Length, L, ft 6.0	7.0	8.0	9.0
1.10	23.3	27.2	31.1	35.0	1.55	39.0	45.5	52.0	58.5
1.11	23.6	27.6	31.5	35.4	1.56	39.4	45.9	52.5	59.0
1.12	23.9	27.9	31.9	35.9	1.57	39.7	46.4	53.0	59.6
1.13	24.3	28.3	32.4	36.4	1.58	40.1	46.8	53.5	60.2
1.14	24.6	28.7	32.8	36.9	1.59	40.5	47.3	54.0	60.8
1.15	24.9	29.1	33.2	37.4	1.60	40.9	47.7	54.5	61.3
1.16	25.2	29.4	33.7	37.9	1.61	41.3	48.1	55.0	61.9
1.17	25.6	29.8	34.1	38.3	1.62	41.7	48.6	55.5	62.5
1.18	25.9	30.2	34.5	38.8	1.63	42.0	49.0	56.1	63.1
1.19	26.2	30.6	35.0	39.3	1.64	42.4	49.5	56.6	63.6
1.20	26.6	31.0	35.4	39.8	1.65	42.8	50.0	57.1	64.2
1.21	26.9	31.4	35.9	40.3	1.66	43.2	50.4	57.6	64.8
1.22	27.2	31.8	36.3	40.8	1.67	43.6	50.9	58.1	65.4
1.23	27.6	32.2	36.7	41.3	1.68	44.0	51.3	58.7	66.0
1.24	27.9	32.5	37.2	41.8	1.69	44.4	51.8	59.2	66.6
1.25	28.2	32.9	37.6	42.3	1.70	44.8	52.2	59.7	67.2
1.26	28.6	33.3	38.1	42.9	1.71	45.2	52.7	60.2	67.8
1.27	28.9	33.7	38.6	43.4	1.72	45.6	53.2	60.8	68.4
1.28	29.3	34.1	39.0	43.9	1.73	46.0	53.6	61.3	69.0
1.29	29.6	34.5	39.5	44.4	1.74	46.4	54.1	61.8	69.6
1.30	29.9	34.9	39.9	44.9	1.75	46.8	54.6	62.4	70.2
1.31	30.3	35.3	40.4	45.4	1.76	47.2	55.0	62.9	70.8
1.32	30.6	35.7	40.9	46.0	1.77	47.6	55.5	63.4	71.4
1.33	31.0	36.2	41.3	46.5	1.78	48.0	56.0	64.0	72.0
1.34	31.3	36.6	41.8	47.0	1.79	48.4	56.4	64.5	72.6
1.35	31.7	37.0	42.3	47.5	1.80	48.8	56.9	65.0	73.2
1.36	32.0	37.4	42.7	48.1	1.81	49.2	57.4	65.6	73.8
1.37	32.4	37.8	43.2	48.6	1.82	49.6	57.9	66.1	74.4
1.38	32.8	38.2	43.7	49.1	1.83	50.0	58.3	66.7	75.0
1.39	33.1	38.6	44.1	49.7	1.84	50.4	58.8	67.2	75.6
1.40	33.5	39.0	44.6	50.2	1.85	50.8	59.3	67.8	76.3
1.41	33.8	39.5	45.1	50.7	1.86	51.2	59.8	68.3	76.9
1.42	34.2	39.9	45.6	51.3	1.87	51.7	60.3	68.9	77.5
1.43	34.5	40.3	46.1	51.8	1.88	52.1	60.8	69.4	78.1
1.44	34.9	40.7	46.5	52.4	1.89	52.5	61.2	70.0	78.7
1.45	35.3	41.2	47.0	52.9	1.90	52.9	61.7	70.5	79.4
1.46	35.6	41.6	47.5	53.5	1.91	53.3	62.2	71.1	80.0
1.47	36.0	42.0	48.0	54.0	1.92	53.7	62.7	71.7	80.6
1.48	36.4	42.4	48.5	54.6	1.93	54.2	63.2	72.2	81.2
1.49	36.7	42.9	49.0	55.1	1.94	54.6	63.7	72.8	81.9
1.50	37.1	43.3	49.5	55.7	1.95	55.0	64.2	73.3	82.5
1.51	37.5	43.7	50.0	56.2	1.96	55.4	64.7	73.9	83.2
1.52	37.9	44.2	50.5	56.8	1.97	55.9	65.2	74.5	83.8
1.53	38.2	44.6	51.0	57.3	1.98	56.3	65.7	75.0	84.4
1.54	38.6	45.0	51.5	57.9	1.99	56.7	66.2	75.6	85.1

Table A7-5 [continued]. Discharge of standard Cipolletti weirs in ft^3/sec. Shaded entries determined experimentally. Others computed from the formula $Q = 3.367 L h_1^{1.5}$

Head H, ft	Weir Length, L, ft 6.0	7.0	8.0	9.0
2.00	57.1	66.7	76.2	85.7
2.01	-----	67.2	76.8	86.4
2.02	-----	67.7	77.3	87.0
2.03	-----	68.2	77.9	87.6
2.04	-----	68.7	78.5	88.3
2.05	-----	69.2	79.1	88.9
2.06	-----	69.7	79.6	89.6
2.07	-----	70.2	80.2	90.2
2.08	-----	70.7	80.8	90.9
2.09	-----	71.2	81.4	91.6
2.10	-----	71.7	82.0	92.2
2.11	-----	72.2	82.6	92.9
2.12	-----	72.8	83.1	93.5
2.13	-----	73.3	83.7	94.2
2.14	-----	73.8	84.3	94.9
2.15	-----	74.3	84.9	95.5
2.16	-----	74.8	85.5	96.2
2.17	-----	75.3	86.1	96.9
2.18	-----	75.9	86.7	97.5
2.19	-----	76.4	87.3	98.2
2.20	-----	76.9	87.9	98.9
2.21	-----	77.4	88.5	100.
2.22	-----	78.0	89.1	100.
2.23	-----	78.5	89.7	101.
2.24	-----	79.0	90.3	102.
2.25	-----	79.5	90.9	102.
2.26	-----	80.1	91.5	103.
2.27	-----	80.6	92.1	104.
2.28	-----	81.1	92.7	104.
2.29	-----	81.7	93.3	105.
2.30	-----	82.2	94.0	106.
2.31	-----	82.7	94.6	106.
2.32	-----	83.3	95.2	107.
2.33	-----	83.8	95.8	108.
2.34	-----	-----	96.4	108.
2.35	-----	-----	97.0	109.
2.36	-----	-----	97.7	110.
2.37	-----	-----	98.3	111.
2.38	-----	-----	98.9	111.
2.39	-----	-----	100.	112.
2.40	-----	-----	100.	113.
2.41	-----	-----	101.	113.
2.42	-----	-----	101.	114.
2.43	-----	-----	102.	115.
2.44	-----	-----	103.	115.

Head H, ft	L, ft 8.0	9.0
2.45	103.	116.
2.46	104.	117.
2.47	105.	118.
2.48	105.	118.
2.49	106.	119.
2.50	106.	120.
2.51	107.	121.
2.52	108.	121.
2.53	108.	122.
2.54	109.	123.
2.55	110.	123.
2.56	110.	124.
2.57	111.	125.
2.58	112.	126.
2.59	112.	126.
2.60	113.	127.
2.61	114.	128.
2.62	114.	129.
2.63	115.	129.
2.64	116.	130.
2.65	116.	131.
2.66	117.	131.
2.67	118.	132.
2.68	-----	133.
2.69	-----	134.
2.70	-----	134.
2.71	-----	135.
2.72	-----	136.
2.73	-----	137.
2.74	-----	137.
2.75	-----	138.
2.76	-----	139.
2.77	-----	140.
2.78	-----	140.
2.79	-----	141.
2.80	-----	142.
2.81	-----	143.
2.82	-----	144.
2.83	-----	144.
2.84	-----	145.
2.85	-----	146.
2.86	-----	147.
2.87	-----	147.
2.88	-----	148.
2.89	-----	149.

Head H, ft	L 9.0
2.90	150.
2.91	150.
2.92	151.
2.93	152.
2.94	153.
2.95	154.
2.96	154.
2.97	155.
2.98	156.
2.99	157.
3.00	157.

Table A8-7. Free-flow discharge through 1-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.338 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0033	0.0043	0.0055	0.0067	0.0081
0.10	0.0095	0.0110	0.0126	0.0143	0.0160	.0179	.0197	.0217	.0237	.0258
0.20	.028	.030	.032	.035	.037	.039	.042	.044	.047	.050
0.30	.052	.055	.058	.061	.063	.066	.069	.072	.075	.079
0.40	.082	.085	.088	.091	.095	.098	.101	.105	.108	.112
0.50	.115	.119	.123	.126	.130	.134	.138	.141	.145	.149
0.60	.153	.157	.161	.165	.169	.173	.178	.182	.186	.190

Table A8-8. Free-flow discharge through 2-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.676 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0065	0.0086	0.0110	0.0135	0.0162
0.10	0.0191	0.0221	0.0253	0.0286	0.0321	.0357	.0395	.0434	.0474	.0515
0.20	.056	.060	.065	.069	.074	.079	.084	.089	.094	.099
0.30	.105	.110	.116	.121	.127	.133	.139	.145	.151	.157
0.40	.163	.170	.176	.183	.189	.196	.203	.210	.217	.224
0.50	.231	.238	.245	.253	.260	.268	.275	.283	.291	.298
0.60	.306	.314	.322	.330	.338	.347	.355	.363	.372	.380
0.70	.389	.398	.406	.415	.424	.433	.442	.451	.460	.469

Table A8-9. Free-flow discharge through 3-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.992 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0095	0.0127	0.0161	0.0198	0.0237
0.10	0.0280	0.0324	0.0371	0.0420	0.0471	.0524	.0579	.0636	.0695	.0756
0.20	.082	.088	.095	.102	.109	.116	.123	.130	.138	.146
0.30	.153	.161	.170	.178	.186	.195	.204	.212	.221	.230
0.40	.240	.249	.259	.268	.278	.288	.298	.308	.318	.328
0.50	.339	.349	.360	.371	.382	.393	.404	.415	.426	.438
0.60	.449	.461	.473	.485	.497	.509	.521	.533	.546	.558
0.70	.571	.583	.596	.609	.622	.635	.648	.662	.675	.688
0.80	.702	.716	.729	.743	.757	.771	.785	.799	.814	.828
0.90	.843	.857	.872	.886	.901	.916	.931	.946	.961	.977
1.00	.992	1.007	1.023	1.039	1.054	1.070	1.086	1.102	1.118	1.134

Table A8-7. Free-flow discharge through 1-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.338 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0033	0.0043	0.0055	0.0067	0.0081
0.10	0.0095	0.0110	0.0126	0.0143	0.0160	.0179	.0197	.0217	.0237	.0258
0.20	.028	.030	.032	.035	.037	.039	.042	.044	.047	.050
0.30	.052	.055	.058	.061	.063	.066	.069	.072	.075	.079
0.40	.082	.085	.088	.091	.095	.098	.101	.105	.108	.112
0.50	.115	.119	.123	.126	.130	.134	.138	.141	.145	.149
0.60	.153	.157	.161	.165	.169	.173	.178	.182	.186	.190

Table A8-8. Free-flow discharge through 2-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.676 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0065	0.0086	0.0110	0.0135	0.0162
0.10	0.0191	0.0221	0.0253	0.0286	0.0321	.0357	.0395	.0434	.0474	.0515
0.20	.056	.060	.065	.069	.074	.079	.084	.089	.094	.099
0.30	.105	.110	.116	.121	.127	.133	.139	.145	.151	.157
0.40	.163	.170	.176	.183	.189	.196	.203	.210	.217	.224
0.50	.231	.238	.245	.253	.260	.268	.275	.283	.291	.298
0.60	.306	.314	.322	.330	.338	.347	.355	.363	.372	.380
0.70	.389	.398	.406	.415	.424	.433	.442	.451	.460	.469

Table A8-9. Free-flow discharge through 3-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 0.992 h_a^{1.55}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	-----	-----	-----	-----	-----	0.0095	0.0127	0.0161	0.0198	0.0237
0.10	0.0280	0.0324	0.0371	0.0420	0.0471	.0524	.0579	.0636	.0695	.0756
0.20	.082	.088	.095	.102	.109	.116	.123	.130	.138	.146
0.30	.153	.161	.170	.178	.186	.195	.204	.212	.221	.230
0.40	.240	.249	.259	.268	.278	.288	.298	.308	.318	.328
0.50	.339	.349	.360	.371	.382	.393	.404	.415	.426	.438
0.60	.449	.461	.473	.485	.497	.509	.521	.533	.546	.558
0.70	.571	.583	.596	.609	.622	.635	.648	.662	.675	.688
0.80	.702	.716	.729	.743	.757	.771	.785	.799	.814	.828
0.90	.843	.857	.872	.886	.901	.916	.931	.946	.961	.977
1.00	.992	1.007	1.023	1.039	1.054	1.070	1.086	1.102	1.118	1.134

Table A8-10. Free-flow discharge through 6-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 2.06 h_a^{1.58}$

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.10	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.14	0.15
.20	.16	.17	.19	.20	.22	.23	.25	.26	.28	.29
.30	.31	.32	.34	.36	.37	.39	.41	.43	.45	.47
.40	.48	.50	.52	.54	.56	.58	.60	.62	.65	.67
.50	.69	.71	.73	.76	.78	.80	.82	.85	.87	.89
.60	.92	.94	.97	.99	1.02	1.04	1.07	1.09	1.12	1.15
.70	1.17	1.20	1.23	1.25	1.28	1.31	1.34	1.36	1.39	1.42
.80	1.45	1.48	1.51	1.53	1.56	1.59	1.62	1.65	1.68	1.71
.90	1.74	1.77	1.81	1.84	1.87	1.90	1.93	1.96	2.00	2.03
1.00	2.06	2.09	2.13	2.16	2.19	2.23	2.26	2.29	2.33	2.36
1.10	2.39	2.43	2.46	2.50	2.53	2.57	2.60	2.64	2.68	2.71
1.20	2.75	2.78	2.82	2.86	2.89	2.93	2.97	3.01	3.04	3.08

Table A8-11. Free-flow discharge through 9-inch Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 3.07 h_a^{1.53}$

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.10	0.09	0.10	0.12	0.14	0.15	0.17	0.19	0.20	0.22	0.24
.20	.26	.28	.30	.32	.35	.37	.39	.41	.44	.46
.30	.49	.51	.54	.56	.59	.62	.64	.67	.70	.73
.40	.76	.78	.81	.84	.87	.90	.94	.97	1.00	1.03
.50	1.06	1.10	1.13	1.16	1.20	1.23	1.26	1.30	1.33	1.37
.60	1.41	1.44	1.48	1.51	1.55	1.59	1.63	1.66	1.70	1.74
.70	1.78	1.82	1.86	1.90	1.94	1.98	2.02	2.06	2.10	2.14
.80	2.18	2.22	2.27	2.31	2.35	2.39	2.44	2.48	2.52	2.57
.90	2.61	2.66	2.70	2.75	2.79	2.84	2.88	2.93	2.98	3.02
1.00	3.07	3.12	3.16	3.21	3.26	3.31	3.36	3.40	3.45	3.50
1.10	3.55	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.01
1.20	4.06	4.11	4.16	4.21	4.27	4.32	4.37	4.43	4.48	4.53
1.30	4.59	4.64	4.69	4.75	4.80	4.86	4.91	4.97	5.03	5.08
1.40	5.14	5.19	5.25	5.31	5.36	5.42	5.48	5.54	5.59	5.65
1.50	5.71	5.77	5.83	5.88	5.94	6.00	6.06	6.12	6.18	6.24

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.20	0.33	0.66	0.96	1.26	-----	-----	-----	-----
.21	.35	.71	1.04	1.36	-----	-----	-----	-----
.22	.38	.77	1.12	1.47	-----	-----	-----	-----
.23	.40	.82	1.20	1.57	-----	-----	-----	-----
.24	.43	.88	1.28	1.68	-----	-----	-----	-----
.25	.46	.93	1.37	1.80	2.22	2.63	-----	-----
.26	.49	.99	1.46	1.91	2.36	2.80	-----	-----
.27	.52	1.05	1.54	2.03	2.50	2.97	-----	-----
.28	.55	1.11	1.63	2.15	2.65	3.15	-----	-----
.29	.58	1.17	1.73	2.27	2.80	3.33	-----	-----
.30	.61	1.24	1.82	2.39	2.96	3.52	4.07	4.63
.31	.64	1.30	1.92	2.52	3.12	3.71	4.29	4.88
.32	.68	1.37	2.01	2.65	3.28	3.90	4.52	5.13
.33	.71	1.44	2.11	2.78	3.44	4.10	4.75	5.39
.34	.74	1.50	2.22	2.92	3.61	4.30	4.98	5.66
.35	.78	1.57	2.32	3.05	3.78	4.50	5.21	5.92
.36	.81	1.64	2.42	3.19	3.95	4.71	5.46	6.20
.37	.85	1.71	2.53	3.33	4.13	4.92	5.70	6.48
.38	.88	1.79	2.64	3.48	4.31	5.13	5.95	6.76
.39	.92	1.86	2.75	3.62	4.49	5.35	6.20	7.05
.40	.95	1.93	2.86	3.77	4.67	5.57	6.46	7.34
.41	.99	2.01	2.97	3.92	4.86	5.79	6.72	7.64
.42	1.03	2.09	3.08	4.07	5.05	6.02	6.98	7.94
.43	1.07	2.16	3.20	4.22	5.24	6.25	7.25	8.25
.44	1.11	2.24	3.32	4.38	5.43	6.48	7.52	8.56
.45	1.15	2.32	3.44	4.54	5.63	6.72	7.80	8.87
.46	1.19	2.40	3.56	4.70	5.83	6.96	8.08	9.19
.47	1.23	2.48	3.68	4.86	6.03	7.20	8.36	9.51
.48	1.27	2.57	3.80	5.03	6.24	7.45	8.65	9.84
.49	1.31	2.65	3.93	5.19	6.45	7.69	8.94	10.2
.50	1.35	2.73	4.05	5.36	6.66	7.95	9.23	10.5
.51	1.39	2.82	4.18	5.53	6.87	8.20	9.53	10.8
.52	1.43	2.90	4.31	5.70	7.08	8.46	9.83	11.2
.53	1.48	2.99	4.44	5.88	7.30	8.72	10.1	11.5
.54	1.52	3.08	4.57	6.05	7.52	8.98	10.4	11.9
.55	1.56	3.17	4.71	6.23	7.74	9.25	10.8	12.2
.56	1.61	3.26	4.84	6.41	7.97	9.52	11.1	12.6
.57	1.65	3.35	4.98	6.59	8.20	9.79	11.4	13.0
.58	1.70	3.44	5.11	6.77	8.43	10.1	11.7	13.3
.59	1.74	3.53	5.25	6.96	8.66	10.3	12.0	13.7

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.60	1.79	3.62	5.39	7.15	8.89	10.6	12.4	14.1
.61	1.84	3.72	5.53	7.34	9.13	10.9	12.7	14.5
.62	1.88	3.81	5.68	7.53	9.37	11.2	13.0	14.8
.63	1.93	3.91	5.82	7.72	9.61	11.5	13.4	15.2
.64	1.98	4.01	5.97	7.91	9.85	11.8	13.7	15.6
.65	2.03	4.10	6.11	8.11	10.1	12.1	14.0	16.0
.66	2.07	4.20	6.26	8.31	10.3	12.4	14.4	16.4
.67	2.12	4.30	6.41	8.51	10.6	12.7	14.7	16.8
.68	2.17	4.40	6.56	8.71	10.8	13.0	15.1	17.2
.69	2.22	4.50	6.71	8.91	11.1	13.3	15.5	17.6
.70	2.27	4.60	6.86	9.11	11.4	13.6	15.8	18.0
.71	2.32	4.71	7.02	9.32	11.6	13.9	16.2	18.5
.72	2.37	4.81	7.17	9.53	11.9	14.2	16.5	18.9
.73	2.43	4.91	7.33	9.74	12.1	14.5	16.9	19.3
.74	2.48	5.02	7.49	9.95	12.4	14.8	17.3	19.7
.75	2.53	5.12	7.65	10.2	12.7	15.2	17.7	20.2
.76	2.58	5.23	7.81	10.4	12.9	15.5	18.0	20.6
.77	2.63	5.34	7.97	10.6	13.2	15.8	18.4	21.0
.78	2.69	5.44	8.13	10.8	13.5	16.1	18.8	21.5
.79	2.74	5.55	8.30	11.0	13.8	16.5	19.2	21.9
.80	2.80	5.66	8.46	11.3	14.0	16.8	19.6	22.4
.81	2.85	5.77	8.63	11.5	14.3	17.2	20.0	22.8
.82	2.90	5.88	8.79	11.7	14.6	17.5	20.4	23.3
.83	2.96	5.99	8.96	11.9	14.9	17.8	20.8	23.7
.84	3.01	6.11	9.13	12.2	15.2	18.2	21.2	24.2
.85	3.07	6.22	9.30	12.4	15.5	18.5	21.6	24.6
.86	3.13	6.33	9.48	12.6	15.7	18.9	22.0	25.1
.87	3.18	6.45	9.65	12.8	16.0	19.2	22.4	25.6
.88	3.24	6.56	9.82	13.1	16.3	19.6	22.8	26.1
.89	3.30	6.68	10.0	13.3	16.6	19.9	23.2	26.5
.90	3.35	6.79	10.2	13.5	16.9	20.3	23.7	27.0
.91	3.41	6.91	10.4	13.8	17.2	20.6	24.1	27.5
.92	3.47	7.03	10.5	14.0	17.5	21.0	24.5	28.0
.93	3.53	7.15	10.7	14.3	17.8	21.4	24.9	28.5
.94	3.59	7.27	10.9	14.5	18.1	21.7	25.4	29.0
.95	3.65	7.39	11.1	14.8	18.4	22.1	25.8	29.5
.96	3.71	7.51	11.3	15.0	18.7	22.5	26.2	30.0
.97	3.77	7.63	11.4	15.2	19.1	22.9	26.7	30.5
.98	3.83	7.75	11.6	15.5	19.4	23.2	27.1	31.0
.99	3.89	7.88	11.8	15.7	19.7	23.6	27.6	31.5

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
1.00	3.95	8.00	12.0	16.0	20.0	24.0	28.0	32.0
1.01	4.01	8.12	12.2	16.3	20.3	24.4	28.4	32.5
1.02	4.07	8.25	12.4	16.5	20.6	24.8	28.9	33.0
1.03	4.14	8.37	12.6	16.8	21.0	25.2	29.4	33.6
1.04	4.20	8.50	12.8	17.0	21.3	25.5	29.8	34.1
1.05	4.26	8.63	13.0	17.3	21.6	25.9	30.3	34.6
1.06	4.32	8.76	13.1	17.5	21.9	26.3	30.7	35.1
1.07	4.39	8.88	13.3	17.8	22.3	26.7	31.2	35.7
1.08	4.45	9.01	13.5	18.1	22.6	27.1	31.7	36.2
1.09	4.51	9.14	13.7	18.3	22.9	27.5	32.1	36.8
1.10	4.58	9.27	13.9	18.6	23.3	27.9	32.6	37.3
1.11	4.64	9.40	14.1	18.9	23.6	28.3	33.1	37.8
1.12	4.71	9.54	14.3	19.1	23.9	28.8	33.6	38.4
1.13	4.77	9.67	14.5	19.4	24.3	29.2	34.1	38.9
1.14	4.84	9.80	14.7	19.7	24.6	29.6	34.5	39.5
1.15	4.91	9.93	14.9	19.9	25.0	30.0	35.0	40.1
1.16	4.97	10.1	15.1	20.2	25.3	30.4	35.5	40.6
1.17	5.04	10.2	15.3	20.5	25.7	30.8	36.0	41.2
1.18	5.11	10.3	15.6	20.8	26.0	31.2	36.5	41.7
1.19	5.17	10.5	15.8	21.1	26.4	31.7	37.0	42.3
1.20	5.24	10.6	16.0	21.3	26.7	32.1	37.5	42.9
1.21	5.31	10.7	16.2	21.6	27.1	32.5	38.0	43.5
1.22	5.38	10.9	16.4	21.9	27.4	33.0	38.5	44.0
1.23	5.44	11.0	16.6	22.2	27.8	33.4	39.0	44.6
1.24	5.51	11.2	16.8	22.5	28.1	33.8	39.5	45.2
1.25	5.58	11.3	17.0	22.8	28.5	34.3	40.0	45.8
1.26	5.65	11.4	17.2	23.0	28.9	34.7	40.5	46.4
1.27	5.72	11.6	17.4	23.3	29.2	35.1	41.1	47.0
1.28	5.79	11.7	17.7	23.6	29.6	35.6	41.6	47.6
1.29	5.86	11.9	17.9	23.9	30.0	36.0	42.1	48.2
1.30	5.93	12.0	18.1	24.2	30.3	36.5	42.6	48.8
1.31	6.00	12.2	18.3	24.5	30.7	36.9	43.1	49.4
1.32	6.07	12.3	18.5	24.8	31.1	37.4	43.7	50.0
1.33	6.15	12.4	18.8	25.1	31.4	37.8	44.2	50.6
1.34	6.22	12.6	19.0	25.4	31.8	38.3	44.7	51.2
1.35	6.29	12.7	19.2	25.7	32.2	38.7	45.3	51.8
1.36	6.36	12.9	19.4	26.0	32.6	39.2	45.8	52.4
1.37	6.43	13.0	19.6	26.3	33.0	39.6	46.3	53.1
1.38	6.51	13.2	19.9	26.6	33.3	40.1	46.9	53.7
1.39	6.58	13.3	20.1	26.9	33.7	40.6	47.4	54.3

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
1.40	6.65	13.5	20.3	27.2	34.1	41.0	48.0	54.9
1.41	6.73	13.6	20.6	27.5	34.5	41.5	48.5	55.6
1.42	6.80	13.8	20.8	27.8	34.9	42.0	49.1	56.2
1.43	6.88	13.9	21.0	28.1	35.3	42.5	49.6	56.8
1.44	6.95	14.1	21.2	28.4	35.7	42.9	50.2	57.5
1.45	7.03	14.2	21.5	28.8	36.1	43.4	50.8	58.1
1.46	7.10	14.4	21.7	29.1	36.5	43.9	51.3	58.8
1.47	7.18	14.5	21.9	29.4	36.9	44.4	51.9	59.4
1.48	7.25	14.7	22.2	29.7	37.3	44.8	52.4	60.1
1.49	7.33	14.8	22.4	30.0	37.7	45.3	53.0	60.7
1.50	7.41	15.0	22.6	30.3	38.1	45.8	53.6	61.4
1.51	7.48	15.2	22.9	30.7	38.5	46.3	54.2	62.0
1.52	7.56	15.3	23.1	31.0	38.9	46.8	54.7	62.7
1.53	7.64	15.5	23.4	31.3	39.3	47.3	55.3	63.4
1.54	7.71	15.6	23.6	31.6	39.7	47.8	55.9	64.0
1.55	7.79	15.8	23.8	31.9	40.1	48.3	56.5	64.7
1.56	7.87	15.9	24.1	32.3	40.5	48.8	57.1	65.4
1.57	7.95	16.1	24.3	32.6	40.9	49.3	57.6	66.1
1.58	8.03	16.3	24.6	32.9	41.3	49.8	58.2	66.7
1.59	8.11	16.4	24.8	33.3	41.7	50.3	58.8	67.4
1.60	8.18	16.6	25.1	33.6	42.2	50.8	59.4	68.1
1.61	8.26	16.7	25.3	33.9	42.6	51.3	60.0	68.8
1.62	8.34	16.9	25.5	34.3	43.0	51.8	60.6	69.5
1.63	8.42	17.1	25.8	34.6	43.4	52.3	61.2	70.2
1.64	8.50	17.2	26.0	34.9	43.9	52.8	61.8	70.8
1.65	8.58	17.4	26.3	35.3	44.3	53.3	62.4	71.5
1.66	8.66	17.5	26.5	35.6	44.7	53.9	63.0	72.2
1.67	8.75	17.7	26.8	35.9	45.1	54.4	63.6	72.9
1.68	8.83	17.9	27.0	36.3	45.6	54.9	64.3	73.6
1.69	8.91	18.0	27.3	36.6	46.0	55.4	64.9	74.3
1.70	8.99	18.2	27.5	37.0	46.4	55.9	65.5	75.1
1.71	9.07	18.4	27.8	37.3	46.9	56.5	66.1	75.8
1.72	9.16	18.5	28.1	37.6	47.3	57.0	66.7	76.5
1.73	9.24	18.7	28.3	38.0	47.7	57.5	67.3	77.2
1.74	9.32	18.9	28.6	38.3	48.2	58.0	68.0	77.9
1.75	9.40	19.0	28.8	38.7	48.6	58.6	68.6	78.6
1.76	9.49	19.2	29.1	39.0	49.1	59.1	69.2	79.4
1.77	9.57	19.4	29.3	39.4	49.5	59.7	69.8	80.1
1.78	9.65	19.6	29.6	39.7	49.9	60.2	70.5	80.8
1.79	9.74	19.7	29.9	40.1	50.4	60.7	71.1	81.5

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
1.80	9.82	19.9	30.1	40.4	50.8	61.3	71.8	82.3
1.81	9.91	20.1	30.4	40.8	51.3	61.8	72.4	83.0
1.82	9.99	20.2	30.7	41.2	51.7	62.4	73.0	83.7
1.83	10.1	20.4	30.9	41.5	52.2	62.9	73.7	84.5
1.84	10.2	20.6	31.2	41.9	52.6	63.5	74.3	85.2
1.85	10.2	20.8	31.4	42.2	53.1	64.0	75.0	86.0
1.86	10.3	20.9	31.7	42.6	53.5	64.6	75.6	86.7
1.87	10.4	21.1	32.0	43.0	54.0	65.1	76.3	87.5
1.88	10.5	21.3	32.3	43.3	54.5	65.7	76.9	88.2
1.89	10.6	21.5	32.5	43.7	54.9	66.2	77.6	89.0
1.90	10.7	21.6	32.8	44.1	55.4	66.8	78.2	89.7
1.91	10.8	21.8	33.1	44.4	55.9	67.4	78.9	90.5
1.92	10.9	22.0	33.3	44.8	56.3	67.9	79.6	91.3
1.93	10.9	22.2	33.6	45.2	56.8	68.5	80.2	92.0
1.94	11.0	22.3	33.9	45.5	57.3	69.0	80.9	92.8
1.95	11.1	22.5	34.2	45.9	57.7	69.6	81.6	93.6
1.96	11.2	22.7	34.4	46.3	58.2	70.2	82.2	94.3
1.97	11.3	22.9	34.7	46.6	58.7	70.8	82.9	95.1
1.98	11.4	23.1	35.0	47.0	59.1	71.3	83.6	95.9
1.99	11.5	23.2	35.3	47.4	59.6	71.9	84.3	96.7
2.00	11.6	23.4	35.5	47.8	60.1	72.5	84.9	97.4
2.01	11.7	23.6	35.8	48.1	60.6	73.1	85.6	98.2
2.02	11.7	23.8	36.1	48.5	61.0	73.6	86.3	99.0
2.03	11.8	24.0	36.4	48.9	61.5	74.2	87.0	99.8
2.04	11.9	24.1	36.7	49.3	62.0	74.8	87.7	101.
2.05	12.0	24.3	36.9	49.7	62.5	75.4	88.4	101.
2.06	12.1	24.5	37.2	50.0	63.0	76.0	89.1	102.
2.07	12.2	24.7	37.5	50.4	63.5	76.6	89.7	103.
2.08	12.3	24.9	37.8	50.8	63.9	77.2	90.4	104.
2.09	12.4	25.1	38.1	51.2	64.4	77.8	91.1	105.
2.10	12.5	25.3	38.4	51.6	64.9	78.3	91.8	105.
2.11	12.6	25.4	38.6	52.0	65.4	78.9	92.5	106.
2.12	12.7	25.6	38.9	52.4	65.9	79.5	93.2	107.
2.13	12.8	25.8	39.2	52.8	66.4	80.1	93.9	108.
2.14	12.8	26.0	39.5	53.1	66.9	80.7	94.7	109.
2.15	12.9	26.2	39.8	53.5	67.4	81.3	95.4	109.
2.16	13.0	26.4	40.1	53.9	67.9	81.9	96.1	110.
2.17	13.1	26.6	40.4	54.3	68.4	82.6	96.8	111.
2.18	13.2	26.8	40.7	54.7	68.9	83.2	97.5	112.
2.19	13.3	27.0	41.0	55.1	69.4	83.8	98.2	113.

Table A8-12 [continued]. Free-flow discharges in ft^3/sec through 1- to 8-foot Parshall flumes. Discharges for 2- to 8-ft flumes computed from the formula $Q = 4.00 W h_a^{1.522(W^{0.026})}$. Discharges for 1-ft flume computed from the formula $Q = 3.95 h_a^{1.55}$.

Upper Head h_a, ft	Discharge for flumes of various throat widths, W							
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
2.20	13.4	27.1	41.3	55.5	69.9	84.4	98.9	114.
2.21	13.5	27.3	41.5	55.9	70.4	85.0	99.7	114.
2.22	13.6	27.5	41.8	56.3	70.9	85.6	100.	115.
2.23	13.7	27.7	42.1	56.7	71.4	86.2	101.	116.
2.24	13.8	27.9	42.4	57.1	71.9	86.8	102.	117.
2.25	13.9	28.1	42.7	57.5	72.4	87.5	103.	118.
2.26	14.0	28.3	43.0	57.9	72.9	88.1	103.	119.
2.27	14.1	28.5	43.3	58.3	73.5	88.7	104.	119.
2.28	14.2	28.7	43.6	58.7	74.0	89.3	105.	120.
2.29	14.3	28.9	43.9	59.1	74.5	89.9	105.	121.
2.30	14.4	29.1	44.2	59.5	75.0	90.6	106.	122.
2.31	14.5	29.3	44.5	60.0	75.5	91.2	107.	123.
2.32	14.6	29.5	44.8	60.4	76.0	91.8	108.	124.
2.33	14.7	29.7	45.1	60.8	76.6	92.5	108.	125.
2.34	14.8	29.9	45.4	61.2	77.1	93.1	109.	125.
2.35	14.9	30.1	45.7	61.6	77.6	93.7	110.	126.
2.36	14.9	30.3	46.0	62.0	78.1	94.4	111.	127.
2.37	15.0	30.5	46.4	62.4	78.7	95.0	111.	128.
2.38	15.1	30.7	46.7	62.9	79.2	95.7	112.	129.
2.39	15.2	30.9	47.0	63.3	79.7	96.3	113.	130.
2.40	15.3	31.1	47.3	63.7	80.2	96.9	114.	131.
2.41	15.4	31.3	47.6	64.1	80.8	97.6	114.	131.
2.42	15.5	31.5	47.9	64.5	81.3	98.2	115.	132.
2.43	15.6	31.7	48.2	64.9	81.8	98.9	116.	133.
2.44	15.7	31.9	48.5	65.4	82.4	99.5	117.	134.
2.45	15.8	32.1	48.8	65.8	82.9	100.	118.	135.
2.46	15.9	32.3	49.1	66.2	83.5	101.	118.	136.
2.47	16.0	32.5	49.5	66.6	84.0	101.	119.	137.
2.48	16.1	32.7	49.8	67.1	84.5	102.	120.	138.
2.49	16.2	32.9	50.1	67.5	85.1	103.	121.	139.
2.50	16.3	33.1	50.4	67.9	85.6	103.	121.	139.

Table A8-13. Free-flow discharge through 10-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 39.38 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.10	0.99	1.15	1.32	1.51	1.69	1.89	2.10	2.31	2.53	2.76
.20	3.00	3.24	3.49	3.75	4.01	4.29	4.56	4.85	5.14	5.43
.30	5.74	6.05	6.36	6.68	7.01	7.34	7.68	8.02	8.37	8.73
.40	9.09	9.46	9.83	10.2	10.6	11.0	11.4	11.8	12.2	12.6
.50	13.0	13.4	13.8	14.3	14.7	15.1	15.6	16.0	16.5	16.9
.60	17.4	17.9	18.3	18.8	19.3	19.8	20.3	20.7	21.2	21.7
.70	22.3	22.8	23.3	23.8	24.3	24.9	25.4	25.9	26.5	27.0
.80	27.6	28.1	28.7	29.2	29.8	30.4	30.9	31.5	32.1	32.7
.90	33.3	33.9	34.5	35.1	35.7	36.3	36.9	37.5	38.1	38.8
1.00	39.4	40.0	40.6	41.3	41.9	42.6	43.2	43.9	44.5	45.2
1.10	45.9	46.5	47.2	47.9	48.6	49.2	49.9	50.6	51.3	52.0
1.20	52.7	53.4	54.1	54.8	55.6	56.3	57.0	57.7	58.5	59.2
1.30	59.9	60.7	61.4	62.1	62.9	63.7	64.4	65.2	65.9	66.7
1.40	67.5	68.2	69.0	69.8	70.6	71.4	72.2	72.9	73.7	74.5
1.50	75.3	76.1	77.0	77.8	78.6	79.4	80.2	81.0	81.9	82.7
1.60	83.5	84.4	85.2	86.1	86.9	87.8	88.6	89.5	90.3	91.2
1.70	92.0	92.9	93.8	94.7	95.5	96.4	97.3	98.2	99.1	100.
1.80	101.	102.	103.	104.	104.	105.	106.	107.	108.	109.
1.90	110.	111.	112.	113.	114.	115.	116.	117.	117.	118.
2.00	119.	120.	121.	122.	123.	124.	125.	126.	127.	128.
2.10	129.	130.	131.	132.	133.	134.	135.	136.	137.	138.
2.20	139.	140.	141.	142.	143.	144.	145.	146.	147.	148.
2.30	149.	150.	151.	152.	153.	155.	156.	157.	158.	159.
2.40	160.	161.	162.	163.	164.	165.	166.	167.	168.	170.
2.50	171.	172.	173.	174.	175.	176.	177.	178.	179.	181.
2.60	182.	183.	184.	185.	186.	187.	188.	190.	191.	192.
2.70	193.	194.	195.	196.	198.	199.	200.	201.	202.	203.
2.80	205.	206.	207.	208.	209.	210.	212.	213.	214.	215.
2.90	216.	218.	219.	220.	221.	222.	224.	225.	226.	227.
3.00	228.	230.	231.	232.	233.	235.	236.	237.	238.	239.
3.10	241.	242.	243.	244.	246.	247.	248.	249.	251.	252.
3.20	253.	254.	256.	257.	258.	260.	261.	262.	263.	265.
3.30	266.	267.	269.	270.	271.	272.	274.	275.	276.	278.
3.40	279.	280.	282.	283.	284.	286.	287.	288.	290.	291.
3.50	292.	294.	295.	296.	298.	299.	300.	302.	303.	304.
3.60	306.	307.	308.	310.	311.	313.	314.	315.	317.	318.
3.70	319.	321.	322.	324.	325.	326.	328.	329.	331.	332.
3.80	333.	335.	336.	338.	339.	340.	342.	343.	345.	346.
3.90	348.	349.	350.	352.	353.	355.	356.	358.	359.	360.
4.00	362.	363.	365.	366.	368.	369.	371.	372.	374.	375.
4.10	376.	378.	379.	381.	382.	384.	385.	387.	388.	390.
4.20	391.	393.	394.	396.	397.	399.	400.	402.	403.	405.
4.30	406.	408.	409.	411.	412.	414.	415.	417.	418.	420.
4.40	422.	423.	425.	426.	428.	429.	431.	432.	434.	435.
4.50	437.	438.	440.	442.	443.	445.	446.	448.	449.	451.
4.60	453.	454.	456.	457.	459.	460.	462.	464.	465.	467.
4.70	468.	470.	472.	473.	475.	476.	478.	480.	481.	483.
4.80	484.	486.	488.	489.	491.	493.	494.	496.	497.	499.
4.90	501.	502.	504.	506.	507.	509.	511.	512.	514.	516.
5.00	517.	519.	520.	522.	524.	525.	527.	529.	530.	532.

Table A8-14. Free-flow discharge through 12-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 46.75 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.10	1.17	1.37	1.57	1.79	2.01	2.25	2.49	2.74	3.01	3.28
.20	3.56	3.85	4.15	4.45	4.77	5.09	5.42	5.75	6.10	6.45
.30	6.81	7.18	7.55	7.93	8.32	8.72	9.12	9.53	9.94	10.4
.40	10.8	11.2	11.7	12.1	12.6	13.0	13.5	14.0	14.4	14.9
.50	15.4	15.9	16.4	16.9	17.4	18.0	18.5	19.0	19.6	20.1
.60	20.6	21.2	21.8	22.3	22.9	23.5	24.0	24.6	25.2	25.8
.70	26.4	27.0	27.6	28.3	28.9	29.5	30.1	30.8	31.4	32.1
.80	32.7	33.4	34.0	34.7	35.4	36.0	36.7	37.4	38.1	38.8
.90	39.5	40.2	40.9	41.6	42.3	43.1	43.8	44.5	45.3	46.0
1.00	46.8	47.5	48.3	49.0	49.8	50.5	51.3	52.1	52.9	53.7
1.10	54.5	55.2	56.0	56.8	57.7	58.5	59.3	60.1	60.9	61.8
1.20	62.6	63.4	64.3	65.1	66.0	66.8	67.7	68.5	69.4	70.3
1.30	71.1	72.0	72.9	73.8	74.7	75.6	76.5	77.4	78.3	79.2
1.40	80.1	81.0	81.9	82.9	83.8	84.7	85.7	86.6	87.5	88.5
1.50	89.4	90.4	91.4	92.3	93.3	94.3	95.2	96.2	97.2	98.2
1.60	99.2	100.	101.	102.	103.	104.	105.	106.	107.	108.
1.70	109.	110.	111.	112.	113.	114.	116.	117.	118.	119.
1.80	120.	121.	122.	123.	124.	125.	126.	127.	128.	129.
1.90	131.	132.	133.	134.	135.	136.	137.	138.	139.	141.
2.00	142.	143.	144.	145.	146.	147.	149.	150.	151.	152.
2.10	153.	154.	156.	157.	158.	159.	160.	161.	163.	164.
2.20	165.	166.	167.	169.	170.	171.	172.	174.	175.	176.
2.30	177.	178.	180.	181.	182.	183.	185.	186.	187.	188.
2.40	190.	191.	192.	194.	195.	196.	197.	199.	200.	201.
2.50	203.	204.	205.	206.	208.	209.	210.	212.	213.	214.
2.60	216.	217.	218.	220.	221.	222.	224.	225.	226.	228.
2.70	229.	230.	232.	233.	235.	236.	237.	239.	240.	241.
2.80	243.	244.	246.	247.	248.	250.	251.	253.	254.	255.
2.90	257.	258.	260.	261.	263.	264.	265.	267.	268.	270.
3.00	271.	273.	274.	275.	277.	278.	280.	281.	283.	284.
3.10	286.	287.	289.	290.	292.	293.	295.	296.	298.	299.
3.20	301.	302.	304.	305.	307.	308.	310.	311.	313.	314.
3.30	316.	317.	319.	320.	322.	323.	325.	327.	328.	330.
3.40	331.	333.	334.	336.	338.	339.	341.	342.	344.	345.
3.50	347.	349.	350.	352.	353.	355.	357.	358.	360.	361.
3.60	363.	365.	366.	368.	369.	371.	373.	374.	376.	378.
3.70	379.	381.	383.	384.	386.	387.	389.	391.	392.	394.
3.80	396.	397.	399.	401.	402.	404.	406.	407.	409.	411.
3.90	413.	414.	416.	418.	419.	421.	423.	424.	426.	428.
4.00	430.	431.	433.	435.	437.	438.	440.	442.	443.	445.
4.10	447.	449.	450.	452.	454.	456.	457.	459.	461.	463.
4.20	464.	466.	468.	470.	472.	473.	475.	477.	479.	481.
4.30	482.	484.	486.	488.	490.	491.	493.	495.	497.	499.
4.40	500.	502.	504.	506.	508.	510.	511.	513.	515.	517.
4.50	519.	521.	522.	524.	526.	528.	530.	532.	534.	535.
4.60	537.	539.	541.	543.	545.	547.	549.	550.	552.	554.
4.70	556.	558.	560.	562.	564.	566.	567.	569.	571.	573.
4.80	575.	577.	579.	581.	583.	585.	587.	589.	591.	592.
4.90	594.	596.	598.	600.	602.	604.	606.	608.	610.	612.
5.00	614.	616.	618.	620.	622.	624.	626.	628.	630.	632.

Table A8-15. Free-flow discharge through 15-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 57.81 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths*									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	8.42	8.88	9.34	9.81	10.3	10.8	11.3	11.8	12.3	12.8
.40	13.3	13.9	14.4	15.0	15.5	16.1	16.7	17.3	17.9	18.5
.50	19.1	19.7	20.3	20.9	21.6	22.2	22.9	23.5	24.2	24.9
.60	25.5	26.2	26.9	27.6	28.3	29.0	29.7	30.5	31.2	31.9
.70	32.7	33.4	34.2	34.9	35.7	36.5	37.3	38.1	38.8	39.6
.80	40.5	41.3	42.1	42.9	43.7	44.6	45.4	46.3	47.1	48.0
.90	48.8	49.7	50.6	51.5	52.4	53.3	54.2	55.1	56.0	56.9
1.00	57.8	58.7	59.7	60.6	61.6	62.5	63.5	64.4	65.4	66.4
1.10	67.3	68.3	69.3	70.3	71.3	72.3	73.3	74.3	75.3	76.4
1.20	77.4	78.4	79.5	80.5	81.6	82.6	83.7	84.7	85.8	86.9
1.30	88.0	89.1	90.1	91.2	92.3	93.4	94.6	95.7	96.8	97.9
1.40	99.0	100.	101.	102.	104.	105.	106.	107.	108.	109.
1.50	111.	112.	113.	114.	115.	117.	118.	119.	120.	121.
1.60	123.	124.	125.	126.	128.	129.	130.	131.	133.	134.
1.70	135.	136.	138.	139.	140.	142.	143.	144.	145.	147.
1.80	148.	149.	151.	152.	153.	155.	156.	157.	159.	160.
1.90	161.	163.	164.	166.	167.	168.	170.	171.	172.	174.
2.00	175.	177.	178.	179.	181.	182.	184.	185.	187.	188.
2.10	189.	191.	192.	194.	195.	197.	198.	200.	201.	203.
2.20	204.	206.	207.	209.	210.	212.	213.	215.	216.	218.
2.30	219.	221.	222.	224.	225.	227.	228.	230.	231.	233.
2.40	235.	236.	238.	239.	241.	242.	244.	246.	247.	249.
2.50	250.	252.	254.	255.	257.	259.	260.	262.	263.	265.
2.60	267.	268.	270.	272.	273.	275.	277.	278.	280.	282.
2.70	283.	285.	287.	288.	290.	292.	293.	295.	297.	299.
2.80	300.	302.	304.	305.	307.	309.	311.	312.	314.	316.
2.90	318.	319.	321.	323.	325.	326.	328.	330.	332.	333.
3.00	335.	337.	339.	341.	342.	344.	346.	348.	350.	352.
3.10	353.	355.	357.	359.	361.	362.	364.	366.	368.	370.
3.20	372.	374.	375.	377.	379.	381.	383.	385.	387.	389.
3.30	391.	392.	394.	396.	398.	400.	402.	404.	406.	408.
3.40	410.	412.	413.	415.	417.	419.	421.	423.	425.	427.
3.50	429.	431.	433.	435.	437.	439.	441.	443.	445.	447.
3.60	449.	451.	453.	455.	457.	459.	461.	463.	465.	467.
3.70	469.	471.	473.	475.	477.	479.	481.	483.	485.	487.
3.80	489.	491.	494.	496.	498.	500.	502.	504.	506.	508.
3.90	510.	512.	514.	516.	519.	521.	523.	525.	527.	529.
4.00	531.	533.	536.	538.	540.	542.	544.	546.	548.	551.
4.10	553.	555.	557.	559.	561.	563.	566.	568.	570.	572.
4.20	574.	577.	579.	581.	583.	585.	588.	590.	592.	594.
4.30	596.	599.	601.	603.	605.	608.	610.	612.	614.	617.
4.40	619.	621.	623.	626.	628.	630.	632.	635.	637.	639.
4.50	641.	644.	646.	648.	651.	653.	655.	657.	660.	662.
4.60	664.	667.	669.	671.	674.	676.	678.	681.	683.	685.
4.70	688.	690.	692.	695.	697.	699.	702.	704.	706.	709.
4.80	711.	714.	716.	718.	721.	723.	725.	728.	730.	733.
4.90	735.	737.	740.	742.	745.	747.	750.	752.	754.	757.
5.00	759.	762.	764.	766.	769.	771.	774.	776.	779.	781.
5.10	784.	786.	789.	791.	793.	796.	798.	801.	803.	806.
5.20	808.	811.	813.	816.	818.	821.	823.	826.	828.	831.
5.30	833.	836.	838.	841.	843.	846.	849.	851.	854.	856.
5.40	859.	861.	864.	866.	869.	871.	874.	877.	879.	882.
5.50	884.	887.	889.	892.	895.	897.	900.	902.	905.	908.
5.60	910.	913.	915.	918.	921.	923.	926.	928.	931.	934.
5.70	936.	939.	942.	944.	947.	949.	952.	955.	957.	960.
5.80	963.	965.	968.	971.	973.	976.	979.	981.	984.	987.
5.90	989.	992.	995.	997.	1000.	1003.	1006.	1008.	1011.	1014.
6.00	1016.	1019.	1022.	1024.	1027.	1030.	1033.	1035.	1038.	1041.

Table A8-16. Free-flow discharge through 20-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 76.25 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths* 0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	11.1	11.7	12.3	12.9	13.6	14.2	14.9	15.5	16.2	16.9
.40	17.6	18.3	19.0	19.8	20.5	21.3	22.0	22.8	23.6	24.4
.50	25.2	26.0	26.8	27.6	28.4	29.3	30.2	31.0	31.9	32.8
.60	33.7	34.6	35.5	36.4	37.3	38.3	39.2	40.2	41.1	42.1
.70	43.1	44.1	45.1	46.1	47.1	48.1	49.2	50.2	51.2	52.3
.80	53.4	54.4	55.5	56.6	57.7	58.8	59.9	61.0	62.1	63.3
.90	64.4	65.6	66.7	67.9	69.1	70.2	71.4	72.6	73.8	75.0
1.00	76.3	77.5	78.7	79.9	81.2	82.4	83.7	85.0	86.2	87.5
1.10	88.8	90.1	91.4	92.7	94.0	95.4	96.7	98.0	99.4	101.
1.20	102.	103.	105.	106.	108.	109.	110.	112.	113.	115.
1.30	116.	117.	119.	120.	122.	123.	125.	126.	128.	129.
1.40	131.	132.	134.	135.	137.	138.	140.	141.	143.	144.
1.50	146.	147.	149.	151.	152.	154.	155.	157.	159.	160.
1.60	162.	163.	165.	167.	168.	170.	172.	173.	175.	177.
1.70	178.	180.	182.	183.	185.	187.	188.	190.	192.	194.
1.80	195.	197.	199.	201.	202.	204.	206.	208.	209.	211.
1.90	213.	215.	217.	218.	220.	222.	224.	226.	227.	229.
2.00	231.	233.	235.	237.	239.	240.	242.	244.	246.	248.
2.10	250.	252.	254.	256.	258.	260.	261.	263.	265.	267.
2.20	269.	271.	273.	275.	277.	279.	281.	283.	285.	287.
2.30	289.	291.	293.	295.	297.	299.	301.	303.	305.	307.
2.40	309.	312.	314.	316.	318.	320.	322.	324.	326.	328.
2.50	330.	332.	335.	337.	339.	341.	343.	345.	347.	350.
2.60	352.	354.	356.	358.	360.	363.	365.	367.	369.	371.
2.70	374.	376.	378.	380.	383.	385.	387.	389.	391.	394.
2.80	396.	398.	401.	403.	405.	407.	410.	412.	414.	417.
2.90	419.	421.	423.	426.	428.	430.	433.	435.	438.	440.
3.00	442.	445.	447.	449.	452.	454.	456.	459.	461.	464.
3.10	466.	468.	471.	473.	476.	478.	481.	483.	485.	488.
3.20	490.	493.	495.	498.	500.	503.	505.	508.	510.	513.
3.30	515.	518.	520.	523.	525.	528.	530.	533.	535.	538.
3.40	540.	543.	545.	548.	550.	553.	556.	558.	561.	563.
3.50	566.	569.	571.	574.	576.	579.	582.	584.	587.	589.
3.60	592.	595.	597.	600.	603.	605.	608.	611.	613.	616.
3.70	619.	621.	624.	627.	629.	632.	635.	637.	640.	643.
3.80	645.	648.	651.	654.	656.	659.	662.	665.	667.	670.
3.90	673.	676.	678.	681.	684.	687.	690.	692.	695.	698.
4.00	701.	704.	706.	709.	712.	715.	718.	720.	723.	726.
4.10	729.	732.	735.	737.	740.	743.	746.	749.	752.	755.
4.20	758.	760.	763.	766.	769.	772.	775.	778.	781.	784.
4.30	787.	790.	793.	795.	798.	801.	804.	807.	810.	813.
4.40	816.	819.	822.	825.	828.	831.	834.	837.	840.	843.
4.50	846.	849.	852.	855.	858.	861.	864.	867.	870.	873.
4.60	876.	879.	882.	885.	889.	892.	895.	898.	901.	904.
4.70	907.	910.	913.	916.	919.	922.	926.	929.	932.	935.
4.80	938.	941.	944.	947.	951.	954.	957.	960.	963.	966.
4.90	970.	973.	976.	979.	982.	985.	989.	992.	995.	998.
5.00	1001.	1005.	1008.	1011.	1014.	1017.	1021.	1024.	1027.	1030.
5.10	1034.	1037.	1040.	1043.	1047.	1050.	1053.	1056.	1060.	1063.
5.20	1066.	1069.	1073.	1076.	1079.	1083.	1086.	1089.	1093.	1096.
5.30	1099.	1103.	1106.	1109.	1113.	1116.	1119.	1123.	1126.	1129.
5.40	1133.	1136.	1139.	1143.	1146.	1149.	1153.	1156.	1160.	1163.
5.50	1166.	1170.	1173.	1177.	1180.	1183.	1187.	1190.	1194.	1197.
5.60	1200.	1204.	1207.	1211.	1214.	1218.	1221.	1225.	1228.	1231.
5.70	1235.	1238.	1242.	1245.	1249.	1252.	1256.	1259.	1263.	1266.
5.80	1270.	1273.	1277.	1280.	1284.	1287.	1291.	1294.	1298.	1301.
5.90	1305.	1309.	1312.	1316.	1319.	1323.	1326.	1330.	1333.	1337.
6.00	1341.	1344.	1348.	1351.	1355.	1358.	1362.	1366.	1369.	1373.

Table A8-17. Free-flow discharge through 25-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 94.69 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths* 0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	13.8	14.5	15.3	16.1	16.9	17.7	18.5	19.3	20.1	21.0
.40	21.9	22.7	23.6	24.5	25.5	26.4	27.3	28.3	29.3	30.2
.50	31.2	32.2	33.3	34.3	35.3	36.4	37.4	38.5	39.6	40.7
.60	41.8	42.9	44.1	45.2	46.4	47.5	48.7	49.9	51.1	52.3
.70	53.5	54.7	56.0	57.2	58.5	59.8	61.0	62.3	63.6	64.9
.80	66.3	67.6	68.9	70.3	71.6	73.0	74.4	75.8	77.2	78.6
.90	80.0	81.4	82.9	84.3	85.8	87.2	88.7	90.2	91.7	93.2
1.00	94.7	96.2	97.7	99.3	101.	102.	104.	106.	107.	109.
1.10	110.	112.	114.	115.	117.	118.	120.	122.	123.	125.
1.20	127.	128.	130.	132.	134.	135.	137.	139.	141.	142.
1.30	144.	146.	148.	149.	151.	153.	155.	157.	159.	160.
1.40	162.	164.	166.	168.	170.	172.	173.	175.	177.	179.
1.50	181.	183.	185.	187.	189.	191.	193.	195.	197.	199.
1.60	201.	203.	205.	207.	209.	211.	213.	215.	217.	219.
1.70	221.	223.	226.	228.	230.	232.	234.	236.	238.	240.
1.80	243.	245.	247.	249.	251.	253.	256.	258.	260.	262.
1.90	264.	267.	269.	271.	273.	276.	278.	280.	282.	285.
2.00	287.	289.	292.	294.	296.	299.	301.	303.	306.	308.
2.10	310.	313.	315.	317.	320.	322.	325.	327.	329.	332.
2.20	334.	337.	339.	342.	344.	347.	349.	352.	354.	356.
2.30	359.	361.	364.	366.	369.	372.	374.	377.	379.	382.
2.40	384.	387.	389.	392.	395.	397.	400.	402.	405.	408.
2.50	410.	413.	415.	418.	421.	423.	426.	429.	431.	434.
2.60	437.	439.	442.	445.	448.	450.	453.	456.	458.	461.
2.70	464.	467.	469.	472.	475.	478.	481.	483.	486.	489.
2.80	492.	495.	497.	500.	503.	506.	509.	512.	514.	517.
2.90	520.	523.	526.	529.	532.	535.	537.	540.	543.	546.
3.00	549.	552.	555.	558.	561.	564.	567.	570.	573.	576.
3.10	579.	582.	585.	588.	591.	594.	597.	600.	603.	606.
3.20	609.	612.	615.	618.	621.	624.	627.	630.	633.	637.
3.30	640.	643.	646.	649.	652.	655.	658.	661.	665.	668.
3.40	671.	674.	677.	680.	684.	687.	690.	693.	696.	700.
3.50	703.	706.	709.	712.	716.	719.	722.	725.	729.	732.
3.60	735.	738.	742.	745.	748.	752.	755.	758.	761.	765.
3.70	768.	771.	775.	778.	781.	785.	788.	791.	795.	798.
3.80	802.	805.	808.	812.	815.	819.	822.	825.	829.	832.
3.90	836.	839.	842.	846.	849.	853.	856.	860.	863.	867.
4.00	870.	874.	877.	881.	884.	888.	891.	895.	898.	902.
4.10	905.	909.	912.	916.	919.	923.	927.	930.	934.	937.
4.20	941.	944.	948.	952.	955.	959.	962.	966.	970.	973.
4.30	977.	981.	984.	988.	991.	995.	999.	1002.	1006.	1010.
4.40	1014.	1017.	1021.	1025.	1028.	1032.	1036.	1039.	1043.	1047.
4.50	1051.	1054.	1058.	1062.	1066.	1069.	1073.	1077.	1081.	1084.
4.60	1088.	1092.	1096.	1100.	1103.	1107.	1111.	1115.	1119.	1122.
4.70	1126.	1130.	1134.	1138.	1142.	1146.	1149.	1153.	1157.	1161.
4.80	1165.	1169.	1173.	1177.	1180.	1184.	1188.	1192.	1196.	1200.
4.90	1204.	1208.	1212.	1216.	1220.	1224.	1228.	1232.	1236.	1240.
5.00	1244.	1248.	1251.	1255.	1259.	1263.	1267.	1272.	1276.	1280.
5.10	1284.	1288.	1292.	1296.	1300.	1304.	1308.	1312.	1316.	1320.
5.20	1324.	1328.	1332.	1336.	1340.	1344.	1349.	1353.	1357.	1361.
5.30	1365.	1369.	1373.	1377.	1382.	1386.	1390.	1394.	1398.	1402.
5.40	1406.	1411.	1415.	1419.	1423.	1427.	1432.	1436.	1440.	1444.
5.50	1448.	1453.	1457.	1461.	1465.	1470.	1474.	1478.	1482.	1486.
5.60	1491.	1495.	1499.	1504.	1508.	1512.	1516.	1521.	1525.	1529.
5.70	1534.	1538.	1542.	1547.	1551.	1555.	1559.	1564.	1568.	1572.
5.80	1577.	1581.	1586.	1590.	1594.	1599.	1603.	1607.	1612.	1616.
5.90	1621.	1625.	1629.	1634.	1638.	1643.	1647.	1651.	1656.	1660.
6.00	1665.	1669.	1674.	1678.	1683.	1687.	1691.	1696.	1700.	1705.

Table A8-18. Free-flow discharge through 30-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 113.13 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths* 0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	16.5	17.4	18.3	19.2	20.1	21.1	22.1	23.1	24.1	25.1
.40	26.1	27.2	28.2	29.3	30.4	31.5	32.7	33.8	35.0	36.1
.50	37.3	38.5	39.7	41.0	42.2	43.5	44.7	46.0	47.3	48.6
.60	50.0	51.3	52.7	54.0	55.4	56.8	58.2	59.6	61.0	62.5
.70	63.9	65.4	66.9	68.4	69.9	71.4	72.9	74.5	76.0	77.6
.80	79.2	80.8	82.4	84.0	85.6	87.2	88.9	90.5	92.2	93.9
.90	95.6	97.3	99.0	101.	102.	104.	106.	108.	110.	111.
1.00	113.	115.	117.	119.	120.	122.	124.	126.	128.	130.
1.10	132.	134.	136.	138.	140.	141.	143.	145.	147.	149.
1.20	151.	153.	156.	158.	160.	162.	164.	166.	168.	170.
1.30	172.	174.	176.	179.	181.	183.	185.	187.	189.	192.
1.40	194.	196.	198.	201.	203.	205.	207.	210.	212.	214.
1.50	216.	219.	221.	223.	226.	228.	230.	233.	235.	238.
1.60	240.	242.	245.	247.	250.	252.	255.	257.	259.	262.
1.70	264.	267.	269.	272.	274.	277.	280.	282.	285.	287.
1.80	290.	292.	295.	298.	300.	303.	305.	308.	311.	313.
1.90	316.	319.	321.	324.	327.	329.	332.	335.	337.	340.
2.00	343.	346.	348.	351.	354.	357.	360.	362.	365.	368.
2.10	371.	374.	376.	379.	382.	385.	388.	391.	394.	397.
2.20	399.	402.	405.	408.	411.	414.	417.	420.	423.	426.
2.30	429.	432.	435.	438.	441.	444.	447.	450.	453.	456.
2.40	459.	462.	465.	468.	471.	475.	478.	481.	484.	487.
2.50	490.	493.	496.	500.	503.	506.	509.	512.	515.	519.
2.60	522.	525.	528.	532.	535.	538.	541.	544.	548.	551.
2.70	554.	558.	561.	564.	568.	571.	574.	577.	581.	584.
2.80	588.	591.	594.	598.	601.	604.	608.	611.	615.	618.
2.90	621.	625.	628.	632.	635.	639.	642.	646.	649.	653.
3.00	656.	660.	663.	667.	670.	674.	677.	681.	684.	688.
3.10	691.	695.	699.	702.	706.	709.	713.	717.	720.	724.
3.20	727.	731.	735.	738.	742.	746.	749.	753.	757.	760.
3.30	764.	768.	772.	775.	779.	783.	787.	790.	794.	798.
3.40	802.	805.	809.	813.	817.	821.	824.	828.	832.	836.
3.50	840.	843.	847.	851.	855.	859.	863.	867.	871.	874.
3.60	878.	882.	886.	890.	894.	898.	902.	906.	910.	914.
3.70	918.	922.	926.	930.	934.	938.	942.	946.	950.	954.
3.80	958.	962.	966.	970.	974.	978.	982.	986.	990.	994.
3.90	998.	1002.	1007.	1011.	1015.	1019.	1023.	1027.	1031.	1035.
4.00	1040.	1044.	1048.	1052.	1056.	1060.	1065.	1069.	1073.	1077.
4.10	1082.	1086.	1090.	1094.	1098.	1103.	1107.	1111.	1115.	1120.
4.20	1124.	1128.	1133.	1137.	1141.	1146.	1150.	1154.	1158.	1163.
4.30	1167.	1171.	1176.	1180.	1185.	1189.	1193.	1198.	1202.	1206.
4.40	1211.	1215.	1220.	1224.	1229.	1233.	1237.	1242.	1246.	1251.
4.50	1255.	1260.	1264.	1269.	1273.	1278.	1282.	1287.	1291.	1296.
4.60	1300.	1305.	1309.	1314.	1318.	1323.	1327.	1332.	1337.	1341.
4.70	1346.	1350.	1355.	1359.	1364.	1369.	1373.	1378.	1382.	1387.
4.80	1392.	1396.	1401.	1406.	1410.	1415.	1420.	1424.	1429.	1434.
4.90	1438.	1443.	1448.	1453.	1457.	1462.	1467.	1471.	1476.	1481.
5.00	1486.	1490.	1495.	1500.	1505.	1510.	1514.	1519.	1524.	1529.
5.10	1534.	1538.	1543.	1548.	1553.	1558.	1562.	1567.	1572.	1577.
5.20	1582.	1587.	1592.	1597.	1601.	1606.	1611.	1616.	1621.	1626.
5.30	1631.	1636.	1641.	1646.	1651.	1656.	1661.	1665.	1670.	1675.
5.40	1680.	1685.	1690.	1695.	1700.	1705.	1710.	1715.	1720.	1725.
5.50	1730.	1735.	1741.	1746.	1751.	1756.	1761.	1766.	1771.	1776.
5.60	1781.	1786.	1791.	1796.	1801.	1807.	1812.	1817.	1822.	1827.
5.70	1832.	1837.	1843.	1848.	1853.	1858.	1863.	1868.	1874.	1879.
5.80	1884.	1889.	1894.	1900.	1905.	1910.	1915.	1920.	1926.	1931.
5.90	1936.	1941.	1947.	1952.	1957.	1962.	1968.	1973.	1978.	1984.
6.00	1989.	1994.	2000.	2005.	2010.	2016.	2021.	2026.	2032.	2037.

Table A8-19. Free-flow discharge through 40-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 150.00 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths* 0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	21.9	23.0	24.2	25.5	26.7	28.0	29.3	30.6	31.9	33.3
.40	34.6	36.0	37.4	38.9	40.3	41.8	43.3	44.8	46.4	47.9
.50	49.5	51.1	52.7	54.3	56.0	57.6	59.3	61.0	62.7	64.5
.60	66.2	68.0	69.8	71.6	73.4	75.3	77.2	79.0	80.9	82.8
.70	84.8	86.7	88.7	90.7	92.7	94.7	96.7	98.7	101.	103.
.80	105.	107.	109.	111.	113.	116.	118.	120.	122.	124.
.90	127.	129.	131.	134.	136.	138.	141.	143.	145.	148.
1.00	150.	152.	155.	157.	160.	162.	165.	167.	170.	172.
1.10	175.	177.	180.	182.	185.	188.	190.	193.	195.	198.
1.20	201.	203.	206.	209.	212.	214.	217.	220.	223.	225.
1.30	228.	231.	234.	237.	240.	242.	245.	248.	251.	254.
1.40	257.	260.	263.	266.	269.	272.	275.	278.	281.	284.
1.50	287.	290.	293.	296.	299.	302.	306.	309.	312.	315.
1.60	318.	321.	325.	328.	331.	334.	337.	341.	344.	347.
1.70	351.	354.	357.	361.	364.	367.	371.	374.	377.	381.
1.80	384.	388.	391.	394.	398.	401.	405.	408.	412.	415.
1.90	419.	422.	426.	430.	433.	437.	440.	444.	447.	451.
2.00	455.	458.	462.	466.	469.	473.	477.	480.	484.	488.
2.10	492.	495.	499.	503.	507.	510.	514.	518.	522.	526.
2.20	530.	533.	537.	541.	545.	549.	553.	557.	561.	565.
2.30	569.	573.	577.	581.	585.	589.	593.	597.	601.	605.
2.40	609.	613.	617.	621.	625.	629.	633.	637.	642.	646.
2.50	650.	654.	658.	662.	667.	671.	675.	679.	683.	688.
2.60	692.	696.	700.	705.	709.	713.	718.	722.	726.	731.
2.70	735.	739.	744.	748.	752.	757.	761.	766.	770.	775.
2.80	779.	783.	788.	792.	797.	801.	806.	810.	815.	819.
2.90	824.	829.	833.	838.	842.	847.	851.	856.	861.	865.
3.00	870.	875.	879.	884.	889.	893.	898.	903.	907.	912.
3.10	917.	922.	926.	931.	936.	941.	945.	950.	955.	960.
3.20	965.	969.	974.	979.	984.	989.	994.	999.	1003.	1008.
3.30	1013.	1018.	1023.	1028.	1033.	1038.	1043.	1048.	1053.	1058.
3.40	1063.	1068.	1073.	1078.	1083.	1088.	1093.	1098.	1103.	1108.
3.50	1113.	1118.	1123.	1129.	1134.	1139.	1144.	1149.	1154.	1159.
3.60	1165.	1170.	1175.	1180.	1185.	1191.	1196.	1201.	1206.	1212.
3.70	1217.	1222.	1227.	1233.	1238.	1243.	1249.	1254.	1259.	1264.
3.80	1270.	1275.	1281.	1286.	1291.	1297.	1302.	1307.	1313.	1318.
3.90	1324.	1329.	1335.	1340.	1346.	1351.	1356.	1362.	1367.	1373.
4.00	1378.	1384.	1389.	1395.	1401.	1406.	1412.	1417.	1423.	1428.
4.10	1434.	1440.	1445.	1451.	1456.	1462.	1468.	1473.	1479.	1485.
4.20	1490.	1496.	1502.	1507.	1513.	1519.	1525.	1530.	1536.	1542.
4.30	1548.	1553.	1559.	1565.	1571.	1576.	1582.	1588.	1594.	1600.
4.40	1606.	1611.	1617.	1623.	1629.	1635.	1641.	1647.	1652.	1658.
4.50	1664.	1670.	1676.	1682.	1688.	1694.	1700.	1706.	1712.	1718.
4.60	1724.	1730.	1736.	1742.	1748.	1754.	1760.	1766.	1772.	1778.
4.70	1784.	1790.	1796.	1802.	1809.	1815.	1821.	1827.	1833.	1839.
4.80	1845.	1851.	1858.	1864.	1870.	1876.	1882.	1889.	1895.	1901.
4.90	1907.	1913.	1920.	1926.	1932.	1938.	1945.	1951.	1957.	1964.
5.00	1970.	1976.	1983.	1989.	1995.	2002.	2008.	2014.	2021.	2027.
5.10	2033.	2040.	2046.	2052.	2059.	2065.	2072.	2078.	2085.	2091.
5.20	2097.	2104.	2110.	2117.	2123.	2130.	2136.	2143.	2149.	2156.
5.30	2162.	2169.	2175.	2182.	2189.	2195.	2202.	2208.	2215.	2221.
5.40	2228.	2235.	2241.	2248.	2254.	2261.	2268.	2274.	2281.	2288.
5.50	2294.	2301.	2308.	2314.	2321.	2328.	2335.	2341.	2348.	2355.
5.60	2362.	2368.	2375.	2382.	2389.	2395.	2402.	2409.	2416.	2423.
5.70	2429.	2436.	2443.	2450.	2457.	2464.	2470.	2477.	2484.	2491.
5.80	2498.	2505.	2512.	2519.	2526.	2532.	2539.	2546.	2553.	2560.
5.90	2567.	2574.	2581.	2588.	2595.	2602.	2609.	2616.	2623.	2630.
6.00	2637.	2644.	2651.	2658.	2665.	2672.	2679.	2687.	2694.	2701.

Table A8-20. Free-flow discharge through 50-ft Parshall measuring flume in ft^3/sec. Computed from the formula $Q = 186.88 h_a^{1.6}$.

Upper Head h_a, ft	*Hundredths* 0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.30	27.2	28.7	30.2	31.7	33.3	34.8	36.4	38.1	39.7	41.4
.40	43.1	44.9	46.6	48.4	50.2	52.1	53.9	55.8	57.7	59.7
.50	61.6	63.6	65.6	67.7	69.7	71.8	73.9	76.0	78.2	80.3
.60	82.5	84.7	87.0	89.2	91.5	93.8	96.1	98.5	101.	103.
.70	106.	108.	110.	113.	115.	118.	120.	123.	126.	128.
.80	131.	133.	136.	139.	141.	144.	147.	150.	152.	155.
.90	158.	161.	164.	166.	169.	172.	175.	178.	181.	184.
1.00	187.	190.	193.	196.	199.	202.	205.	208.	211.	215.
1.10	218.	221.	224.	227.	230.	234.	237.	240.	244.	247.
1.20	250.	254.	257.	260.	264.	267.	270.	274.	277.	281.
1.30	284.	288.	291.	295.	298.	302.	306.	309.	313.	317.
1.40	320.	324.	328.	331.	335.	339.	342.	346.	350.	354.
1.50	358.	361.	365.	369.	373.	377.	381.	385.	389.	392.
1.60	396.	400.	404.	408.	412.	416.	420.	425.	429.	433.
1.70	437.	441.	445.	449.	453.	458.	462.	466.	470.	474.
1.80	479.	483.	487.	491.	496.	500.	504.	509.	513.	517.
1.90	522.	526.	531.	535.	540.	544.	548.	553.	557.	562.
2.00	567.	571.	576.	580.	585.	589.	594.	599.	603.	608.
2.10	613.	617.	622.	627.	631.	636.	641.	646.	650.	655.
2.20	660.	665.	669.	674.	679.	684.	689.	694.	699.	704.
2.30	708.	713.	718.	723.	728.	733.	738.	743.	748.	753.
2.40	758.	763.	769.	774.	779.	784.	789.	794.	799.	804.
2.50	810.	815.	820.	825.	830.	836.	841.	846.	851.	857.
2.60	862.	867.	873.	878.	883.	889.	894.	899.	905.	910.
2.70	916.	921.	927.	932.	937.	943.	948.	954.	959.	965.
2.80	971.	976.	982.	987.	993.	998.	1004.	1010.	1015.	1021.
2.90	1027.	1032.	1038.	1044.	1049.	1055.	1061.	1067.	1072.	1078.
3.00	1084.	1090.	1095.	1101.	1107.	1113.	1119.	1125.	1130.	1136.
3.10	1142.	1148.	1154.	1160.	1166.	1172.	1178.	1184.	1190.	1196.
3.20	1202.	1208.	1214.	1220.	1226.	1232.	1238.	1244.	1250.	1256.
3.30	1262.	1268.	1275.	1281.	1287.	1293.	1299.	1305.	1312.	1318.
3.40	1324.	1330.	1337.	1343.	1349.	1355.	1362.	1368.	1374.	1381.
3.50	1387.	1393.	1400.	1406.	1412.	1419.	1425.	1432.	1438.	1444.
3.60	1451.	1457.	1464.	1470.	1477.	1483.	1490.	1496.	1503.	1509.
3.70	1516.	1523.	1529.	1536.	1542.	1549.	1555.	1562.	1569.	1575.
3.80	1582.	1589.	1595.	1602.	1609.	1615.	1622.	1629.	1636.	1642.
3.90	1649.	1656.	1663.	1670.	1676.	1683.	1690.	1697.	1704.	1710.
4.00	1717.	1724.	1731.	1738.	1745.	1752.	1759.	1766.	1773.	1780.
4.10	1787.	1794.	1801.	1808.	1815.	1822.	1829.	1836.	1843.	1850.
4.20	1857.	1864.	1871.	1878.	1885.	1892.	1899.	1907.	1914.	1921.
4.30	1928.	1935.	1942.	1950.	1957.	1964.	1971.	1978.	1986.	1993.
4.40	2000.	2008.	2015.	2022.	2029.	2037.	2044.	2051.	2059.	2066.
4.50	2073.	2081.	2088.	2096.	2103.	2110.	2118.	2125.	2133.	2140.
4.60	2148.	2155.	2163.	2170.	2178.	2185.	2193.	2200.	2208.	2215.
4.70	2223.	2230.	2238.	2246.	2253.	2261.	2268.	2276.	2284.	2291.
4.80	2299.	2307.	2314.	2322.	2330.	2337.	2345.	2353.	2361.	2368.
4.90	2376.	2384.	2392.	2399.	2407.	2415.	2423.	2431.	2439.	2446.
5.00	2454.	2462.	2470.	2478.	2486.	2494.	2502.	2509.	2517.	2525.
5.10	2533.	2541.	2549.	2557.	2565.	2573.	2581.	2589.	2597.	2605.
5.20	2613.	2621.	2629.	2637.	2645.	2653.	2662.	2670.	2678.	2686.
5.30	2694.	2702.	2710.	2718.	2727.	2735.	2743.	2751.	2759.	2768.
5.40	2776.	2784.	2792.	2801.	2809.	2817.	2825.	2834.	2842.	2850.
5.50	2859.	2867.	2875.	2884.	2892.	2900.	2909.	2917.	2925.	2934.
5.60	2942.	2951.	2959.	2967.	2976.	2984.	2993.	3001.	3010.	3018.
5.70	3027.	3035.	3044.	3052.	3061.	3069.	3078.	3086.	3095.	3103.
5.80	3112.	3121.	3129.	3138.	3146.	3155.	3164.	3172.	3181.	3190.
5.90	3198.	3207.	3216.	3224.	3233.	3242.	3251.	3259.	3268.	3277.
6.00	3286.	3294.	3303.	3312.	3321.	3329.	3338.	3347.	3356.	3365.

Table A9-2. Discharge of fully contracted standard submerged rectangular orifice in ft^3/sec. Computed from the formula $Q = 0.61A(2g\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet							
	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
0.01	0.122	0.245	0.367	0.490	0.612	0.734	0.857	0.979
.02	.173	.346	.519	.692	.865	1.04	1.21	1.38
.03	.212	.424	.636	.848	1.06	1.27	1.48	1.70
.04	.245	.490	.734	.979	1.22	1.47	1.71	1.96
.05	.274	.547	.821	1.09	1.37	1.64	1.92	2.19
.06	.300	.600	.899	1.20	1.50	1.80	2.10	2.40
.07	.324	.648	.971	1.30	1.62	1.94	2.27	2.59
.08	.346	.692	1.04	1.38	1.73	2.08	2.42	2.77
.09	.367	.734	1.10	1.47	1.84	2.20	2.57	2.94
.10	.387	.774	1.16	1.55	1.94	2.32	2.71	3.10
.11	.406	.812	1.22	1.62	2.03	2.44	2.84	3.25
.12	.424	.848	1.27	1.70	2.12	2.54	2.97	3.39
.13	.441	.882	1.32	1.76	2.21	2.65	3.09	3.53
.14	.458	.916	1.37	1.83	2.29	2.75	3.21	3.66
.15	.474	.948	1.42	1.90	2.37	2.84	3.32	3.79
.16	.490	.979	1.47	1.96	2.45	2.94	3.43	3.92
.17	.505	1.01	1.51	2.02	2.52	3.03	3.53	4.04
.18	.519	1.04	1.56	2.08	2.60	3.12	3.63	4.15
.19	.533	1.07	1.60	2.13	2.67	3.20	3.73	4.27
.20	.547	1.09	1.64	2.19	2.74	3.28	3.83	4.38
.21	.561	1.12	1.68	2.24	2.80	3.36	3.93	4.49
.22	.574	1.15	1.72	2.30	2.87	3.44	4.02	4.59
.23	.587	1.17	1.76	2.35	2.93	3.52	4.11	4.70
.24	.600	1.20	1.80	2.40	3.00	3.60	4.20	4.80
.25	.612	1.22	1.84	2.45	3.06	3.67	4.28	4.90
.26	.624	1.25	1.87	2.50	3.12	3.74	4.37	4.99
.27	.636	1.27	1.91	2.54	3.18	3.82	4.45	5.09
.28	.648	1.30	1.94	2.59	3.24	3.89	4.53	5.18
.29	.659	1.32	1.98	2.64	3.30	3.95	4.61	5.27
.30	.670	1.34	2.01	2.68	3.35	4.02	4.69	5.36
.31	.681	1.36	2.04	2.73	3.41	4.09	4.77	5.45
.32	.692	1.38	2.08	2.77	3.46	4.15	4.85	5.54
.33	.703	1.41	2.11	2.81	3.52	4.22	4.92	5.62
.34	.714	1.43	2.14	2.85	3.57	4.28	5.00	5.71
.35	.724	1.45	2.17	2.90	3.62	4.34	5.07	5.79
.36	.734	1.47	2.20	2.94	3.67	4.41	5.14	5.87
.37	.744	1.49	2.23	2.98	3.72	4.47	5.21	5.96
.38	.754	1.51	2.26	3.02	3.77	4.53	5.28	6.04
.39	.764	1.53	2.29	3.06	3.82	4.59	5.35	6.11
.40	.774	1.55	2.32	3.10	3.87	4.64	5.42	6.19

Table A9-2. Discharge of fully contracted standard submerged rectangular orifice in ft^3/sec. Computed from the formula $Q = 0.61A(2g\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet							
	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
.41	0.784	1.57	2.35	3.13	3.92	4.70	5.49	6.27
.42	.793	1.59	2.38	3.17	3.97	4.76	5.55	6.34
.43	.803	1.61	2.41	3.21	4.01	4.82	5.62	6.42
.44	.812	1.62	2.44	3.25	4.06	4.87	5.68	6.49
.45	.821	1.64	2.46	3.28	4.10	4.93	5.75	6.57
.46	.830	1.66	2.49	3.32	4.15	4.98	5.81	6.64
.47	.839	1.68	2.52	3.36	4.19	5.03	5.87	6.71
.48	.848	1.70	2.54	3.39	4.24	5.09	5.94	6.78
.49	.857	1.71	2.57	3.43	4.28	5.14	6.00	6.85
.50	.865	1.73	2.60	3.46	4.33	5.19	6.06	6.92
.51	.874	1.75	2.62	3.50	4.37	5.24	6.12	6.99
.52	.882	1.76	2.65	3.53	4.41	5.29	6.18	7.06
.53	.891	1.78	2.67	3.56	4.45	5.35	6.24	7.13
.54	.899	1.80	2.70	3.60	4.50	5.40	6.30	7.19
.55	.908	1.82	2.72	3.63	4.54	5.45	6.35	7.26
.56	.916	1.83	2.75	3.66	4.58	5.49	6.41	7.33
.57	.924	1.85	2.77	3.70	4.62	5.54	6.47	7.39
.58	.932	1.86	2.80	3.73	4.66	5.59	6.52	7.46
.59	.940	1.88	2.82	3.76	4.70	5.64	6.58	7.52
.60	.948	1.90	2.84	3.79	4.74	5.69	6.64	7.58
.61	.956	1.91	2.87	3.82	4.78	5.73	6.69	7.65
.62	.964	1.93	2.89	3.85	4.82	5.78	6.75	7.71
.63	.971	1.94	2.91	3.89	4.86	5.83	6.80	7.77
.64	.979	1.96	2.94	3.92	4.90	5.87	6.85	7.83
.65	.987	1.97	2.96	3.95	4.93	5.92	6.91	7.89
.66	.994	1.99	2.98	3.98	4.97	5.97	6.96	7.95
.67	1.00	2.00	3.01	4.01	5.01	6.01	7.01	8.01
.68	1.01	2.02	3.03	4.04	5.05	6.06	7.06	8.07
.69	1.02	2.03	3.05	4.07	5.08	6.10	7.12	8.13
.70	1.02	2.05	3.07	4.10	5.12	6.14	7.17	8.19
.71	1.03	2.06	3.09	4.12	5.16	6.19	7.22	8.25
.72	1.04	2.08	3.12	4.15	5.19	6.23	7.27	8.31
.73	1.05	2.09	3.14	4.18	5.23	6.27	7.32	8.36
.74	1.05	2.11	3.16	4.21	5.26	6.32	7.37	8.42
.75	1.06	2.12	3.18	4.24	5.30	6.36	7.42	8.48
.76	1.07	2.13	3.20	4.27	5.33	6.40	7.47	8.54
.77	1.07	2.15	3.22	4.30	5.37	6.44	7.52	8.59
.78	1.08	2.16	3.24	4.32	5.40	6.49	7.57	8.65
.79	1.09	2.18	3.26	4.35	5.44	6.53	7.61	8.70
.80	1.09	2.19	3.28	4.38	5.47	6.57	7.66	8.76

Table A9-3. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft^3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet							
	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0
0.04	2.25	2.81	3.37	3.93	4.49	5.62	6.74	7.86
.05	2.51	3.14	3.77	4.40	5.02	6.28	7.54	8.79
.06	2.75	3.44	4.13	4.82	5.50	6.88	8.26	9.63
.07	2.97	3.72	4.46	5.20	5.94	7.43	8.92	10.4
.08	3.18	3.97	4.77	5.56	6.36	7.94	9.53	11.1
.09	3.37	4.21	5.06	5.90	6.74	8.43	10.1	11.8
.10	3.55	4.44	5.33	6.22	7.11	8.88	10.7	12.4
.11	3.73	4.66	5.59	6.52	7.45	9.32	11.2	13.0
.12	3.89	4.86	5.84	6.81	7.78	9.73	11.7	13.6
.13	4.05	5.06	6.08	7.09	8.10	10.1	12.2	14.2
.14	4.20	5.25	6.31	7.36	8.41	10.5	12.6	14.7
.15	4.35	5.44	6.53	7.61	8.70	10.9	13.1	15.2
.16	4.49	5.62	6.74	7.86	8.99	11.2	13.5	15.7
.17	4.63	5.79	6.95	8.11	9.26	11.6	13.9	16.2
.18	4.77	5.96	7.15	8.34	9.53	11.9	14.3	16.7
.19	4.90	6.12	7.35	8.57	9.79	12.2	14.7	17.1
.20	5.02	6.28	7.54	8.79	10.0	12.6	15.1	17.6
.21	5.15	6.44	7.72	9.01	10.3	12.9	15.4	18.0
.22	5.27	6.59	7.90	9.22	10.5	13.2	15.8	18.4
.23	5.39	6.74	8.08	9.43	10.8	13.5	16.2	18.9
.24	5.50	6.88	8.26	9.63	11.0	13.8	16.5	19.3
.25	5.62	7.02	8.43	9.83	11.2	14.0	16.9	19.7
.26	5.73	7.16	8.59	10.0	11.5	14.3	17.2	20.1
.27	5.84	7.30	8.76	10.2	11.7	14.6	17.5	20.4
.28	5.94	7.43	8.92	10.4	11.9	14.9	17.8	20.8
.29	6.05	7.56	9.08	10.6	12.1	15.1	18.2	21.2
.30	6.15	7.69	9.23	10.8	12.3	15.4	18.5	21.5
.31	6.26	7.82	9.38	10.9	12.5	15.6	18.8	21.9
.32	6.36	7.94	9.53	11.1	12.7	15.9	19.1	22.2
.33	6.45	8.07	9.68	11.3	12.9	16.1	19.4	22.6
.34	6.55	8.19	9.83	11.5	13.1	16.4	19.7	22.9
.35	6.65	8.31	9.97	11.6	13.3	16.6	19.9	23.3
.36	6.74	8.43	10.1	11.8	13.5	16.9	20.2	23.6
.37	6.83	8.54	10.3	12.0	13.7	17.1	20.5	23.9
.38	6.93	8.66	10.4	12.1	13.9	17.3	20.8	24.2
.39	7.02	8.77	10.5	12.3	14.0	17.5	21.0	24.6
.40	7.11	8.88	10.7	12.4	14.2	17.8	21.3	24.9
.41	7.19	8.99	10.8	12.6	14.4	18.0	21.6	25.2
.42	7.28	9.10	10.9	12.7	14.6	18.2	21.8	25.5
.43	7.37	9.21	11.1	12.9	14.7	18.4	22.1	25.8
.44	7.45	9.32	11.2	13.0	14.9	18.6	22.4	26.1
.45	7.54	9.42	11.3	13.2	15.1	18.8	22.6	26.4
.46	7.62	9.52	11.4	13.3	15.2	19.0	22.9	26.7
.47	7.70	9.63	11.6	13.5	15.4	19.3	23.1	27.0
.48	7.78	9.73	11.7	13.6	15.6	19.5	23.4	27.2
.49	7.86	9.83	11.8	13.8	15.7	19.7	23.6	27.5
.50	7.94	9.93	11.9	13.9	15.9	19.9	23.8	27.8
.51	8.02	10.0	12.0	14.0	16.0	20.1	24.1	28.1
.52	8.10	10.1	12.2	14.2	16.2	20.3	24.3	28.4
.53	8.18	10.2	12.3	14.3	16.4	20.4	24.5	28.6

Table A9-3 [continued]. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet						
	8.0	10.0	12.0	14.0	16.0	18.0	20.0
0.04	8.99	11.2	13.5	15.7	18.0	20.2	22.5
.05	10.0	12.6	15.1	17.6	20.1	22.6	25.1
.06	11.0	13.8	16.5	19.3	22.0	24.8	27.5
.07	11.9	14.9	17.8	20.8	23.8	26.8	29.7
.08	12.7	15.9	19.1	22.2	25.4	28.6	31.8
.09	13.5	16.9	20.2	23.6	27.0	30.3	33.7
.10	14.2	17.8	21.3	24.9	28.4	32.0	35.5
.11	14.9	18.6	22.4	26.1	29.8	33.5	37.3
.12	15.6	19.5	23.4	27.2	31.1	35.0	38.9
.13	16.2	20.3	24.3	28.4	32.4	36.5	40.5
.14	16.8	21.0	25.2	29.4	33.6	37.8	42.0
.15	17.4	21.8	26.1	30.5	34.8	39.2	43.5
.16	18.0	22.5	27.0	31.5	36.0	40.4	44.9
.17	18.5	23.2	27.8	32.4	37.1	41.7	46.3
.18	19.1	23.8	28.6	33.4	38.1	42.9	47.7
.19	19.6	24.5	29.4	34.3	39.2	44.1	49.0
.20	20.1	25.1	30.1	35.2	40.2	45.2	50.2
.21	20.6	25.7	30.9	36.0	41.2	46.3	51.5
.22	21.1	26.3	31.6	36.9	42.2	47.4	52.7
.23	21.6	26.9	32.3	37.7	43.1	48.5	53.9
.24	22.0	27.5	33.0	38.5	44.0	49.5	55.0
.25	22.5	28.1	33.7	39.3	44.9	50.6	56.2
.26	22.9	28.6	34.4	40.1	45.8	51.6	57.3
.27	23.4	29.2	35.0	40.9	46.7	52.5	58.4
.28	23.8	29.7	35.7	41.6	47.6	53.5	59.4
.29	24.2	30.3	36.3	42.4	48.4	54.5	60.5
.30	24.6	30.8	36.9	43.1	49.2	55.4	61.5
.31	25.0	31.3	37.5	43.8	50.0	56.3	62.6
.32	25.4	31.8	38.1	44.5	50.8	57.2	63.6
.33	25.8	32.3	38.7	45.2	51.6	58.1	64.5
.34	26.2	32.8	39.3	45.9	52.4	59.0	65.5
.35	26.6	33.2	39.9	46.5	53.2	59.8	66.5
.36	27.0	33.7	40.4	47.2	53.9	60.7	67.4
.37	27.3	34.2	41.0	47.8	54.7	61.5	68.3
.38	27.7	34.6	41.6	48.5	55.4	62.3	69.3
.39	28.1	35.1	42.1	49.1	56.1	63.1	70.2
.40	28.4	35.5	42.6	49.7	56.8	64.0	71.1
.41	28.8	36.0	43.2	50.4	57.6	64.7	71.9
.42	29.1	36.4	43.7	51.0	58.2	65.5	72.8
.43	29.5	36.8	44.2	51.6	58.9	66.3	73.7
.44	29.8	37.3	44.7	52.2	59.6	67.1	74.5
.45	30.1	37.7	45.2	52.8	60.3	67.8	75.4
.46	30.5	38.1	45.7	53.3	61.0	68.6	76.2
.47	30.8	38.5	46.2	53.9	61.6	69.3	77.0
.48	31.1	38.9	46.7	54.5	62.3	70.1	77.8
.49	31.5	39.3	47.2	55.1	62.9	70.8	78.6
.50	31.8	39.7	47.7	55.6	63.6	71.5	79.4
.51	32.1	40.1	48.1	56.2	64.2	72.2	80.2
.52	32.4	40.5	48.6	56.7	64.8	72.9	81.0
.53	32.7	40.9	49.1	57.3	65.4	73.6	81.8

Table A9-3 [continued]. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet							
	22	24	26	28	30	32	34	36
0.04	24.7	27.0	29.2	31.5	33.7	36.0	38.2	40.4
.05	27.6	30.1	32.7	35.2	37.7	40.2	42.7	45.2
.06	30.3	33.0	35.8	38.5	41.3	44.0	46.8	49.5
.07	32.7	35.7	38.6	41.6	44.6	47.6	50.5	53.5
.08	35.0	38.1	41.3	44.5	47.7	50.8	54.0	57.2
.09	37.1	40.4	43.8	47.2	50.6	53.9	57.3	60.7
.10	39.1	42.6	46.2	49.7	53.3	56.8	60.4	64.0
.11	41.0	44.7	48.4	52.2	55.9	59.6	63.3	67.1
.12	42.8	46.7	50.6	54.5	58.4	62.3	66.2	70.1
.13	44.6	48.6	52.7	56.7	60.8	64.8	68.9	72.9
.14	46.2	50.4	54.6	58.9	63.1	67.3	71.5	75.7
.15	47.9	52.2	56.6	60.9	65.3	69.6	74.0	78.3
.16	49.4	53.9	58.4	62.9	67.4	71.9	76.4	80.9
.17	51.0	55.6	60.2	64.9	69.5	74.1	78.7	83.4
.18	52.4	57.2	62.0	66.7	71.5	76.3	81.0	85.8
.19	53.9	58.8	63.7	68.6	73.5	78.4	83.3	88.1
.20	55.3	60.3	65.3	70.3	75.4	80.4	85.4	90.4
.21	56.6	61.8	66.9	72.1	77.2	82.4	87.5	92.7
.22	58.0	63.2	68.5	73.8	79.0	84.3	89.6	94.9
.23	59.3	64.7	70.0	75.4	80.8	86.2	91.6	97.0
.24	60.5	66.0	71.6	77.1	82.6	88.1	93.6	99.1
.25	61.8	67.4	73.0	78.6	84.3	89.9	95.5	101.
.26	63.0	68.7	74.5	80.2	85.9	91.7	97.4	103.
.27	64.2	70.1	75.9	81.7	87.6	93.4	99.2	105.
.28	65.4	71.3	77.3	83.2	89.2	95.1	101.	107.
.29	66.6	72.6	78.7	84.7	90.8	96.8	103.	109.
.30	67.7	73.8	80.0	86.2	92.3	98.5	105.	111.
.31	68.8	75.1	81.3	87.6	93.8	100.	106.	113.
.32	69.9	76.3	82.6	89.0	95.3	102.	108.	114.
.33	71.0	77.4	83.9	90.4	96.8	103.	110.	116.
.34	72.1	78.6	85.2	91.7	98.3	105.	111.	118.
.35	73.1	79.8	86.4	93.1	99.7	106.	113.	120.
.36	74.2	80.9	87.6	94.4	101.	108.	115.	121.
.37	75.2	82.0	88.8	95.7	103.	109.	116.	123.
.38	76.2	83.1	90.0	97.0	104.	111.	118.	125.
.39	77.2	84.2	91.2	98.2	105.	112.	119.	126.
.40	78.2	85.3	92.4	99.5	107.	114.	121.	128.
.41	79.1	86.3	93.5	101.	108.	115.	122.	129.
.42	80.1	87.4	94.7	102.	109.	116.	124.	131.
.43	81.0	88.4	95.8	103.	111.	118.	125.	133.
.44	82.0	89.4	96.9	104.	112.	119.	127.	134.
.45	82.9	90.4	98.0	106.	113.	121.	128.	136.
.46	83.8	91.4	99.1	107.	114.	122.	130.	137.
.47	84.7	92.4	100.	108.	116.	123.	131.	139.
.48	85.6	93.4	101.	109.	117.	125.	132.	140.
.49	86.5	94.4	102.	110.	118.	126.	134.	142.
.50	87.4	95.3	103.	111.	119.	127.	135.	143.
.51	88.3	96.3	104.	112.	120.	128.	136.	144.
.52	89.1	97.2	105.	113.	122.	130.	138.	146.
.53	90.0	98.1	106.	115.	123.	131.	139.	147.

Table A9-3 [continued]. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet						
	38	40	42	44	46	48	50
0.04	42.7	44.9	47.2	49.4	51.7	53.9	56.2
.05	47.7	50.2	52.8	55.3	57.8	60.3	62.8
.06	52.3	55.0	57.8	60.5	63.3	66.0	68.8
.07	56.5	59.4	62.4	65.4	68.4	71.3	74.3
.08	60.4	63.6	66.7	69.9	73.1	76.3	79.4
.09	64.0	67.4	70.8	74.2	77.5	80.9	84.3
.10	67.5	71.1	74.6	78.2	81.7	85.3	88.8
.11	70.8	74.5	78.3	82.0	85.7	89.4	93.2
.12	73.9	77.8	81.7	85.6	89.5	93.4	97.3
.13	77.0	81.0	85.1	89.1	93.2	97.2	101.
.14	79.9	84.1	88.3	92.5	96.7	101.	105.
.15	82.7	87.0	91.4	95.7	100.	104.	109.
.16	85.4	89.9	94.4	98.9	103.	108.	112.
.17	88.0	92.6	97.3	102.	107.	111.	116.
.18	90.6	95.3	100.	105.	110.	114.	119.
.19	93.0	97.9	103.	108.	113.	118.	122.
.20	95.5	100.	106.	111.	116.	121.	126.
.21	97.8	103.	108.	113.	118.	124.	129.
.22	100.	105.	111.	116.	121.	126.	132.
.23	102.	108.	113.	119.	124.	129.	135.
.24	105.	110.	116.	121.	127.	132.	138.
.25	107.	112.	118.	124.	129.	135.	140.
.26	109.	115.	120.	126.	132.	137.	143.
.27	111.	117.	123.	128.	134.	140.	146.
.28	113.	119.	125.	131.	137.	143.	149.
.29	115.	121.	127.	133.	139.	145.	151.
.30	117.	123.	129.	135.	142.	148.	154.
.31	119.	125.	131.	138.	144.	150.	156.
.32	121.	127.	133.	140.	146.	153.	159.
.33	123.	129.	136.	142.	148.	155.	161.
.34	124.	131.	138.	144.	151.	157.	164.
.35	126.	133.	140.	146.	153.	160.	166.
.36	128.	135.	142.	148.	155.	162.	169.
.37	130.	137.	144.	150.	157.	164.	171.
.38	132.	139.	145.	152.	159.	166.	173.
.39	133.	140.	147.	154.	161.	168.	175.
.40	135.	142.	149.	156.	163.	171.	178.
.41	137.	144.	151.	158.	165.	173.	180.
.42	138.	146.	153.	160.	167.	175.	182.
.43	140.	147.	155.	162.	169.	177.	184.
.44	142.	149.	157.	164.	171.	179.	186.
.45	143.	151.	158.	166.	173.	181.	188.
.46	145.	152.	160.	168.	175.	183.	190.
.47	146.	154.	162.	169.	177.	185.	193.
.48	148.	156.	163.	171.	179.	187.	195.
.49	149.	157.	165.	173.	181.	189.	197.
.50	151.	159.	167.	175.	183.	191.	199.
.51	152.	160.	168.	177.	185.	193.	201.
.52	154.	162.	170.	178.	186.	194.	203.
.53	155.	164.	172.	180.	188.	196.	204.

Table A9-3 [continued]. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet							
	55	60	65	70	75	80	85	90
0.04	61.8	67.4	73.0	78.6	84.3	89.9	95.5	101.
.05	69.1	75.4	81.6	87.9	94.2	100.	107.	113.
.06	75.7	82.6	89.4	96.3	103.	110.	117.	124.
.07	81.7	89.2	96.6	104.	111.	119.	126.	134.
.08	87.4	95.3	103.	111.	119.	127.	135.	143.
.09	92.7	101.	110.	118.	126.	135.	143.	152.
.10	97.7	107.	115.	124.	133.	142.	151.	160.
.11	102.	112.	121.	130.	140.	149.	158.	168.
.12	107.	117.	126.	136.	146.	156.	165.	175.
.13	111.	122.	132.	142.	152.	162.	172.	182.
.14	116.	126.	137.	147.	158.	168.	179.	189.
.15	120.	131.	141.	152.	163.	174.	185.	196.
.16	124.	135.	146.	157.	169.	180.	191.	202.
.17	127.	139.	151.	162.	174.	185.	197.	208.
.18	131.	143.	155.	167.	179.	191.	203.	214.
.19	135.	147.	159.	171.	184.	196.	208.	220.
.20	138.	151.	163.	176.	188.	201.	214.	226.
.21	142.	154.	167.	180.	193.	206.	219.	232.
.22	145.	158.	171.	184.	198.	211.	224.	237.
.23	148.	162.	175.	189.	202.	216.	229.	242.
.24	151.	165.	179.	193.	206.	220.	234.	248.
.25	154.	169.	183.	197.	211.	225.	239.	253.
.26	158.	172.	186.	201.	215.	229.	243.	258.
.27	161.	175.	190.	204.	219.	234.	248.	263.
.28	163.	178.	193.	208.	223.	238.	253.	268.
.29	166.	182.	197.	212.	227.	242.	257.	272.
.30	169.	185.	200.	215.	231.	246.	262.	277.
.31	172.	188.	203.	219.	235.	250.	266.	281.
.32	175.	191.	207.	222.	238.	254.	270.	286.
.33	177.	194.	210.	226.	242.	258.	274.	290.
.34	180.	197.	213.	229.	246.	262.	278.	295.
.35	183.	199.	216.	233.	249.	266.	282.	299.
.36	185.	202.	219.	236.	253.	270.	286.	303.
.37	188.	205.	222.	239.	256.	273.	290.	308.
.38	190.	208.	225.	242.	260.	277.	294.	312.
.39	193.	210.	228.	246.	263.	281.	298.	316.
.40	195.	213.	231.	249.	266.	284.	302.	320.
.41	198.	216.	234.	252.	270.	288.	306.	324.
.42	200.	218.	237.	255.	273.	291.	309.	328.
.43	203.	221.	239.	258.	276.	295.	313.	332.
.44	205.	224.	242.	261.	279.	298.	317.	335.
.45	207.	226.	245.	264.	283.	301.	320.	339.
.46	210.	229.	248.	267.	286.	305.	324.	343.
.47	212.	231.	250.	270.	289.	308.	327.	347.
.48	214.	234.	253.	272.	292.	311.	331.	350.
.49	216.	236.	256.	275.	295.	315.	334.	354.
.50	218.	238.	258.	278.	298.	318.	338.	357.
.51	221.	241.	261.	281.	301.	321.	341.	361.
.52	223.	243.	263.	284.	304.	324.	344.	365.
.53	225.	245.	266.	286.	307.	327.	348.	368.

Table A9-3 [continued]. Discharge of rectangular submerged orifices with bottom and side contractions suppressed, in ft3/sec. Computed from the formula $Q = 0.70A\,(2g\,\Delta h)^{0.5}$

Head Δh, ft	Cross-sectional area A of orifice, square feet						
	95	100	105	110	115	120	125
0.04	107	112	118	124	129	135	140
.05	119	126	132	138	144	151	157
.06	131	138	144	151	158	165	172
.07	141	149	156	163	171	178	186
.08	151	159	167	175	183	191	199
.09	160	169	177	185	194	202	211
.10	169	178	187	195	204	213	222
.11	177	186	196	205	214	224	233
.12	185	195	204	214	224	234	243
.13	192	203	213	223	233	243	253
.14	200	210	221	231	242	252	263
.15	207	218	228	239	250	261	272
.16	213	225	236	247	258	270	281
.17	220	232	243	255	266	278	290
.18	226	238	250	262	274	286	298
.19	233	245	257	269	282	294	306
.20	239	251	264	276	289	301	314
.21	245	257	270	283	296	309	322
.22	250	263	277	290	303	316	329
.23	256	269	283	296	310	323	337
.24	261	275	289	303	316	330	344
.25	267	281	295	309	323	337	351
.26	272	286	301	315	329	344	358
.27	277	292	306	321	336	350	365
.28	282	297	312	327	342	357	372
.29	287	303	318	333	348	363	378
.30	292	308	323	338	354	369	385
.31	297	313	328	344	360	375	391
.32	302	318	334	350	365	381	397
.33	307	323	339	355	371	387	403
.34	311	328	344	360	377	393	409
.35	316	332	349	366	382	399	415
.36	320	337	354	371	388	404	421
.37	325	342	359	376	393	410	427
.38	329	346	364	381	398	416	433
.39	333	351	368	386	403	421	439
.40	338	355	373	391	409	426	444
.41	342	360	378	396	414	432	450
.42	346	364	382	400	419	437	455
.43	350	368	387	405	424	442	460
.44	354	373	391	410	429	447	466
.45	358	377	396	415	433	452	471
.46	362	381	400	419	438	457	476
.47	366	385	404	424	443	462	481
.48	370	389	409	428	448	467	486
.49	374	393	413	433	452	472	492
.50	377	397	417	437	457	477	497
.51	381	401	421	441	461	481	501
.52	385	405	425	446	466	486	506
.53	389	409	429	450	470	491	511

Table A9-4. Discharge of constant-head orifice (CHO) turnout in ft^3/sec. Capacity is 20 ft^3/sec, gate size is 30 by 24 inches, Δh =0.20 feet.

Discharge ft^3/sec	Gate opening in feet		Discharge ft^3/sec	Gate opening in feet	
	2 gates	1 gate		2 gates	1 gate
0.25	0.02	0.04	10.25	0.81	-----
.50	.04	.08	10.50	.83	-----
.75	.06	.12	10.75	.85	-----
1.00	.08	.16	11.00	.87	-----
1.25	.10	.20	11.25	.89	-----
1.50	.12	.24	11.50	.91	-----
1.75	.14	.28	11.75	.93	-----
2.00	.16	.32	12.00	.95	-----
2.25	.18	.36	12.25	.97	-----
2.50	.20	.40	12.50	.99	-----
2.75	.22	.44	12.75	1.01	-----
3.00	.24	.48	13.00	1.03	-----
3.25	.26	.52	13.25	1.05	-----
3.50	.28	.56	13.50	1.07	-----
3.75	.30	.60	13.75	1.085	-----
4.00	.32	.64	14.00	1.10	-----
4.25	.34	.68	14.25	1.12	-----
4.50	.36	.72	14.50	1.14	-----
4.75	.38	.755	14.75	1.16	-----
5.00	.40	.79	15.00	1.18	-----
5.25	.42	.83	15.25	1.20	-----
5.50	.44	.87	15.50	1.22	-----
5.75	.46	.91	15.75	1.24	-----
6.00	.48	.95	16.00	1.26	-----
6.25	.50	.99	16.25	1.28	-----
6.50	.52	1.03	16.50	1.30	-----
6.75	.54	1.065	16.75	1.32	-----
7.00	.56	1.10	17.00	1.34	-----
7.25	.58	1.14	17.25	1.355	-----
7.50	.60	1.18	17.50	1.37	-----
7.75	.62	1.22	17.75	1.39	-----
8.00	.64	1.26	18.00	1.41	-----
8.25	.66	1.30	18.25	1.43	-----
8.50	.68	1.34	18.50	1.45	-----
8.75	.70	1.375	18.75	1.47	-----
9.00	.72	1.41	19.00	1.49	-----
9.25	.74	1.45	19.25	1.51	-----
9.50	.76	1.49	19.50	1.53	-----
9.75	.775	1.525	19.75	1.545	-----
10.00	.80	1.56	20.00	1.56	-----

Table A9-5. Discharge of constant-head orifice (CHO) turnout in ft^3/sec. Capacity is 10 ft^3/sec, gate size is 24 by 18 inches, Δh =0.20 feet.

Discharge ft^3/sec	Gate opening in feet		Discharge ft^3/sec	Gate opening in feet	
	2 gates	1 gate		2 gates	1 gate
0.25	0.025	0.05	5.25	0.525	-----
.50	.05	.10	5.50	.55	-----
.75	.075	.15	5.75	.575	-----
1.00	.10	.20	6.00	.60	-----
1.25	.125	.25	6.25	.625	-----
1.50	.15	.30	6.50	.65	-----
1.75	.175	.35	6.75	.675	-----
2.00	.20	.40	7.00	.70	-----
2.25	.225	.45	7.25	.722	-----
2.50	.25	.50	7.50	.74	-----
2.75	.275	.55	7.75	.765	-----
3.00	.30	.60	8.00	.79	-----
3.25	.325	.65	8.25	.815	-----
3.50	.35	.70	8.50	.84	-----
3.75	.375	.745	8.75	.865	-----
4.00	.40	.79	9.00	.89	-----
4.25	.425	.84	9.25	.915	-----
4.50	.45	.89	9.50	.94	-----
4.75	.475	.94	9.75	.965	-----
5.00	.50	.99	10.00	.99	-----

Table A9-6. Discharges for standard sized constant-head orifice (CHO) turnouts (Aisenbrey, 1978).

	Orifice gate openings in feet, for various size turnouts								
Gate width	18 inch	18 inch	24 inch	30 inch	30 inch	36 inch	42 inch	48 inch	48 inch
Discharge ft^3/sec	2-ft^3/sec turnout	4-ft^3/sec turnout	6-ft^3/sec turnout	9-ft^3/sec turnout	12-ft^3/sec turnout	15-ft^3/sec turnout	18-ft^3/sec turnout	24-ft^3/sec turnout	30-ft^3/sec turnout
1.0	0.27	0.27	0.20	0.16	0.16	0.13	0.11	0.10	0.10
2.0	.53	.53	.40	.32	.32	.27	.23	.20	.20
3.0	-----	.80	.60	.48	.48	.40	.34	.30	.30
4.0	-----	1.06	.80	.64	.64	.53	.46	.40	.40
5.0	-----	-----	.99	.80	.80	.66	.57	.50	.50
6.0	-----	-----	1.19	.96	.96	.80	.68	.60	.60
7.0	-----	-----	-----	1.12	1.12	.93	.80	.70	.70
8.0	-----	-----	-----	1.27	1.27	1.06	.91	.80	.80
9.0	-----	-----	-----	1.43	1.43	1.19	1.02	.90	.90
10.0	-----	-----	-----	-----	1.59	1.33	1.14	1.00	1.00
11.0	-----	-----	-----	-----	1.75	1.46	1.25	1.10	1.10
12.0	-----	-----	-----	-----	1.91	1.59	1.37	1.19	1.20
14.0	-----	-----	-----	-----	-----	1.86	1.59	1.39	1.39
15.0	-----	-----	-----	-----	-----	1.99	1.71	1.49	1.49
16.0	-----	-----	-----	-----	-----	-----	1.82	1.59	1.59
18.0	-----	-----	-----	-----	-----	-----	2.05	1.79	1.79
20.0	-----	-----	-----	-----	-----	-----	-----	1.99	1.99
21.0	-----	-----	-----	-----	-----	-----	-----	2.09	2.09
22.0	-----	-----	-----	-----	-----	-----	-----	2.19	2.19
24.0	-----	-----	-----	-----	-----	-----	-----	2.39	2.39
30.0	-----	-----	-----	-----	-----	-----	-----	-----	2.99

Appendix J: Statutes for Distribution of Water Title 42, Chapter 6, Idaho Code.

J1: Distribution of Water Statutes current as of July 1, 2025

TITLE 42
IRRIGATION AND DRAINAGE -- WATER RIGHTS AND RECLAMATION

CHAPTER 6
DISTRIBUTION OF WATER AMONG APPROPRIATORS

42-602. DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES TO SUPERVISE WATER DISTRIBUTION WITHIN WATER DISTRICTS. The director of the department of water resources shall have direction and control of the distribution of water from all natural water sources within a water district to the canals, ditches, pumps and other facilities diverting therefrom. Distribution of water within water districts created pursuant to section 42-604, Idaho Code, shall be accomplished by watermasters as provided in this chapter and supervised by the director.

The director of the department of water resources shall distribute water in water districts in accordance with the prior appropriation doctrine. The provisions of chapter 6, title 42, Idaho Code, shall apply only to distribution of water within a water district.

[(42-602) First paragraph: 1915, ch. 34, sec. 4, p. 103; second paragraph: 1903, p. 223, sec. 32; reen. R.C., sec. 3283; am. 1915, ch. 34, sec. 17, p. 112; reen. C.L., sec. 3270; C.S., sec. 5606; I.C.A., sec. 41-502; am. 1992, ch. 339, sec. 2, p. 1015; am. 1994, ch. 450, sec. 1, p. 1435.]

42-603. SUPERVISION OF WATER DISTRIBUTION -- RULES AND REGULATIONS. The director of the department of water resources is authorized to adopt rules and regulations for the distribution of water from the streams, rivers, lakes, ground water and other natural water sources as shall be necessary to carry out the laws in accordance with the priorities of the rights of the users thereof. Promulgation of rules and regulations shall be in accordance with the procedures of chapter 52, title 67, Idaho Code.

[(42-603) 1915, ch. 34, sec. 8, p. 103; reen. C.L., sec. 3273; C.S., sec. 5607; I.C.A., sec. 41-503; am. 1992, ch. 339, sec. 4, p. 1015.]

42-604. CREATION OF WATER DISTRICTS. The director of the department of water resources shall divide the state into water districts in such manner that each public stream and tributaries, or independent source of water supply, shall constitute a water district: provided, that any stream or water supply, when the distance between the extreme points of diversion thereon is more than forty (40) miles, may be divided into two (2) or more water districts: provided, that any stream tributary to another stream may be constituted into a separate water district when the use of the water therefrom does not affect or conflict with the rights to the use of the water of the main stream: provided, that any stream may be divided into two (2) or more water districts, irrespective of the distance between the extreme points of diversion, where the use of the waters of such stream by appropriators in one district does not affect or conflict with the use of the waters of such stream by appropriators outside such district: provided, that this section shall not apply to streams or water supplies whose priorities of appropriation have not been adjudicated by the courts having jurisdiction thereof.

The director may create, revise the boundaries of, or abolish a water district or combine two (2) or more water districts by entry of an order if

such action is required in order to properly administer uses of the water resource. Copies of the order shall be sent by regular mail to all holders of rights to the waters affected by the order. The director's order is subject to judicial review as provided in section 42-1701A, Idaho Code.

Before entering an order creating, modifying, or abolishing a district, the director shall, by regular mail, send notice of the proposed action to each water user in the district or proposed district. The notice shall describe the proposed action to be taken, the reasons therefore, the time and place of a hearing to be held concerning the proposed action, and provide a time period within which written comment on the action will be accepted. The hearing shall not be held sooner than ten (10) days after the mailing of the notice, and the written comment period shall not close sooner than ten (10) days after the hearing. Instead of mailing notice, the director may publish notice describing the proposed action, the time and place for the hearing, and the deadline for receiving written comment. The notice shall be published once a week for two (2) weeks in a newspaper or newspapers having general circulation within the district or proposed district, with the second publication appearing at least ten (10) days before the date set for the hearing. The hearing shall be held within the district or proposed district, or at some nearby location convenient to the affected water users.

Each water district created hereunder shall be considered an instrumentality of the state of Idaho for the purpose of performing the essential governmental function of distribution of water among appropriators under the laws of the state of Idaho.

[(42-604) 1903, p. 223, sec. 23; am. 1907, p. 532, sec. 2; reen. R.C., sec. 3274; am. 1909, p. 326, sec. 1; am. 1915, ch. 34, sec. 9, p. 103; reen. C.L., sec. 3274; C.S., sec. 5608; am. 1927, ch. 63, sec. 1, p. 78; I.C.A., sec. 41-504; am. 1986, ch. 78, sec. 1, p. 236; am. 1992, ch. 339, sec. 5, p. 1016.]

42-605. DISTRICT MEETINGS -- WATERMASTER AND ASSISTANTS -- ELECTION -- REMOVAL -- OATH AND BOND -- ADVISORY COMMITTEE. (1) There shall be held on the first Monday in March in each year, except as provided in subsection (2) of this section, a meeting of persons owning or having the use of a water right in the waters of the stream or water supply comprising such district that is assessed or proposed to be assessed by such district, which right has been adjudicated or decreed by the court or is represented by valid permit or license issued by the department of water resources.

(2) Such meeting shall be held at some place within the water district, or at some nearby location convenient to a majority of those entitled to vote thereat. The director of the department of water resources shall, at least twenty-one (21) days prior to the meeting date, send notification by regular mail to all persons, companies, corporations or other entities known by the director to hold rights that are assessed or proposed to be assessed by such district, which right has been adjudicated or decreed by the court or is represented by valid permit or license issued by the department of water resources, of the time, date, location and purpose of the annual meeting. At any annual meeting, the water users may vote to waive the requirement for notice by mail and provide for notice to be given for future meetings by publication of the time, date, location and purpose of the meeting in a newspaper or newspapers in general circulation in the district or on the department of water resources website. Published notice in a newspaper or newspapers shall be made once per week for two (2) consecutive weeks with

the second notice appearing at least fourteen (14) and not more than thirty (30) days prior to the meeting. Notice on the department of water resources website shall be posted at least twenty-one (21) days prior to the meeting date. At any annual meeting, the water users may vote to change the date for annual meetings in subsequent years to any day, except Saturday and Sunday, between the second Monday of January and the fourth Tuesday of May. At an annual meeting, the water users may adopt resolutions to assure or improve the distribution of the waters of the district within state law and may provide that such resolutions shall continue from year to year.

(3) At the meeting of the water users of a district, there shall be elected a watermaster for such water district, who may be authorized to employ such other regular assistants as the water users shall deem necessary, and who, upon appointment by the director, shall be responsible for distribution of water within said water district. Notwithstanding any personnel classification assigned to the watermaster and assistants pursuant to the provisions of chapter 53, title 67, Idaho Code, the water users shall, prior to the election of such watermaster and approval of the employment of assistants, fix the compensation to be paid them during the time actually engaged in the performance of their duties.

(4) Voting shall be by majority vote of the water users present at the meeting unless one (1) or more water users requests voting using the procedure which follows in this subsection. In such case, the meeting chairman shall appoint a credentials committee to determine the number of votes each water user present is authorized to cast. If requested, each person present who owns or has the use for the ensuing season of any water right in the stream or water supply comprising such water district that is assessed or proposed to be assessed by such district, which right has been adjudicated or decreed by the court or is represented by valid permit or license issued by the department of water resources, shall be entitled to a number of votes equal to the average annual dollar amount and any fraction thereof assessed for that person's qualifying water right for the previous five (5) years, or such lesser number of years as the right has been assessed. If a right has not previously been assessed, a person present who owns or has the use of the right for the ensuing season shall be entitled to a number of votes equal to the dollar amount and any fraction thereof that the right would have been assessed had it existed and been reasonably used when water was available under the priority of the right during the previous season. Absentee voting and voting by proxy are prohibited.

(5) At such meeting, the water users shall choose a meeting chairman and meeting secretary. The water users of any water district that collects or pays district expenses in accordance with section 42-613(3) or 42-619, Idaho Code, shall also elect a water district treasurer. Within five (5) business days after such meeting, the meeting chairman and meeting secretary shall forward a certified copy of the minutes of such meeting to the department of water resources. The meeting chairman, or the meeting secretary if the meeting chairman is not present, from the immediately preceding annual meeting shall call the meeting to order and preside over the election of officers for the meeting.

(6) At such meeting, the water users may choose an advisory committee to be composed of members selected as may be determined at the meeting, which committee shall serve as advisors to the director and the watermaster in matters pertaining to the distribution of water within the district. The advisory committee may be authorized to carry out policies as set forth in reso-

lutions duly adopted by the water users at the annual meeting or at a special meeting. The advisory committee may also serve as the local committee to facilitate the rental of stored water if appointed by the water resource board for such purpose under the provisions of section 42-1765, Idaho Code.

(7) A corporation or a water delivery organization, including but not limited to a water company, an irrigation district, an irrigation company or a canal company, shall be considered a person for the purpose of this section and shall designate someone to cast its vote.

(8) Should said meeting not be held, or should said watermaster not be elected or the watermaster's compensation not be fixed as above provided, then the director is authorized to appoint a watermaster and fix the watermaster's compensation.

(9) The director may remove any watermaster whenever such watermaster fails to perform the watermaster's duty, upon complaint made to the director in writing, by one (1) person owning or having the right to the use of a water right that is assessed by such district, which right has been adjudicated or decreed by the court or is represented by valid permit or license issued by the department of water resources, provided, that upon investigation the director, after a hearing with the other water users of said district, which shall be held in the district or at some location convenient to the water users of the district, finds such charge to be true, and the director may appoint a successor for the unexpired term.

(10) Before entering upon the duties of the watermaster's office, said watermaster shall take and subscribe to an oath before some officer authorized by the laws of the state to administer oaths, to faithfully perform the duties of the watermaster's office, as provided in section 42-607, Idaho Code, and shall file that oath with the department of water resources. Upon appointment by the director, the actions taken by a watermaster in fulfillment of the duties of the office are covered by the state group surety bond as provided by sections 59-801 through 59-804, Idaho Code. A duly appointed watermaster that is reelected in consecutive years shall not be required to take and file additional oaths with the department of water resources for each consecutive year the watermaster is reelected. If a duly elected or appointed watermaster resigns, dies or is physically unable to perform the duties of the office during the remainder of the elected or appointed watermaster term of service, then the director is authorized to appoint a successor for the unexpired term as provided in paragraphs (a) and (b) of this subsection.

(a) If a water district advisory committee has been chosen as provided in subsection (6) of this section, the water district advisory committee shall meet to either nominate a successor watermaster or request a special meeting as provided in subsection (11) of this section to elect a new watermaster. Upon receipt of a nomination from a majority of the members of the water district advisory committee, the director is authorized to appoint the nominated successor watermaster for the unexpired term.

(b) If a water district advisory committee has not been chosen, the director of the department of water resources is authorized to appoint a temporary successor watermaster. The temporary appointment extends through the unexpired term unless a special meeting is requested as provided in subsection (11) of this section and water users elect a new watermaster.

(11) The director shall call a special meeting of the water district upon receipt of a written request for such meeting from a majority of the members of the advisory committee for a district, a written request from water users representing thirty percent (30%) or more of the votes cast at the last regular annual meeting, a written request from the watermaster, or on the director's own motion if the director determines a meeting is necessary to address matters that cannot be delayed until the next regular annual meeting. Notice of the time, place and purpose of the special meeting shall be given by the director in the manner provided in subsection (2) of this section, provided however, that a special meeting notice shall be sent at least fourteen (14) days prior to the meeting date.

(12) The water users may, by resolution, authorize the watermaster to acquire, hold and dispose of such real and personal property, equipment and facilities in the name of the water district as necessary for the proper distribution of water, administration of the water district and enhancement of water supplies and shall provide that all such real and personal property shall remain in the custody of the watermaster and the watermaster's successor.

(13) The water users may, by resolution, authorize the watermaster to develop, coordinate or provide, through contract or by other means, for weather modification projects involving cloud seeding that are designed to increase the water supplies of the water district by enhancing natural precipitation and which conform to state water planning objectives.

[(42-605) 1903, sec. 24, p. 223; reen. R.C., sec. 3275; am. 1909, sec. 1, p. 326; am. 1915, ch. 34, sec. 10, p. 103; C.L., sec. 3275; C.S., sec. 5609; am. 1925, ch. 60, sec. 1, p. 86; am. 1931, ch. 94, sec. 1, p. 160; I.C.A., sec. 41-505; am. 1947, ch. 9, sec. 1, p. 9; am. 1969, ch. 305, sec. 1, p. 913; am. 1973, ch. 262, sec. 1, p. 534; am. 1982, ch. 14, sec. 1, p. 19; am. 1984, ch. 175, sec. 1, p. 421; am. 1987, ch. 112, sec. 1, p. 225; am. 1988, ch. 31, sec. 1, p. 39; am. 1991, ch. 101, sec. 1, p. 225; am. 1992, ch. 339, sec. 6, p. 1017; am. 2006, ch. 146, sec. 1, p. 458; am. 2011, ch. 176, sec. 1, p. 498; am. 2013, ch. 42, sec. 1, p. 87; am. 2013, ch. 327, sec. 1, p. 856; am. 2015, ch. 82, sec. 1, p. 204; am. 2018, ch. 40, sec. 1, p. 100; am. 2020, ch. 52, sec. 1, p. 124.]

42-605A. NONCONSUMPTIVE WATER RIGHTS -- ASSESSMENTS -- VOTING. (1) Notwithstanding other provisions of this chapter, the setting of annual water district assessments and the voting of permitted, licensed and decreed water rights administered by the watermaster solely for nonconsumptive purposes shall be determined in accordance with the provisions of this section. For purposes of this chapter, a water right is nonconsumptive if so designated by provisions of the permit or license issued by the department of water resources, or otherwise so designated by the director, or by decree of the court allowing use of the right to continue when the diversion of earlier priority water rights from the same source has been reduced or stopped by action of the watermaster.

(2) A nonconsumptive water right is subject to the provisions of this section if water is taken into man-made facilities for beneficial use whether or not the water leaves the river or stream channel. Instream flow water rights held in the name of governmental entities or agencies for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality shall be exempt from the payment of assessments and the rights shall not be

voted. The procedure for collection and payment of the assessments shall be the same as used for consumptive water rights under this chapter.

(3) In preparing the next year's budget, the watermaster shall determine an assessment for the ensuing year for each water right used solely for nonconsumptive purposes. The assessment shall be sufficient to pay the additional costs and expenses for watermaster services for data collection, water measurement, delivery of water, and record keeping directly attributable to delivery of the water right.

(4) The assessment shall not become final until adopted as part of the water district budget at the annual meeting of water users in accordance with section 42-612, Idaho Code. The assessment shall not exceed an amount necessary to pay for watermaster services associated with the nonconsumptive right. Nothing in this section shall affect the right, under section 42-612, Idaho Code, of the water users at the annual meeting to provide by resolution for a minimum charge for watermaster services, except as to those instream flow rights exempt from the payment of assessments under this section.

(5) The holder of a water right assessed under the provisions of this section who desires to contest the amount of an assessment for a nonconsumptive water right shall file a written petition with the director of the department of water resources stating the grounds for contesting the assessment and requesting a hearing. The petition must be filed with the director within thirty (30) days after the billing is mailed to the holder of the water right as provided in section 42-613, Idaho Code. The hearing before the director and any judicial review thereof shall be in accordance with the provisions of section 42-1701A, Idaho Code. The filing of a petition under this section shall not relieve the holder of a nonconsumptive water right from the obligation to pay the assessment when due and payable. The amount of any excessive or deficient assessment determined by a final order of the director shall be credited or collected in the succeeding year in the manner provided under section 42-606, Idaho Code.

(6) At water district meetings, each person present holding a water right used solely for nonconsumptive purposes shall be entitled to a number of votes equal to the average dollar amount and any fraction thereof assessed in accordance with subsection (3) of this section for that person's qualifying nonconsumptive water right for the previous five (5) years, or such lesser number of years as the right has been assessed in accordance with subsection (3) of this section. If a nonconsumptive right has not been assessed in previous years using subsection (3) of this section, a person present owning or having the use of the right for the ensuing season shall be entitled to a number of votes equal to the dollar amount and any fraction thereof which the right is assessed under subsection (3) of this section for the ensuing season.

[42-605A, added 1991, ch. 101, sec. 2, p. 227; am. 1992, ch. 339, sec. 7, p. 1019; am. 2020, ch. 52, sec. 2, p. 126.]

42-606. REPORTS OF WATERMASTERS. All watermasters shall make an annual report to the department of water resources prior to the expiration of the watermaster's appointment for the current year. This report shall show the total volume of water delivered by the watermaster during the preceding year, the volume delivered to each water user, the total expense of delivery and the apportionment of expenses among users and all debits and credits to be carried over to the following year. Such report shall also include the number of days the watermaster and watermaster assistants have devoted to

the distribution of such water and any records of stream flow the watermaster used or made in the process of distributing water supplies. The director may ask for other information deemed necessary in assuring proper distribution of water supplies within the district. The reports of watermasters to the department of water resources shall be filed and kept in the office of the department.

[(42-606) 1903, sec. 25, p. 223; reen. R.C., sec. 3276; am. 1915, ch. 34, sec. 11, p. 103; reen. C.L., sec. 3276; C.S., sec. 5610; I.C.A., sec. 41-506; am. 1992, ch. 339, sec. 8, p. 1021; am. 2020, ch. 52, sec. 3, p. 127.]

42-607. DISTRIBUTION OF WATER. It shall be the duty of said watermaster to distribute the waters of the public stream, streams, or water supply comprising a water district among the water users taking water therefrom according to the prior rights of each respectively, in whole or in part, and to shut and fasten, or cause to be shut or fastened, under the direction of the department of water resources, the headgates or controlling works for the diversion of water from such stream, streams, or water supply, during times of water scarcity, in order to supply the prior rights of others from such stream or water supply; provided, that any person or corporation claiming the right to the use of the waters of the stream or water supply comprising a water district, but not owning or having the use of an adjudicated or decreed right therein, or right therein evidenced by permit or license issued by the department of water resources, shall, for the purposes of distribution during times of water scarcity, be held to have a right subsequent to any adjudicated, decreed, permit, or licensed right from such stream or water supply, and the watermaster shall close all headgates or controlling works of diversions having no adjudicated, decreed, permit or licensed right if necessary to supply adjudicated, decreed, permit or licensed right in such stream or water supply. As long as a duly elected watermaster is charged with the administration of the waters within a water district, no water user within such district can adversely possess the right of any other water user.

[(42-607) 1903, sec. 26, p. 223; reen. R.C., sec. 3277; am. 1909, sec. 1, p. 326; am. 1915, ch. 34, sec. 12, p. 103; C.L., sec. 3277; C.S., sec. 5611; am. 1927, ch. 63, sec. 2, p. 78; I.C.A., sec. 41-507; am. 1969, ch. 305, sec. 2, p. 913; am. 1973, ch. 262, sec. 2, p. 534; am. 1992, ch. 339, sec. 9, p. 1021; am. 2020, ch. 52, sec. 4, p. 128.]

42-608. WATERMASTER'S TERM OF SERVICE. (1) The director of the department of water resources, upon receipt of a certified copy of the meeting minutes and the oath of the watermaster as provided for in section 42-605, Idaho Code, shall appoint the watermaster to a term of service throughout the year, extending until the annual meeting for the ensuing year, or until a successor is appointed. A full-year appointment of the watermaster by the director shall have no effect on the watermaster's compensation fixed by the water users at the annual water district meeting as provided for in section 42-605, Idaho Code.

(2) A watermaster shall not begin work for the distribution and control of water required under section 42-607, Idaho Code, until called upon by one (1) or more owners or managers of ditches or persons controlling ditches or other diversion facilities in the district stating that there is a necessity for the distribution and control of the waters of the district. In the ab-

sence of a call by one (1) or more water users, the watermaster may be called upon to assume the watermaster's duties at any time the department of water resources finds that there is a necessity for the distribution and control of the waters of the district.

(3) The watermaster shall not continue performing services for the distribution and control of water after the necessity shall cease, which shall be determined by the department of water resources, and which shall not be after the first of November of each year, unless determined necessary by the department of water resources, or is otherwise provided by a resolution adopted at the annual water users' meeting for the water district, or upon receipt of a petition requesting an extension of the watermaster's services for the distribution and control of water in any year from the holder of a water right authorizing the diversion or storage of water during the time period for which the extension is sought and upon a determination of necessity for the diversion or storage of water. Payment for watermaster services during the extension shall be the responsibility of the holders of water rights delivered by the watermaster during the extension. For the purpose of determining voting rights at a water district meeting, amounts paid for watermaster services pursuant to this subsection shall be included in the calculation of annual assessment amounts and assessment rates under sections 42-605 and 42-605A, Idaho Code.

(4) At any annual meeting the water users may, by resolution, provide that the watermaster shall serve throughout the year, or for a set term during each year, for purposes of distribution and control as provided in section 42-607, Idaho Code.

[(42-608) 1903, p. 223, sec. 27; reen. R.C., sec. 3278; am. 1909, p. 326, sec. 1; am. 1915, ch. 34, sec. 13, p. 103; reen. C.L., sec. 3278; C.S., sec. 5612; am. 1927, ch. 63, sec. 3, p. 78; I.C.A., sec. 41-508; am. 1939, ch. 199, sec. 1, p. 378; am. 1991, ch. 101, sec. 3, p. 228; am. 1992, ch. 339, sec. 10, p. 1022; am. 2011, ch. 176, sec. 2, p. 501.]

42-609. WATERMASTER'S ASSISTANTS -- EMPLOYMENT IN EMERGENCY -- OATH AND COMPENSATION. A watermaster shall have power, in case of emergency, with the approval of the director of the department of water resources, to employ suitable assistants in addition to those who may have been approved at the annual meeting of the water users of the district to aid the watermaster in the discharge of the watermaster's duties, who shall take the same oath as the watermaster, and shall obey the watermaster's instructions, and shall be entitled to a salary as set by the water users in their adopted budget and approved by the director of the department of water resources, or if no budget is adopted, then as set by the director of the department of water resources, to be paid in the same manner as provided for the payment of watermasters.

[(42-609) 1903, p. 223, sec. 28; reen. R.C., sec. 3279; am. 1915, ch. 34, sec. 14, p. 103; reen. C.L., sec. 3279; C.S., sec. 5613; am. 1927, ch. 63, sec. 4, p. 78; I.C.A., sec. 41-509; am. 1980, ch. 277, sec. 1, p. 721; am. 1992, ch. 339, sec. 11, p. 1023.]

42-610. COMPENSATION OF WATERMASTERS -- ALLOTMENT AND CHARGE AGAINST LAND -- CHARGE AGAINST CANAL. The pay for the services of the watermaster and the watermaster's assistants shall be assessed against the land of the water users to which said water was so delivered. The amount assessed to each

user shall be a pro rata share based on the volume of water delivered to each water user in proportion to the whole amount delivered to all water users. When any portion of the allotted waters is distributed by said watermaster to the canal of any water delivery organization, the amount of the expense chargeable for such services shall be assessed against such canal.

[(42-610) 1903, sec. 29, p. 223; am. 1907, sec. 1, p. 482; reen. R.C., sec. 3280; am. 1915, ch. 34, sec. 15, p. 110; reen. C.L., sec. 3280; C.S., sec. 5614; am. 1925, ch. 60, sec. 2, p. 86; am. 1927, ch. 81, sec. 1, p. 99; I.C.A., sec. 41-510; am. 1992, ch. 339, sec. 12, p. 1023; am. 2020, ch. 52, sec. 5, p. 128.]

42-612. PROPOSED WATER DISTRICT BUDGET FOR SUCCEEDING YEAR -- ADOPTION AND CONTENTS OF BUDGET -- DEBT OF WATER USER. (1) Each watermaster shall, at least fourteen (14) days prior to the annual meeting of the water users of the water district, prepare a proposed budget for the succeeding year, together with a distribution of the pro rata amounts of the budget assessed to the respective water users or water delivery organizations using the actual volume of water delivered for the past season or seasons. The proposed budget and distribution of pro rata assessments shall be presented to the water users for consideration and approval at the next annual meeting.

(2) At any annual meeting, the water users must adopt a budget covering the estimated expenses of delivering the water of the district for the ensuing year and by resolution determine that the budget shall be collected. The compensation of the watermaster and the watermaster's assistants and any other expenses of delivering the water of the district to the users thereof, including the costs of the advisory committee in implementing resolutions adopted by the water users of the district for activities other than the payment of the salary and operating expenses of the watermaster and assistants, shall be paid in the manner hereinafter, in this section, provided.

(3) To the extent possible, funding for advisory committee expenses associated with implementing resolutions adopted by the water users for other than the payment of the salary and operating expenses of the watermaster and assistants shall come from funds available pursuant to section 42-613A, Idaho Code. If funds available pursuant to section 42-613A, Idaho Code, are not sufficient to cover expenses incurred in implementing resolutions adopted by the water users, then such expenses shall come from assessments.

(4) The budget shall show the aggregate amount to be collected from all the water users in the district and the amount to be paid by each water delivery organization or other water user. For the purpose of computing the respective amounts to be paid by each water user, the actual volume of water delivered to each water delivery organization or other water user during the past season or seasons, not exceeding five (5) seasons, shall be used as a basis. If a right has not previously been assessed or if past season delivery records are not available, the watermaster may, by resolution of the water users, estimate the volume of water delivered or reasonably used when water was available under the priority of the right during the past season or seasons. Notwithstanding other provisions of this section, if a water delivery organization or water user diverts water pursuant to a valid water right from a natural waterway that is regulated and assessed by one water district, and that water is then conveyed through and rediverted from a different natural waterway pursuant to section 42-105(1), Idaho Code, that is regulated by a second water district, the second water district may, by resolution of the water users, charge a fee instead of an assessment for the water that is redi-

verted sufficient to pay the costs and expenses for watermaster services for data collection, water measurement, conveyance of water, and record keeping directly attributable to the conveyance of the water that is rediverted. A fee charged pursuant to this subsection is not an assessment. A water delivery organization or a water user that is charged a fee is not eligible to vote at an annual water district meeting as set forth in section 42-605, Idaho Code, unless the water delivery organization or water user holds other water rights that are assessed by the water district and voting is based upon those assessed water rights.

(5) Upon the adoption of the budget, the amount payable by each water delivery organization or other water user, as shown by the budget, shall become the debt of each respectively and shall become due and payable as hereinafter provided. Other provisions of chapter 6, title 42, Idaho Code, notwithstanding, water users may at the annual meeting by resolution provide for an annual minimum charge not to exceed two hundred fifty dollars ($250) per water user for watermaster services. The minimum charge is applicable whenever the prorated charge against any water delivery organization or other water user is less than the minimum charge.

(6) Other provisions of chapter 6, title 42, Idaho Code, notwithstanding, water users at the annual meeting may provide, by resolution, that the respective amounts owed by each water user as shown in the adopted budget shall constitute a final determination of the amount due for that year without the need to carry forward any water user debits or credits to the following year.

[(42-612) C.S., sec. 5615-A, 1st par., added 1927, ch. 39, sec. 1, p. 51; I.C.A., sec. 41-512; am. 1933, ch. 217, sec. 1, p. 462; am. 1980, ch. 139, sec. 1, p. 305; am. 1992, ch. 339, sec. 13, p. 1024; am. 1998, ch. 179, sec. 1, p. 665; am. 2000, ch. 83, sec. 1, p. 174; am. 2014, ch. 65, sec. 1, p. 168; am. 2015, ch. 82, sec. 2, p. 207; am. 2020, ch. 52, sec. 6, p. 129; am. 2021, ch. 107, sec. 1, p. 348.]

42-613. BUDGET -- FILING OF RESOLUTIONS AND COPIES -- COLLECTION -- TIME FOR COLLECTION OF BUDGET -- PAYMENT OF DISTRICT EXPENSES BY COUNTY -- WATER NOT DELIVERED UNTIL CHARGES PAID. (1) The budget when adopted shall be filed with the secretary of the meeting and thereupon the watermaster shall immediately prepare and file a certified copy of the budget, along with a copy of all resolutions adopted at the annual meeting, with the director of the department of water resources.

(2) At any annual meeting, the water users may, by resolution, designate the county or counties in which water is delivered to collect the compensation of the watermaster and watermaster assistants, and other expenses of delivering water within the district, in the manner provided by law for the collection of other taxes. When the county or counties are so designated, a certified copy of the budget, along with a copy of all resolutions adopted at the meeting and under the provisions of this section, shall be filed with the county or counties so designated. If more than one (1) county is designated, then the budget shall show the amount to be collected in each county and from which water users each county shall collect. Each county or counties so designated shall immediately prepare a roll showing the total amount of the budget to be collected by the county and the respective amounts to be collected from each water delivery organization or other water user. When the roll is completed, the county auditor shall deliver the roll to the county treasurer for collection. The county treasurer shall there-

upon mail a notice to each water delivery organization or other water user of the amount payable by each such water user for the distribution of water and other expenses of the district for the ensuing year. The county treasurer, upon receipt of the roll, shall open a special account to be known as "Water District.... Funds" and shall credit to the account all moneys received from the water users of said district. The water users may, by resolution, designate the county or counties that collect the expenses of the district to pay the compensation of the watermaster and watermaster assistants and any other charges against said water district from the funds of said account in the same manner as bills against the county are paid, unless such county or counties have determined not to provide county services for the payment of district expenses as provided in section 42-619, Idaho Code.

(3) At any annual meeting, the water users may, by resolution, authorize the watermaster or water district treasurer to collect the compensation of the watermaster and watermaster assistants, and other expenses of delivering water within the district, directly from the water users. When so authorized, the watermaster or water district treasurer shall collect such compensation and expenses directly from the water users and shall turn the collected funds over to the water district treasurer for deposit and disbursement in accordance with section 42-619, Idaho Code.

(4) In any water district, whether expenses are collected from water users either by a county or directly by the water district watermaster or treasurer, the water users may, by resolution at an annual meeting, fix a date upon which the amount shall be due and payable of said year and if not paid when due shall bear a penalty not to exceed ten percent (10%) of the amount owed and interest of one percent (1%) per month, both of which shall be fixed by resolution from said date until paid.

(5) The water users in such water districts may also, at any annual meeting, authorize the watermaster to withhold water deliveries, or suspend water deliveries in the event delivery has commenced, from those users who have not paid their pro rata share of the cost of operating the district as levied until such time as said pro rata share of the cost is paid.

(6) Notice of the amount due by each water user, as shown by the adopted budget at the annual meeting, to be mailed to each respective water user by the county treasurer or the water district watermaster or treasurer, shall also state the substance of any resolution adopted pursuant to this section.

[42-613, added 2020, ch. 52, sec. 8, p. 130.]

42-613A. PROCEEDS FROM THE LEASE OF STORED WATER -- DISTRICT RETENTION -- CONTROL AND USE BY ADVISORY COMMITTEE. The advisory committee of a water district created pursuant to section 42-604, Idaho Code, and chosen pursuant to section 42-605(6), Idaho Code, when appointed by the water resource board to facilitate the rental of stored water in the district pursuant to section 42-1765, Idaho Code, shall be authorized to manage and retain in a special account the proceeds accruing within the district from the rental of storage water leased under the provisions of section 42-1765, Idaho Code. Notwithstanding the supervisory responsibilities of the director of the department of water resources over the activity of watermasters delivering water within water districts, the account shall be under the exclusive control of the advisory committee of the water district when such committee has been appointed by the water resource board to facilitate the rental of stored water in the district within which the leased water is stored.

All proceeds from the lease of stored water which are retained by the advisory committee of any district under this section shall be used in accordance with the resolutions duly adopted by the water users of the district solely for one or more of the following public purposes:

(1) Expenses of the district.

(2) Improvements to the district's facilities, including a reasonable reserve for future improvements.

(3) Educational projects designed to increase public awareness in the area of water distribution, water rights and water conservation.

(4) Other public projects designed to assist in the adjudication, conservation or more efficient distribution of water.

All funds retained by an advisory committee pursuant to this section shall be deposited by the water district treasurer pursuant to the public depository law.

[42-613A, added 1986, ch. 78, sec. 3, p. 237; am. 1992, ch. 339, sec. 15, p. 1025.]

42-616. BUDGET -- ACTION TO COLLECT CHARGES -- ATTORNEY'S FEES. The county treasurer or water district treasurer of a water district shall have the right to collect any charges due and unpaid, by civil action, said action to be brought in any court of competent jurisdiction, in the name of the county treasurer or water district treasurer to whom such charges are payable, and in addition to the amount found due, together with interest and costs, may also recover such sum as the court may adjudge reasonable as attorney's fees in said action.

[(42-616) C.S., sec. 5615-A, 6th par., as added by 1927, ch. 39, sec. 1, p. 51; I.C.A., sec. 41-516; am. 1992, ch. 339, sec. 18, p. 1026.]

42-619. ALTERNATE PLAN FOR PAYMENT OF DISTRICT EXPENSES -- TREASURER -- ELECTION -- OATH AND BOND -- REMOVAL -- COMPENSATION. (1) The county commissioners of any county, having determined that providing the service of payment of water district expenses by the county treasurer from water district funds pursuant to section 42-613(2), Idaho Code, is an undue burden upon the county and shall no longer be provided, shall notify the director of the department of water resources of this action by December 1 in the year preceding the year for which the action shall first be effective by providing to the director a certified copy of the resolution of the commissioners taking such action.

(2) Notice of the action of the county commissioners shall be given to the water users of the district by the department of water resources together with the notice of the annual meeting given pursuant to section 42-605, Idaho Code.

(3) At each annual meeting of a district for which the county commissioners have taken the action provided for in subsection (1) of this section, or for which the water users have taken the action provided for in section 42-613(3), Idaho Code, the water users shall provide for the election and appointment of a water district treasurer. If a water district treasurer is not elected at the annual meeting, and one is found to be necessary, the director of the department of water resources is authorized to appoint a water district treasurer and fix the treasurer's compensation. The water district treasurer shall keep a complete, accurate and permanent record of all moneys received by and disbursed for and on behalf of the district. The water

district treasurer shall deposit all moneys of the district in a designated depository approved at the annual meeting and shall comply with the public depository law as contained in chapter 1, title 57, Idaho Code.

(4) Before undertaking the duties of the office, the water district treasurer shall take and subscribe to an oath before an officer authorized by the laws of the state to administer oaths to faithfully perform the duties of the office and shall file the oath with the director of the department of water resources. Upon issuance by the director of a certificate confirming the election or appointment of a water district treasurer, the actions taken by the water district treasurer in fulfillment of the duties of the office are covered by the state group surety bond as provided in sections 59-801 through 59-804, Idaho Code. A duly appointed treasurer that is reelected in consecutive years shall not be required to take and file additional oaths with the department of water resources for each consecutive year the treasurer is reelected.

(5) The water district treasurer shall serve until a successor is elected or appointed, and qualified. A water district treasurer may be removed from office by the director for failure to perform the duties of the office in the manner provided for removal of a watermaster as provided by section 42-605(9), Idaho Code.

(6) Compensation for the services of the water district treasurer shall be set at the annual meeting and may be established on a fixed-sum, per diem, or voluntary basis. If a water district treasurer is appointed by the director in the absence of being elected at the annual meeting, the director shall fix the compensation to be paid, if any.

(7) With respect to any district for which the county commissioners have taken the action provided for in subsection (1) of this section, or for which the water users have taken the action provided for in section 42-613(3), Idaho Code, the county auditor shall in the time and manner provided by section 63-1202, Idaho Code, transmit to the water district treasurer of the water district a settlement of all moneys belonging to such district paid into the county treasury and apportioned to such water district on or after the second Monday of the preceding month; provided, however, that in the months of July and January, the money may be transmitted no later than the 25th of the month. The treasurer of the water district shall immediately deposit the funds in the designated depository for the district.

(8) The treasurer of the water district shall disburse moneys from the water district account only upon submission of a written voucher approved by the watermaster for expenses incurred for water district purposes related to the delivery of water or by a voucher approved by the chairman of the advisory committee for activities pursuant to resolutions adopted by the water users from district funds or funds retained pursuant to section 42-613A, Idaho Code.

(9) It shall be the duty of the water district treasurer to prepare a statement of the financial affairs of the district at the end of each fiscal year and to file the statement with the director of the department of water resources. An audit of the financial affairs of the district shall be made as required in section 67-450B, Idaho Code. A certified copy of the audit shall be filed with the director of the department of water resources following the audit.

(10) In water districts with an annual budget of seven thousand five hundred dollars ($7,500) or less, the water users may, by resolution adopted

at the annual meeting, authorize the watermaster to serve as water district treasurer. Watermasters in water districts with annual budgets in excess of seven thousand five hundred dollars ($7,500) shall not be authorized to act as water district treasurer.

[42-619, added 1989, ch. 286, sec. 2, p. 710; am. 1992, ch. 339, sec. 21, p. 1028; am. 1993, ch. 387, sec. 11, p. 1426; am. 1996, ch. 322, sec. 36, p. 1064; am. 2011, ch. 176, sec. 4, p. 502; am. 2020, ch. 52, sec. 12, p. 131; am. 2021, ch. 321, sec. 33, p. 974.]