

Written Submission from Kathleen Gliksman, Protester

Regarding Municipal Status for Williams Lake Recreational Water and Sewer District Permits 75-7052 and 75-7589

June 26, 2007

Dear Mr. Merritt.

Thank you for the opportunity to submit, in written form, some of my arguments against the above mentioned permit amendments. I made this request because my mother's health status is serious and could deteriorate suddenly. Although I will attend the hearing, I may be called back home while the hearing is still in session. Since I have been involved with this issue for two years, I would certainly not like to have left without having fully presented my submissions on the various subjects relevant to this hearing. For the most part, the following adheres to the questions we were presented by IDWR. Additional comments follow at the end of the IDWR questions.

1. Will the proposed use reduce the quantity of water under existing rights?

Such a reduction will inevitably result in a reduction in water quantity under existing rights. The Board is not asking for an increase in quantity of water. By their own admission, they are asking for municipal status to gain the flexibility to add additional homes to the system without an increase in the quantity of available water. As a result, each home added would decrease the amount of water that current homeowners have available. This is particularly problematic since current homeowners do not have sufficient available water at the present time. Municipal status would further give the Board the ability to procure more water to the detriment of the downstream users.

2. Is the proposed water supply insufficient for the purpose intended?

The proposed water supply is insufficient for the following reasons. We have been licensed, albeit with falsified reports, for .21cfs. That amount is not sufficient to supply culinary water and fire flows to the current homes at the lake. This situation was caused by the fact that the amount of water granted was based on the State's perception of water valves alone. The grant was further narrowed by the State not having included the resort and BLM in the total that was used. The number used was not correct and, even if it had been the proper number, this would not reflect the true water needs at the lake. In order to arrive at that figure, it is necessary to use the equivalent measure of each valve which then puts the number at least 17 more than the de facto number of valves.

3. Is the application made in good faith or for delay or speculative purposes?

Any application under the current circumstances must be considered speculative. There is a truly unique situation at Williams Lake. Since the land around the lake was

subdivided, Lemhi County Codes have changed. It is common knowledge in the County that it would take 3 lots the size of those in our subdivisions to have a lot considered buildable by the County. To be fair, there are some large lots in the subdivisions, but not many. Even if a property owner met this requirement, the terrain at the lake is fairly steep and the topography might make their property unbuildable. Then there is the issue of passing a perk test which they might or might not pass. In other words, it is not known how many properties at the lake could be developed and \$36,000.00 worth of engineering is not going to give us the answer to that question.

As of June 2006, there were 429 lots in the subdivisions with 188 owners. Ninety of the owners owned single lots, 37 owners had multiple lots and 61 owners owned homes and homes with extra lots.

From August of 1996 through November of 2006, exactly 12 property owners had applied for water. Four of those owners applied after the Water District announced that water would be available. Of the 8 left, 2 of the applicants had sold their properties and the new owners had not applied for water. Only 1 of the applicants owns 3 or more contiguous lots and, as a matter of fact, 7 of the applicants owned only a single lot. One of those who applied has already built a house under an agreement with the County and District 7 that stipulates he will truck in his water.

It is my submission that the Board has a fiduciary duty both to current property owners who are on the system, as well as to any new owners seeking to get onto the system. However, I further submit that the primary duty goes first to the current property owners who must be protected from erosion of their water rights before additional property owners are added to the system. I would, therefore, ask who the Board seeks to represent with their idea of adding homes to the system. They have never surveyed the property owners to see who could build or who wants to build. They have never disseminated the information I have just given you with regard to code changes and County and State requirements for building. Without these figures, the Board and Forsgren will never have an accurate assessment of needs at the lake.

I submit that the current property owners who are on the water system and who own homes and pay the bonds on the current system are being expected to foot the bill for speculative research in this matter to benefit future property owners who may be added to the water system. I submit that this clearly does not benefit the current property owners who are currently on the water system and, therefore, constitutes a breach of the Board's fiduciary duties to us.

4. Has the applicant sufficient resources with which to complete the project?

I submit that the applicant is far from having sufficient resources to complete the project. The Water Board is currently trying to implement a water user fee in order to cover regular maintenance on our existing system. In essence, they have no money to further a plan, in addition to having no plan. Given the lack of funds, the lack of a plan, and the Board's disregard of its duties to the property owners currently on the water

system, I submit that there is a serious lack of managerial expertise and capacity to carry through what the Board seeks to accomplish.

The water user fee will apply only to the homeowners at Williams Lake. Currently, our tax base is incredibly high and the fee will be in addition to the taxes and the annual 3% increase in the Water District portion.

While the taxes on my home have increased dramatically – this year alone the Water District portion of my property taxes was \$1616.62 – the taxes on the subdivision lots that I own have remained fairly constant. The Water District portion of each lot has gone from \$21.46 years ago to \$24.70 this year. In other words the lot owners have probably paid in \$250 over the last 10 years for each lot they own. It is utterly ridiculous to expect the small number of us that pay high taxes to foot the bills for the lot owners whose investment is relatively miniscule.

There are other methods, Mr. Merritt, of allowing the lot owners to develop their properties. Not one other method has been explored by the Water Board. If I owned undeveloped lots, I would certainly not expect someone else to foot the bills for my development.

5. Will the proposed use under this permit conflict with the local public interest?

It unequivocally would. Those of us who own homes at the lake have suffered through years of our Water District system being undependable and unsafe. When that system was condemned we were blessed with a homeowner with an engineering and hydrology background who lead us into this wonderful system that we have today – safe water and a year round system. Jim Kingston fought for this system, dealt with all the State agencies and the professional engineer and built the system. He gave much of himself and his own resources to this system and we should all be forever grateful.

Local public interest would dictate that we should be able to have plentiful, safe water and not be unduly burdened financially. The motivation for the Board's application is a fear of incurring legal liability for failure to provide water to property owners recently seeking or in the future seeking to join the water system. The Board may have grand ideas, but these are unrealistic and financially not feasible. Furthermore, the Board's unsubstantiated proposals would destroy our water system which was not built to handle unlimited hookups. Our system needs to be brought into compliance with the upcoming and current water system requirements - not be taken down by stressing it to the death. We homeowners are paying a premium price for our water and deserve to have our system protected while remaining legally compliant. Finally, the Board is not free to provide water to any more properties under the conditions of our water rights which were part of the District's contract with IDWR.

6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The proposed use is contrary to conservation of water resources in Idaho. This is based on the fact that the Water Board has done next to nothing to conserve the water of Idaho under the domestic water rights. They have allowed people to tamper with the lines and used our tax monies to pay for the resulting leaks. One of those leaks was estimated to be 30,000 gallons a day and ran from October to April before it was repaired.

The flow meter that was to be installed as a condition of our water right agreement has been broken for 8 years and neither repaired or replaced. Even though Mr. Wilson, the field examiner, reported that the permit conditions had been met, he used the old bucket and stopwatch method to measure the flow of both springs. I might as well mention right here that he also reported our lake water system to be in fine condition when, in fact, it was destroyed by order of DEQ when the new system was built.

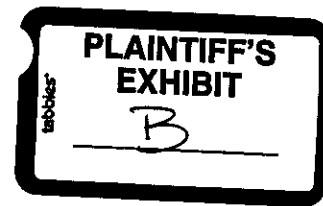
I guess with all the unattended leaks and no accurate records of flows, it would be hard to prove that I am wrong.

For the foregoing reasons, I submit that you should deny the municipal applications of the Board and rule that they are not able to continue to submit application after application for municipal status. The lot owners who want water need to form an LID or petition to be allowed to use wells. The cost of rebuilding our system would be exorbitant considering that what we have is only half paid for. Our system was built for a little over \$250,000.00 and as soon as it went on line it was appraised by the State at \$1.5 million dollars. I don't believe that the few vocal property owners would be so irate if they had to foot the bill to the tune of several millions of dollars.

The Water Board and its lawyer have a fiduciary responsibility to represent properly those of us for whom they hold the water rights – namely those that were serviced by the old system and those that built homes during the development period which ended in 1998.

Thank you again for allowing me to provide you with the above written submissions.


Kathleen Gliksman



Comment Report

75-7589

1. kwilson 4/27/2005 Field Report Narrative

Comment: Upper Spring (75-7589) Diversion/Collection box gravity flow to pumping tank at Lift Station #1, and Lower Spring (75-7590) Diversion/Collection box gravity flow to pumping tank at Lift Station #1. Three 7.5 hp pumps, in series, (Lift Station #1, Lift Station #2 & Lift Station #3) to two storage tanks with a total storage capacity of 50,850 gallons. (Storage Tank #1 with 9400 gallons and Storage Tank #2 with 41,450 gallons.) From storage tanks gravity feed to distribution system with two booster pumps to maintain pressure for homes at higher elevations. Booster Station #1 in the NENW (L-3) Sec 3, T19N, R21E and Booster Station #2 in the NESW (L-2) Sec 34, T20N, R21E.

For information purposes, as of 12/02/2004, there are 66 homes serviced by the Williams Lake Recreational Water and Sewer District.

Williams Lake Recreational Water and Sewer District has a easement for their system from the BLM for both storage tanks (SENW Sec 3, T19N, R21E), and the lower spring (SWNESE Sec 34, T20N, R21E).

Document A includes a cover letter dated August 25, 1994, from Milton A. Slavin, and a signed Voluntary Consent Order prepared by Department of Health and Welfare, Division of Environmental Quality, in which the district name is indicated as being the Williams Lake Recreational Water & Sewer District.

Williams Lake Recreational Water and Sewer District established as a recreational water and sewer district by decree dated April 19, 1994, by Judge James C. Herndon. (See Document B)

Milton A. Slavin, Slavin Law Office, Chartered, 116 N Center Street, Salmon, ID 83467 [(208)756-2030] is currently the attorney for Williams Lake Recreational Water and Sewer District. Mr. Slavin informed this examiner that the order (Document B) is sufficient documentation that authorizes changing the name of the district to the Williams Lake Recreational Water and Sewer District.

Williams Lake Recreational Water and Sewer District qualifies as a municipal provider and has requested that the nature of use under the right be changed from domestic to municipal.

Williams Lake Recreational Water and Sewer District has permits from BLM for any trespass of their system on to BLM ground.

According to Richard Borst, district president, and Milton Slavin, attorney, the Williams Lake Recreational Water and Sewer District is NOT associated with Williams Lake Property Owners Association.

Property Owners Association.

2. kwalker 6/22/2005 Volume of Water

Comment: Permit was issued for domestic use for in-house use only. Examiner found 66 homes on system as of 12/02/2004. Recommend volume be 66 homes @ 0.6 AF = 39.6 AFA.

Upon further review of this file it is noted that proof was submitted for only 64 homes. Since that is all they determined they had developed we are limiting the volume to 64 homes @ 0.6 af = 38.4 afa.

3. kwalker 6/29/2005 License Review

Comment: In review of this permit and permit 75-7590 I found there is only 1 system developed for the 2 springs under these rights. Since the entire system can be covered under proposed license 75-7589 I recommend that we request a relinquishment of permit 75-7590 and license entire spring system under 75-7589. I discussed this with the examiner and he agreed that this would be the correct procedure.

4. MILLER 12/17/1992 MORATORIUM EXEMPTION

Comment: This permit falls within the acceptable parameters of the Salmon-Clearwater Moratorium.

5. skeen 9/20/2004 Purpose of Use

Comment: This permit was issued for domestic use. In August of 2004 the right holder submitted a written request to IDWR to consider changing the nature of use of the right to "municipal" purposes when a license is issued. The field examiner should address the possibility of accommodating the request by determining whether the permit holder qualifies as a municipal provider and whether the use meets the definition of municipal use. If so, the change can be accomplished through an amendment of the permit prior to issuing a license.

From: James Kingston

To: Mr. Gary Spackman

Re: Comments on enclosed information

Date: April 18, 2006

The enclosed tape shows, after all these years, how little the Williams Lake Recreational Water and Sewer Board understands our original water rights and their unique conditions.

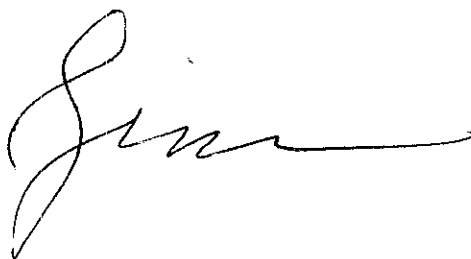
This tape is from a Board meeting and exposes the members true feelings. The comments on this tape include:

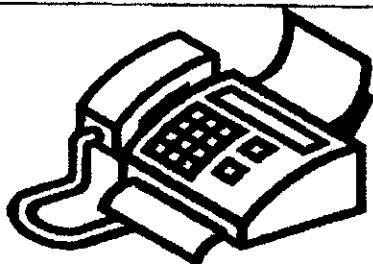
“We don’t want more water – we just want more connections.” By Tim Jenneson, Board member and apparent speculator. I ask you, Mr. Spackman, why would someone spend \$40,000.00 on 2 sewer connections and over \$20,000.00 on unimproved lots without water or without feeling sure he can arrange water?

“We want off the Board.” It seems they all want to quit and, as a matter of fact, two members already have done so this month. Those ex-members were non-speculators.

“We work for free – let’s dissolve the Board.” The tapes are full of comments like this. It seems speculation isn’t as easy or as much fun as they thought it would be.

Mr. Spackman, let’s put this water system on solid ground! I think we need to enforce the 1993 order and protect our system, protect the bonds, protect the homeowners, and protect the tax base at Williams Lake.





A facsimile from

Steve Adams
Wms. Lake Operator
756.7250

To: Jim Kingston
Fax number: 360.652.8225

Date: 4/6/2006

Regarding: Wms. Lake

Comments: As discussed, it appears the lower spring water supply is dangerously low. As such, I need your help in diagramming the valves to connect the lower spring to the upper spring. Your help is greatly appreciated.

Idaho State Utilities Commission E-3

WHO DOES THE COMMISSION REGULATE ?

The commission regulates investor-owned or privately-owned utilities that provide gas, water, electricity or telephone service for profit. Examples are: Idaho Power, Intermountain Gas, Qwest and United Water of Idaho.

The Commission does not regulate utility cooperatives (owned by the customers) or utilities operated by municipalities like the City of Weiser. Many cities own and operate electric, sewer and water utilities. The commission has no jurisdiction over these operations or over any sewer operations. A regulated water company may also provide sewer service, but the commission would only regulate the company's water operations.

The commission does not regulate interstate long distance rates or payphone rates. The commission also does not regulate cell phones, fax machines, voicemail services, internet services or digital subscriber lines (DSL).

The commission does not regulate cable TV or satellite TV.

In addition to rates, billing issues, quality of service and customer relations, the commission is also responsible for safe operations of the utilities it regulates including inspection of gas pipelines.

The commission also oversees the safe operation of railroads in the state and enforces state and federal regulations safeguarding the transportation of hazardous materials by rail. It also inspects railroad crossings and clearances for safety and maintenance deficiencies. The commission reviews railroad abandonment proposals and determines the affect on Idaho, it then represents the state before the federal Surface Transportation Board.

Further questions can be submitted via the Comment/Inquiry Form:
<http://www.puc.state.id.us/scripts/polyform.dll/ipuc>
or by calling the commission at (208)334-0300.

Idaho Utility Comm.

The Law!

Mr Warner said that
utility Comm. would
cover us in "Municipal Statute".
he is wrong according
to this law



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP L. BATT
GOVERNOR

KARL J. BREMER
DIRECTOR

March 27, 1998

John McKinney
Attorney at Law
1015 Main Street
Salmon, ID 83467

*This makes
Contract Clear!*

RE: TELEPHONE INQUIRY

Dear Mr. McKinney:

Enclosed at your request on this date is a copy of a letter
FAXed to the department from Keith B. Amar on March 16, 1998.
You apparently already have a copy of my letter dated March 17,
1998 responding to Mr. Amar.

With respect to continued development under Permit Nos. 75-
07589 and 75-07590 in the name of Williams Lake Recreational
Water and Sewer District (district), the opportunity to continue
with additional development under the permits ceased with the
filing of the proof of beneficial use of water on January 23,
1998 by Harold [redacted] on behalf of the district. Development
which did not exist on January 23, 1998, will have to occur under
different permits than 75-07589 and 75-07590.

If you have questions, please feel free to contact me or the
department.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

Encl: 2

c: Keith B. Amar
IDWR - E. Region

FACT
July 23/98

Exhibit

"E"

2/3

Max? - Storage 1, 48 hrs
24 hr ave for treatment
also 8 hrs Repair time min

6.3

Fundamental Design Principle for Physical Capacity Analysis

The overall design goal of maintaining adequate pressure in the distribution system under peak hourly demand (PHD) or maximum day demand (MDD) plus fire flow (FF) conditions, as detailed in WAC 246-290-230 and Section 8.1.5, must be adhered to in all physical capacity analyses. With this considered, the number of customers that can be served is dependent on the characteristic water demand patterns, and the minimum requirements associated with design factors identified in Section 6.5. Capacity determinations are to be reported in terms of equivalent residential units (ERUs) as described in Section 6.4.

All designs after 1991
must conform to 1996 act
(Clean Water act
(for Sizing))

6.2

Relationship between System Capacity and Physical Capacity

System capacity as defined in the 1996 Safe Drinking Water Act means the "operational, technical, managerial and financial capability" of a system to achieve and maintain compliance with drinking water regulations. System "physical capacity" refers to system components or facilities (i.e. source, treatment, storage, transmission, and distribution) that either individually or in combination limits service to customers (limits the number of ERUs that can be served). "Physical capacity" is a term that is associated with only the "technical" aspect of "system capacity." [see WAC 246-290-010 for definitions]

This is the Question ↓ Answer NO

all Systems in Idaho have
to meet the "10 States Rule"

Q is - Can they (3d meet
the Capacity according to EPA

Page 2

These are Standards for Building
a new Water System,

6.4.3 Part-time Versus Full-time Residences

According to WAC 246-290-221(1), water demand design data shall correlate to the maximum number of full-time or part-time equivalent residential units in service at any time. Full-time refers to a permanent place of residence, whereas a part-time residence is a vacation home, not lived in year-round (occupied only seasonally, holidays, and/or weekends). The reason for the distinction is that systems designed only for part-time residences have been noted to gradually convert to full-time residences (because of retirement, changing housing markets, etc.). If the system is designed for only part-time residences, but is eventually used for full-time occupancy, the system may not be able to provide adequate levels of service. Unless it can be guaranteed through obligatory covenants or other binding agreement that full-time occupancy will not be allowed, any part-time residence should be considered a full ERU and the system should be designed correspondingly. This would reduce the concern associated with resident status changing to full-time without notice to the water purveyor. This concept would also apply to part-time versus full-time multi-family residences.

6.4.4 Multi-family Residences ERUs

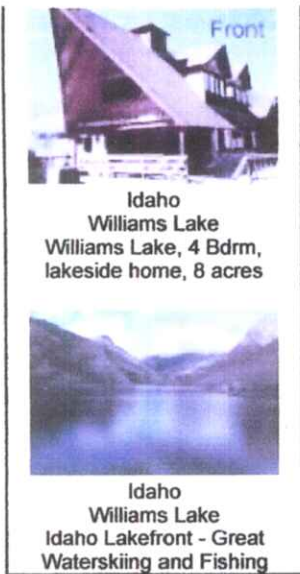
Multi-family residences typically use less water per living unit than separate single-family residences. Similar to single family residences, multi-family residence water uses can be expected to vary from system to system (i.e., specific to any given system, but not always applicable to another system). When calculating ERUs, it is desirable to separate multi-family usage from single-family usage. For multi-family metered connections, the total water use for the multi-family connection(s) should be divided by the system-specific single-family ERU to determine the ERUs associated with the multi-family connection(s) [multi-family customer account(s)].

6.4.5 Nonresidential Customer ERUs

For a practical analysis of overall demands, nonresidential customers may be classified into groups and average equivalency factors selected for each group (average ERU per nonresidential customer). A nonresidential customer with large water demands (agricultural uses, or an industry like a pulp mill or plating process, etc.), should be analyzed separately and included in the ERU totals. It should be noted that, just as with full-time single family residences, nonresidential ERUs might have different values for each of the demand factors i.e., ADD, MDD and PHD.

Equivalent Residential use

Page 121



Idaho
Williams Lake
Williams Lake, 4 Bdrm,
lakeside home, 8 acres

Idaho
Williams Lake
Idaho Lakefront - Great
Waterskiing and Fishing

Search this state:

All

for:

Find Results with:

Any words

Go!

Link Exchanges

lake of property for sale.

frontage: 260' x 200'

Virtual Tour:

Contact Information:



Tim Jeneson, Owner
View my other listings (I
have 3 total)



Contact Seller by email



208-726-9413
Please say you found it on
LAKEHOUSE.COM!



Visit our Website
<http://williamslakelodge.com>



See a map of the AREA
(This may not show the
exact location)

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There are 475 visitors currently online!

IDAHO

Moonridge Farm 892 N 1600 E Preston, ID 83263 208-852-0443 Website: Moonridge Morgans Email: moonridge@pcu.net Located very close to Utah	ThunderHead Farm - Lisa Allenbach Moscow, Idaho - (208)882-0832 Standing at stud: Hit The Jackpot 1998 Palomino Sport Horse Stallion Thunder Head Farm thunderhead@turbonet.com	Traci & Forrest Stanley 3440 Long View Rd McCall, ID 83638 Alpine Mist
Windridge Morgans Rick & Nancy Borst Salmon, Idaho 208-756-6124 Email: Windridge Standing: Black Stallion - Drumsong's Smoky	<i>Water Board member on Internet (The guy with the alleged Hookup outside water)</i>	

ILLINOIS

Bomar Farm
 14718 Rt 76 Caledonia,
 Illinois 61011
 Two Rare Perlino Morgans
 standing at stud.
 Finally's Mr. Andy standing
 for the 2001 breeding season,
 A.I. available
 2002 colored foals for sale
 from quality mares.
 Perlino Morgan
 equinart@concentric.net

INDIANA

Greg & Charlene Cook Edgefield Farm 64227 Co. Rd. 19 Goshen IN 46526 (574) 534-1336 At Stud: Edgefield Sun Gold Golden dapple buckskin by Sunup Neptune gccook@maplenet.net	Cindy Lush Sillhouette Acres 5380 S 1100 W San Pierre Indiana 219-828-3655 Home of Tioga's Spitfire hosslady55@earthlink.net	Christie Farms & Stables Preston and Susan Haun 1800 Kennedy Mott Rd. Depauw IN 47115 812 364 4660 Home of Universal Morgans & Buckskin Stallion Gold Cross Suncatcher universalmorgan@aol.com
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MAINE

Corine Crossmon, Menomin Farm

"A" & "E"

A and E.

from News letter
11/2005

results, which were used to justify the sewer system.

Tom Herron, of the DEQ has offered to meet with the Homeowners at the July meeting to discuss the lakes progress. We will attempt to get the Forest Service and The Fish and Game to also attend.

As of this writing, April 19th, the snow water equivalent for the Salmon basin is 64% of normal. It appears it will a dry year, especially for the river and lake flows.

Included in the Newsletter is a copy of a letter from the Sewer Development Association. It is hoped the letter fully explains what is going on. If there are questions, make sure you contact one of the members of the Water Board.

One of the things ~~not on~~ the letter that should be explained is about the effort to change the water system from a Recreational Water system, to a Municipal Water system.

The reason for this effort is it has been determined; the sewer system is suffering from lack of use. The drain field is in danger of fowling because of a lack of bacteria. In order to alleviate this situation there needs to be more connections to the system. BUT, there are no more water connections available. Therefore, the move to increase the available sewer and water connections.

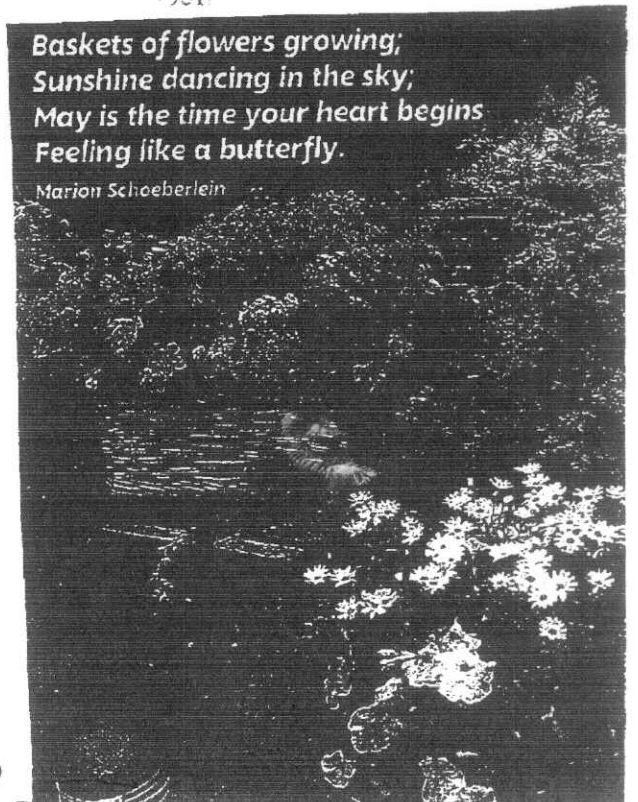


The scent of lilacs fills the air,
Carried on a springtime breeze.
Flowers truly are nature's
Loveliest accessories.

Kathy Tirrell

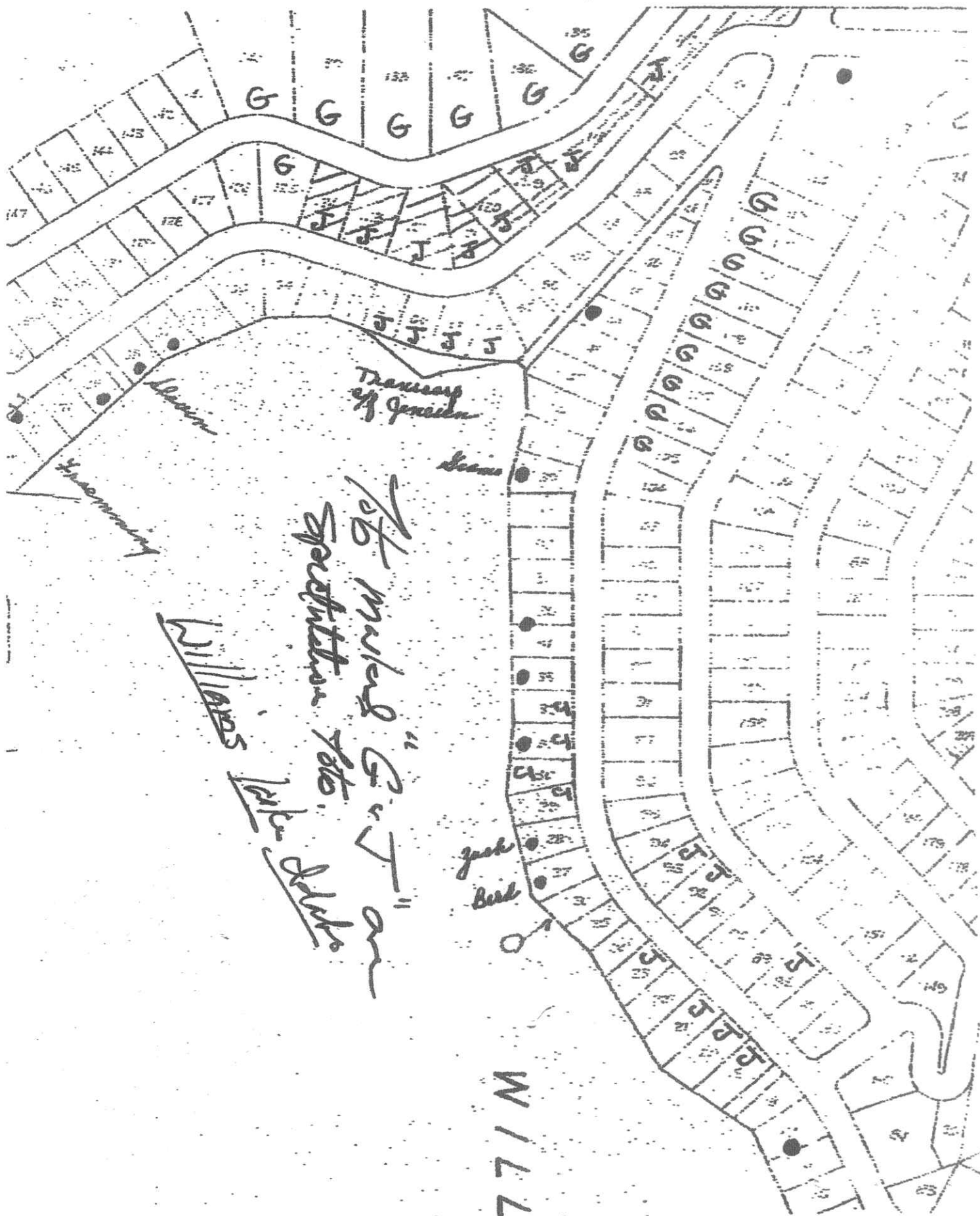
Baskets of flowers growing;
Sunshine dancing in the sky;
May is the time your heart begins
Feeling like a butterfly.

Marion Schoeberlein



What the Hell?
to this

Not true: Verification
Dist 7 Health Dept.
11-05
Design to
Scare?



144
Jock Slaven
Slaven Law Offices
116 Center st.
Salmon, Idaho

December 3, 2005

Jock,

I will attempt, to the best of my ability, to answer some of the concerns of the protesters to the Williams Lake Water Board.

It is not my intention to counter all of the points made by the letters of protest. In many cases the letters bring up legitimate points and concerns.

I will address each letter, with what I consider points of interest.

Gary M. Mulkey

- Handwritten notes:*
Left: "Livestock NOT acceptable also use of lake by individuals in out field"
Right: "Illegal use water right are to trick allowed #"
Bottom: "Not Right" and "nice OK but not correct"
1. Paragraph two of Gary's letter states it appears lawns and livestock continue to be watered in violations of the permit. I believe horses, that are being kept by one household are included in the acceptable uses of the water system. It appears that a green lawn is taken for a sign that the district water is being used for irrigation. Several homeowners are pumping water out of the lake for this purpose.
 2. List of new hookups: This is a legitimate statement. There should be a mechanism to notify property owners of the possibility of future hookups. Further, there should be a system to fairly pick the hookups from the list of property owners.
 3. Paragraph four: I am aware of several homeowners and the lodge, who have been utilizing this water right. These people are pumping directly from the lake. There has been no conversations, that I am aware of, as to a change to the permit, except to the beneficial use change.
 4. Paragraph eight. This is a good point. Even though the majority of the property owners of the lake are not residences, in all fairness, they should have inputs as to the long-term goals of the water district.

William D. Steinbruegge

- Handwritten notes:*
Left: "7" and a scribble
Bottom: "I have worked for the Fish and Game and have personally conducted"
1. Bill suggests that there is going to be an additional point of diversion to the water district. There has been no talk of an additional point of diversion. As for increasing the diversion rate: The diversion rate was .5 cfs and was been decreased to .21 cfs, which is a result of the latest Beneficial Uses Study.
 2. Bill is correct, that the water district is proposing to amend the water rights to Municipal status.
 3. Bill states that Lake Creek Spring fluctuates in direct proportion to the use at Williams Lake. While I do not doubt Bill's figures, I do doubt the REASON for the figures. There are several springs below the lake. Each contributes to the flow of lower lake creek. The spring that is being used by the water district is but one of these springs. This particular spring does decrease when the districts pumps are running. The rest of the springs do not.
- I would like to bring to your attention to the KCM report, which is a study of the water capacity of the rivers of the lake vs. time and flows of lower lake creek vs. time indicate the level of the lake influences the flow of lower lake creek. There is a 60-day lag between the high level of the lake and the high flow of lower lake creek. I have worked for the Fish and Game and have personally conducted

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studies of the water flows on lower lake creek and have verified these findings. The small amount of usage from the district's water system has very little to do with the total flow of lower lake creek. I am not sure where Bill is getting the 40% increase figure, but there is no increase in the water rights.

Money for Law
Spec.

Leslie May Shumate

The overall theme of the letter is to object to additional hookups at the lake. There is no mention that there would be no increase in the amount of water allowed by the water rights. The Beneficial Use Study has already decreased the amount of water allowed, by the water rights, by approximately 50%. Leslie states the district has not installed a wirer below the lake. As a result of a conversation with Bob Foster of the IDWR I have suggested a bucket and stop watch be utilized for random sampling of the flows at the outlet of the districts spring. A wirer being installed below the lake, would not be any more accurate than the stop watch technique, because it would still be a random sample and not a continuous monitor. I object to the expense of the wirer if the benefit is this dubious.

7 yrs
wrong
a wirer could be
24/7 leading
meter

Leslie stated the water meter installed in the system has not been operational for some time... that is correct, as I understand it. The water meter was correlated to electrical usage. Therefore monitoring the electrical usage, and converting it to water usage, is a very accurate way to monitor the system. Again, Leslie assumes green lawns equate to irrigation from the districts water, rather than irrigations from the lake.

all
9-11
on 3rd

Leslie has a good point as to the advertisements of properties stating water and sewage in place... This was brought to Tim Jennesons attention.

Kathleen Gliksmen

In summer the system will last 30 hrs

Kathy states, in her letter, that the system ran out of water in 24 hours. Here is the communications problem again. I stated during the water board meeting the alarm at that time was inoperative, and that Richard Borst and I had replaced it. The alarm had a very weak sound, not heard at the lake, but heard when a person walked by and called me. We do not know how long the pumps were not working, but the statement the system ran out of water in 24 hours is incorrect.

Hookup
6/19/00

Kathy states board members say they "owe" water to people who have no water. I, being a water board member, do not recall this statement. The argument has been put forth, since all property owners have been paying for water since the bonds have passed, those people deserve the opportunity for water. I personally do not have a problem with that statement.

Summer
30 hrs
33+ day
on 11

Kathy has a good point when she states her concern about selling sewer connections without water hookups. Although Kathy stated there is an implied guarantee, there is no such thing. The money for the sewer connection is being held in escrow, until, if and when, the additional water connections are supplied. If the additional water connections are not supplied, the money for the sewer connection will be refunded.

Spent
Pd of
date

Wrong
it paid of
Debt

Then water is promised
Lebe - it is
Speculation
Not in sec

Spent
Pd of
date

3-14

Who is the
why he was
allowed to keep
Rights to lake

Max there
was 1996
#72ed

There have been no conversations about building another system for the surface water. Some of the lake residences utilize the surface water rights for pumping out of the lake for irrigation, including the lodge.

In conclusion, Kathy has some very good points, and asks some very good questions that indicate a need for more communications from the water board.

Jim Kingston

I will not address Jim's "Bullets" as they seem to have been used by the other protesters in their letters.

Gary and Linda Hawkins

This letter appears to be an example of the communications problem prevalent with the water board. Gary and Linda are under the assumption there will be an additional point of diversion and increase the rate of diversion. I am not aware of an additional point of diversion. There will not be an increase in the rate, rather the Beneficial Use Study, just concluded has reduced the flow rates by approximately 50%.

Again, the fluctuations of the flows during the summer months are being blamed on the homeowners. I refer you to Williams D. Steinbruegge's notes and to my reply to his letter, explaining the fluctuations.

I am not sure when Gary and Linda received the word the water board is requesting a 40% increase in the rate of flow. This is not correct.

Christine Smith

Christine states that when the homeowners began pumping the she has never realized the full 6.0 cfs that she has her rights to. Again the homeowners pump from ONE of several springs below the lake. Engineering studies have indicated the water system has never pumped more than 23% of the rate allowed by the water rights. The water rights were at .5cfs. 23% of .5cfs is .115cfs at maximum. The maximum usage at the lake would have decreased Christine's flow to 5.885cfs. I would suggest individuals remember Idaho has been in a drought for the past ten years or so.

Fluctuations of the spring being used by the homeowners, and the fluctuations of the lake height indicate the homeowners are using the correct spring. I am not sure where the statements the springs originate nine miles from the springs.

Key orig in Craters toward China
Flat at 2nd Spring is from the South -

Kenneth H. John

Williams Lake Water and Sewer Board Member.

Source unknown

not another
trip of
3d not
following
Rules

Phone
Een said he
2d met them
about Ben was
on 4/19/05
Take water

So this why the
3d allowed the
Lake Rights to

4/4 (4).
Subject: Jim's request

From: "Kenneth H. John" <kenjohn@salmoninternet.com>

Date: Mon, 05 Dec 2005 07:34:56 -0700

To: Kathy Glickman <kathleen13@earthlink.net>

Kathy,

Here is my respnse to most of the protest letters, that Jim is requesting.

Could you please resond to me if you receive this.

Thank You

Ken John

*This shows how
The Bond is in little touch.*

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

IN THE MATTER OF APPLICATIONS)
FOR PERMIT NOS. 75-07589 AND)
75-07590 IN THE NAME OF WILLIAMS)
LAKE WATER AND SEWER DISTRICT)

PROPOSED MEMORANDUM
DECISION AND ORDER

A hearing having been held regarding protests filed against applications for permit 75-07589 and 75-07590, the hearing officer as a representative of the Director of the Department of Water Resources, proposes the following findings of fact, conclusions of law, and order:

FINDINGS OF FACT

1. Water right application nos. 75-07589 and 75-07590 were filed with the Department for the purpose of supplying domestic water to homeowners within the Williams Lake Water and Sewer District (hereafter referred to as the district). Both applications describe the source of water sought to be diverted as Lake Creek. Lake Creek is tributary to the Salmon River. At the beginning of the hearing, however, the attorney for the applicant, Milt Slaven, stated the district wants to develop and divert two springs which are tributary to Lake Creek. The parties all stipulated the springs contribute water to Lake Creek.

2. The components of the water right applications are:

Application No. 75-07589

Source: Lake Creek (spring) Amount: 0.50 cfs
Point of Diversion: SW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 34, T20N, R21E
(This point of diversion will be referred to as spring no. 1)
Place of Use: S $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 3, T19N, R21E, and
SE $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 34, T20N, R21E

Application No. 75-07590

Source: Lake Creek (spring) Amount: 0.50 cfs
Point of Diversion: SE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 34, T20N, R21E
(This Point of diversion will be referred to as spring no. 2)
Place of Use: S $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 3, T19N, R21E, and
SE $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 34, T20N, R21E

The applications also describe several lots without a tract description and which are not clearly located.

MICROFILMED

MAY 21 1993

now system copy of 1994 order

DWR

Gary Spackman
208-287-488

Slaven
Hoop Road
208-555-4400

Samson

3. Williams Lake Water and Sewer District was formed to supply water to a subdivision and a resort which were built on the shores of Williams Lake. The water and sewer district now supplies water to approximately 58 homes and the Williams Lake Resort.

4. The district presently diverts water from Williams Lake through pumps located offshore approximately 90 feet. The diversion is authorized by permit to appropriate water no. 75-07052. Recent amendments to the Safe Drinking Water Act require that the district either install a costly filtration and treatment facility for the lake water, or find an alternate source of water. The district evaluated several alternatives, including treatment and drilling wells, and determined development of the springs (tributary to Lake Creek) is the cheapest alternative.

5. Traditionally, the district has diverted approximately 30 gpm. Applications 75-07589 and 75-07590 do not propose a cumulative flow of 1.0 cfs, but a total flow of only 0.50 cfs. Nevertheless, the applications seek approval for diversion of approximately 8 times more water than has traditionally been diverted by the district.

6. The applications were protested by Eva Miles, Albert Brown, Leslie May Shumate, and Martin Capps. Brown was represented at the hearing by C. Tom Arkoosh, attorney at law.

7. The protestants contend development of the springs proposed by the district will reduce the water supply available to them under prior rights. The protestants also object to excavation of the springs and possible compromise of the earth structure which impounds Williams Lake. Finally, Brown contests the legality of the operation of the district.

8. During the summer of 1992, the district excavated in the vicinity of the two springs. Before construction, spring #1 was only flowing 20 ~~cfs~~ ^{gpm} but after some minor excavation, the flow increased to 35 ~~cfs~~ ^{gpm}.

9. The area around spring #2 was excavated with a backhoe until a vent for the spring was located. The flow increased from 35 gpm to 75 gpm.

10. The district alleges construction increased the flow from the springs, and alleges it should be entitled to divert the additional water developed with no injury to the prior right holders.

11. One of the district board members testified that when the flow of the spring was originally measured, there was a large boggy area from which all the water could not be captured. He was not able to estimate the flow of the spring water through the ground prior to excavation.

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12. Although the district alleged it has developed water, no facts were presented to counter probable hydrologic reality. The springs were probably always flowing the flow rate measured, but, until the excavation, the flow from the springs was diffuse, and not sufficiently concentrated to measure all of the flow.

13. According to Department records, the following is a summary of permits, licenses, decreed rights and claims listing Lake Creek or its tributaries below Williams Lake as a source of water:

<u>Number</u>	<u>Priority Date</u>	<u>Name</u>	<u>Amount</u>	<u>CFS</u>
A75-10054	1898	Parish	0.020	Domestic
75-0093A	1898	McBride	2.666	Irrigation
75-0093C	1898	Wrasper	0.034	Irrigation
75-04467	1922	First Federal	1.160	Irrigation
75-04010	1922	Nelson	1.020	Irrigation & Domestic
75-02149	1961	Capps	1.460	Irrigation
75-07419	1985	Brown	0.440	Irrigation
75-07427	1985	Brown	6.00	Power

14. The summary of water rights does not represent the actual diversion of water from the stream. Both Capps and Brown testified that only two diversions divert water from Lake Creek authorized by existing rights:

<u>Number</u>	<u>Priority Date</u>	<u>Name</u>	<u>Diversion Ownership</u>	<u>CFS</u>	<u>Use</u>
75-0093A	1898	Brown	Brown	0.27	Irrigation
	1898	Johnson	Brown	0.04	Irrigation
75-02149	1961	Capps	Capps	1.46	Irrigation
75-07419	1985	Brown	Brown	0.44	Irrigation
75-07427	1985	Brown	Brown	6.00	Power

15. Other rights were claimed in the adjudication, but, according to Brown, many of the rights have not been diverted since the early 1980's.

16. Both Capps and Brown testified they have always received sufficient surface water to satisfy their irrigation demands, even in drought years.

17. Brown owns a hydropower facility located near the confluence of Lake Creek and the Salmon River. Brown stated flows have been insufficient to operate his hydropower plant at full capacity. His water right for the power facility, however, is subordinated to future uses of water other than hydropower. Brown's rights are subordinated to upstream domestic uses.

PROPOSED MEMORANDUM DECISION AND ORDER

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18. The district has about \$40,000 to construct the project. The estimated cost of development of the springs and installation of necessary equipment is approximately \$30,000.

19. The district anticipates it will collect another \$30,000 to \$40,000 in taxes during the upcoming year. Brown argued the district does not conduct it's business properly, and, as a result, it is unable to legally collect the funds necessary for the project.

20. Although the application seeks to appropriate water for 100 homes, only 58 homes have been built. There has been no significant change in the number of homes within the Williams Lake Water and Sewer District in the last 20 years.

21. The homes served by district water are recreational homes and many of the lots are located on rather steep hillsides with very little vegetation.

22. Witnesses for the district stated the diversion works will be constructed so excess water diverted by the district but not used by the district will overflow back into Lake Creek.

CONCLUSIONS OF LAW

1. Section 42-203A, Idaho Code, states, in part, as follows: The director of the department of water resources shall find and determine from the evidence presented to what use or uses the water sought to be appropriated can be and are intended to be applied. In all applications whether protested or not protested, where the proposed use is such (a) that it will reduce the quantity of water under an existing water right, or (b) that the water itself is insufficient for the purposes for which it is sought to be appropriated, or (c) where it appears to the satisfaction of the director that such application is not made in good faith, is made for delay or speculative purposes, or (d) that the applicant has not sufficient financial resources with which to complete the work involved therein or (e) that it will conflict with the local public interest where the local public interest is defined as the affairs of the people directly affected by the proposed use, or (f) that it is contrary to conservation of water resources within the state of Idaho; the director of the department of water resources may reject such application and refuse issuance of a permit therefor, or may partially approve and grant a permit for a smaller quantity of water than applied for, or may grant a permit upon conditions.

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2. Rule 4,4,2,1. of the Water Appropriation Rules and Regulations states the applicant shall bear the initial burden of coming forward with evidence of the evaluation of criteria (a) through (d) of Idaho Code § 42-203A.

3. Rule 4,4,4,2. of the Water Appropriation Rules and Regulations states that both the applicant and the protestant have the burden of coming forward with evidence regarding local public interest of which they are most cognizant.

4. The applicant bears the ultimate burden of proof regarding all issues.

5. By moratorium order dated May 15, 1992, the Director prohibited approval of new applications to appropriate water in the Salmon River drainage. Domestic uses were exempted from the moratorium prohibition.

6. Evidence presented by all the parties leads to a conclusion that there is sufficient water for appropriation. Other than a reduction in flow authorized by the hydropower right which is subordinated, all earlier right holders have been receiving their full entitlement.

7. Approval of this right will not reduce the quantity of water under an existing right that is not subordinated.

8. Approval of a permit and future license for domestic use related to 100 homes when only 58 homes have been built, and when the number of homes hasn't changed significantly in 20 years, would result in a speculative water right.

9. Proper limits and conditions can prevent speculation, however. The permit to appropriate water can be approved for 100 homes, but the development period should be shortened to two years, plus any lesser period granted as an extension of time for filing proof of beneficial use. Only homes built and served by district water lines before or during the development period may be recognized as legitimate places of use.

10. Public interest dictates that domestic users have a safe, uncontaminated source of domestic water. A subordinated hydropower right must yield water to a later-in-time domestic water right, particularly where the domestic units are existing, and the domestic appropriation is sought to comply with public health requirements.

11. In this case, the domestic homes are recreational property, built for the most part on steep terrain. The hearing officer is not convinced that the domestic use of water should include a right to irrigate one-half acre per lot at the expense of downstream rights, including hydropower. Any domestic approval

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will be limited to in house use only.

12. Lawns, garden and landscape can only be irrigated if a prior, consumptive right is acquired and transferred, or water is diverted pursuant to an established right from Williams Lake.

13. Combined diversion pursuant to rights 75-07589 and 75-07590 will be limited to 0.50 cfs.

14. Although the district might be operating improperly at times, it appears to have sufficient financial resources to construct the project. Furthermore, Brown has no standing before the Department to raise an impropriety internal to the district when he has no vested interest in the district. The approval of this permit, with sufficient conditions, is in the local public interest.

15. Use of water for in-house, culinary purposes will conserve the water of the state of Idaho.

ORDER

IT IS HEREBY ORDERED that applications to appropriate water nos. 75-07589 and 75-07590 are APPROVED subject to the following conditions:

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before March 1, 1995.

2. Subject to all prior rights except subordinated hydropower rights.

3. Permit holder shall commence the excavation or construction of diverting works within one year of the date this permit is issued and shall proceed diligently until the project is complete.

4. Use of water shall be limited to in-house use only.

5. The combined rate of diversion for rights 75-07589 and 75-07590 shall be limited to 0.50 cfs.

6. Only homes built and served by district water lines before or during the development period may be recognized as legitimate places of use.

7. A flow measurement port or other device as specified by the Department shall be installed by the right holder to provide for the installation of measuring equipment and the determination of the rate of diversion by the Department.

MAY 21 1993

8. The issuance of this right in no way grants any right-of-way or easement across the land of another.

9. Place of use is located within Williams Lake Subdivision.

10. Domestic use is for 100 homes.

Dated this 19th day of January, 1993

Gary Spackman

Gary Spackman
Hearing Officer

East Fork
Water
208-287-4880
Gary Spackman
208-287-4880

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MAY 21 1993

F. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

Q FROM DOMESTIC USE CHART = 0.37 CFS FOR 66 HOMES

$$Q_{THEORETICAL} = \frac{(10hp)(8.814)(.70)}{(90 \times 2.306)} = 0.297 \text{ cfs} = 0.30 \text{ cfs}$$

NOTE:- 2+ 5hr pump

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{10em}}$$

$$V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\hspace{2cm}}$$

$V = \text{Smaller of } V_{L,R} \text{ and } V_{D,R} =$ _____

2. Volume Calculations for Other Uses:

~~$1.2 \text{ AFA} \times 66 = 79.2 \text{ AFA}$~~

$$0.30 \times 1.9835 \times 365 = 217 \text{ cfa}$$

$0.30 \times 1.9835 \times 365 = 217 \text{ afa}$
Since majority of homes are summer homes use irrigation period of 214 days annual use.

$$0.30 \times 1.9835 \times 214 d = 127.3 \text{ af}$$

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (af/a)
	From	To		
DOMESTIC	0/1	12/31	0.37	79.2
Municipal	1/1	12/31	0.30	217.0 af/a 127.3
		Totals:	0.57 cfs 0.30 cfs	79.2 af/a 217.0 af/a 127.3 af/a

2. Recommended Amendments

✓ Change P.D. as reflected above

Add P.D. as reflected above

None

✓ Change P.U. as reflected above

☒ Add P.U. as reflected above

☒ Other

Change nature of use
Name change

I. AUTHENTICATION

KEITH C WILSON

4/12/2005

Field Examiner's Name DON SIMPKINS

Date 12/12/96

Reviewer

Date _____

SEAL

75-7052

Page no 81 11-29-05

(1) No Pb^{2+} in lake water

2) No Power on use for $10\frac{1}{2}$ hrs

131 NO Power - No PWS Station in water

... no sanction to take call 10² hrs. Period 5. + 10911

MEMORANDUM

Date: April 15, 2005
 To: Water Right File 75-7052
 From: kwilson
 Re: Field Report Narrative

20/2
 NOTE the new system uses NO lake
 water
 the Tank 9400 gal is NOT Lake
 water.
 Removed 9/1995

09/27/1995 Exam:

Two 5 hp submersible pumps are suspended 60 ft down into Williams Lake from a stationary floating platform approximately 200 ft from shore. Water is pumped to shore to a building where water is chlorinated. Water then travels via a 4-inch line to a 9400-gallon storage tank located approximately 250 ft up slope and 3/4 miles away. Booster pumps lift water up to storage tank. Water then gravity feeds multiple domestic system. 4-inch mainlines distribute water at approximately 150 psi to homes. Fifty-eight (58) homes are currently on the system, most are summer use only.
 #1 Flow meter (Rockwell 36,954,580 gallons), #2 Flow meter (Hersey 3,110,840 gallons)

04/15/2005 Research:

Document A includes a cover letter dated August 25, 1994, from Milton A. Slavin, and a signed Voluntary Consent Order prepared by Department of Health and Welfare, Division of Environmental Quality, in which the district name is indicated as being the Williams Lake Recreational Water & Sewer District.

Williams Lake Recreational Water and Sewer District established as a recreational water and sewer district by decree dated April 19, 1994, by Judge James C. Herndon. (See Document B)

Milton A. Slavin, Slavin Law Office, Chartered, 116 N Center Street, Salmon, ID 83467 [(208)756-2030] is currently the attorney for Williams Lake Recreational Water and Sewer District. Mr. Slavin informed this examiner that the order (Document B) is sufficient documentation that authorizes changing the name of the district to the Williams Lake Recreational Water and Sewer District.

According to Richard Borst, district president, and Milton Slavin, attorney, the Williams Lake Recreational Water and Sewer District is NOT associated with Williams Lake Property Owners Association.

Williams Lake Recreational Water and Sewer District qualifies as a municipal provider and has requested that the nature of use under the right be changed from domestic to municipal.

Planning study conducted by Forsgren Associates Inc. lists the recorded pressure of 90 psi at the junction where the water from Williams Lake enters the system.

The 9400-gallon storage tank located within the SENW Sec 3, T19N, R21E, and is on the BLM. Williams Lake Recreational Water and Sewer District has a permit from BLM for the Storage tank.

For information purposes, as of 12/02/2004, there are 66 homes serviced by the Williams Lake Recreational Water and Sewer District.

Since a majority of the homes serviced by the Williams Lake Recreational Water and Sewer District are summer residents recommend that the volume calculation, for municipal use, use 214 days (i.e. irrigation season).

75-7052

*Removed pumps
 on 9-96
 no power to
 5149 for 10y15
 1/50 all
 for old
 system torn
 up 1995.
 some*

*Take water
 Benet
 4-5*

*62 is
 #1
 + Resort
 + BLM
 7*

60ack



State of Idaho

DEPARTMENT OF WATER RESOURCES

900 N. SKYLINE DR., SUITE A, IDAHO FALLS, ID 83402-1718

PHONE: (208) 525-7161 FAX: (208) 525-7177 WEB SITE: www.idwr.state.id.us

EASTERN REGION

November 16, 2005

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

Kathleen Gliksman
87 Dapplegray Lane
Rolling Hills Estates CA 90274

5 in 82 60 2/06

RE: Applications for Amendment 75-7052 and 75-7589 – for Williams Lake Recreational Water and Sewer District

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code '42-203):

- ✓ 1. Will the proposed use reduce the quantity of water under existing rights?
- ✓ 2. Is the proposed water supply insufficient for the purpose intended?
- ✓ 3. Is the application made in good faith or for delay or speculative purposes?
- ✓ 4. Has the applicant sufficient financial resources with which to complete the project?
- ✓ 5. Will the proposed use under this permit conflict with the local public interest?
- ✓ 6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

All Questions Answered

Page 1 of 16

Opening Statement (include with copy of 'Who am I'):

If given to the Williams Lake Water Board, municipal status would be used out of context, and they would just add homes to the system until it fails. That seems to be their plan.

They can do anything they want from their present status, so why allow them to abuse and destroy this system. They just want to add homes without any investment.

They need to build another expansion system.

Municipal status will be abused and the dependability, health standards and use of the system for fire, etc. will be destroyed. To date, there has been maximum abuse of the IDWR order of 1993.

The Board has not followed the state's order to the letter over the last 7 of 11 years. They, in my opinion, can't be trusted with options so important. They have proven that it's not a 'protect the system first' situation.

It seems to me, the Board just has No Clue. Only one member of the Board and the Water Manager has a background with water systems.

Only the IDWR can save our system by enforcing our 1993 Water Order agreement (that is a contract) and it needs to be enforced NOW!

They have in mind that municipal status will give them the right to add homes and call it "redistribution of the water rights". They must be made to honor the 1993 Order no matter what they call themselves (recreational or municipal), so they won't overload and abuse the system.

In my opinion, an attempt to get some added hookups without putting out any money is the goal. If you listen to the tapes, they indicate that this may not be really intended to help more than just a select few. This would be not many lots.

Who am I? (What are my credentials?) – (page 1 of 2)

I am James E. Kingston. I designed and built the Williams Lake Water System in 1994-95. My design was used with only three modifications by Mr. Smith of DEQ and the engineer out of Montana.

In addition, I put together the people of Salmon to build it, and oversaw and worked to build the system from the first day to the last day of construction. I did this free of charge – as well as saving the people of Williams Lake over \$800,000 of the system's final appraised value. Most of the people on the lake have no idea what they received from my efforts.

For the first 6 years, H. Sisco and I maintained 100 % of this system. Then came the new 'speculation board'. They have no knowledge of IDWR orders and contracts, and they don't care to learn. It's all about 'speculation'.

Where were the lot owners when the system was built? They were told how to get water then.

Our current lake system is made up of tanks and water catching equipment using ground water with most, if not all, parts being used on B.L.M. land by B.L.M. agreements. We have water rights granted and we were given rules (an order) to follow.

Over the last five years, the Water Board has been run by people with NO background in water, and no care for the work effort that building and paying for such a system takes. That is my opinion of the Board.

Now, we have Board members who claim that a man with a lot that is not buildable should have water. The fact is this matter was solved in 1994-1998 with a notice that 'Only homes built or those with permits to build by the date the water system was complete would be allowed to hook up'. Only two homes took advantage of the deal. Due to the failure of the State to inspect the system and sign off until 1998, the landowners had over 5 years to get a permit to build a home on their property and have water.

I see a conflict of interest as most speculative efforts are being made by Water Board members taking the lead in buying tax title lots and pushing the 'poor lots rights effort' as cover for speculation.

Also, Water Board members do not follow the IDWR order, and in fact hook up illegal lines themselves!

Please review the north hill situation that began in Sept. 05 and is still unresolved (per the Board meeting of 3-06). This is accounting for a loss of up to 30,000 gallons per day and is not fixed as of 3-27-06. Is this conservation?

I feel that there is a problem here because I pay for all of the bonds but, because I am not a resident of Idaho, I cannot vote on what I am paying for.

Now, the Board is attempting to create a speculative situation, in my opinion, that will use my land to finance the effort and put me, the water system and all of the other homeowners that joined our system in 'good faith' at risk of losing everything to the speculation.

Also, water is only one factor in the worthless lots not being buildable. Another is that to meet code, up to 3 lots may be required to meet the square footage. Another is that to meet the health regulations, set backs from steep hills cannot be done as required – the lots are not deep enough, and some slopes are too great. In addition, road easements and access

Who am I? – (page 2 of 2)

easements need to be subtracted from the total square footage of the lots making them useless. This is the zoning code.

As long as a tap runs water to a glass, all other factors, including waste of water or illegal taking of service, is not of any interest to the Board. The aforementioned leak has been fixed as of 4-06. But, the improper hook up to outside use is still in place by one member and nothing is being done to stop it. This is wasting/leaking up to 30,000 gallons of water per day. The amount of the leak has been figured out by the maintenance man based on the increased electric pump bills from the power company.

In April 2005, an IDWR inspector, Mr. Wilson, signed an up to date memo on water right 75-7052. This system has not been used for 11 years, with all of the pumps and pipes removed 11 years ago also. Please find a copy of the Wilson Report of 4-05 (2 pages) in Exhibit 'E'. No part of Mr. Wilson's report is true. Mr. Wilson cannot see what is not there. Col. Rondeau and I removed all of the old system by order of the Board in 1995. It is all gone.

Is Mr. Wilson mixing parts of the old and new system? Or is he reporting on bad information given to him without an actual hands-on inspection? Reports like this are NOT in the best interest of conservation, the state of Idaho, or the lower water users.

There have been no working meters on the new water system since June 1999. There has been no consistent check of any overflow since 1995. There is just a basically bad operation of a water system by a Board with NO water ability or experience in water matters. On top of this, there is no enforcement action taken by IDWR or DEQ when problems are reported to them – absolutely NONE over the last seven years that I know of.

In short, my assets and I are being exploited for funding for speculation by a few. The contract we have with IDWR should regulate us and protect us from this. No change of any kind should even be considered until the bonds are paid off and a plan that will work to pay for any changes is brought forward paid for by the new hookup owners only, as a separate LID.

In my opinion, this hearing cannot resolve this conflict. It is not even about water amount or rights, it is about storage, preparation, planning and more. It is a 'build for speculation' issue that places our water system at risk. The bonds, the system, our agreements with IDWR and our water rights could be pulled for breach of the contracts by us, and for not following our agreement and the IDWR order of 1993.

Please read the following Questions 1-6

Opening Statement (include with copy of 'Who am I'):

If given to the Williams Lake Water Board, municipal status would be used out of context, and they would just add homes to the system until it fails. That seems to be their plan.

They can do anything they want from their present status, so why allow them to abuse and destroy this system. They just want to add homes without any investment.

They need to build another expansion system.

Municipal status will be abused and the dependability, health standards and use of the system for fire, etc. will be destroyed. To date, there has been maximum abuse of the IDWR order of 1993.

The Board has not followed the state's order to the letter over the last 7 of 11 years. They, in my opinion, can't be trusted with options so important. They have proven that it's not a 'protect the system first' situation.

It seems to me, the Board just has No Clue. Only one member of the Board and the Water Manager has a background with water systems.

Only the IDWR can save our system by enforcing our 1993 Water Order agreement (that is a contract) and it needs to be enforced NOW!

They have in mind that municipal status will give them the right to add homes and call it "redistribution of the water rights". They must be made to honor the 1993 Order no matter what they call themselves (recreational or municipal), so they won't overload and abuse the system.

In my opinion, an attempt to get some added hookups without putting out any money is the goal. If you listen to the tapes, they indicate that this may not be really intended to help more than just a select few. This would be not many lots.

Question #1

(Q) Will the proposed use reduce the quantity of water under water rights?

(A) Yes. More homes will use more water and the use and storage (Fire-Reserve) are different numbers. We need 500 GPD per home. I have 3 systems experience on this. Also, the fact is that they use over 680 gallons per house in summer now. Facts on a national scale show vacation homes use more water than year round homes. The reason is thought to be extra baths and more visitors to the homes (kid's friends, etc.). I agree with this. See Reference of Building Design and Standards enclosed.

Up until now, the question has not been water. It is storage and the ability to pump enough water and to provide enough for fire. Fire is a #1 risk at Williams Lake and it is NOT addressed.

The question also includes 'protection from speculation'.

In my opinion, IDWR should consider the following points:

The original order for water rights must be enforced by IDWR and the waste must be stopped. Up to 30,000 gallons per day wasted is an example of what takes place when nobody checks on things.

Also, the Board removed the winter switch. I designed this to make Winter water dumping not required and to stop waste. By removing this feature, the Board dumps 1600 gallons per day on the ground from October to April each year to prevent tank freeze.

This is not keeping excess water in the creek. It is not in the best interest of or the intent of Idaho conservation of water policies.

We need Water Police if we don't have people running the systems that care!!

NOTE! In the last few days, the water system has failed. Both water sources show reduced output to the point where both together are required to maintain the tank levels in our system. Proof and verification of this can be obtained from Steve Adams, Water Master for Williams Lake Water and Sewer District. This situation may change one way or the other with future weather conditions, but to be safe, we need to view this condition as a best case scenario.

Also, even if we had the water, we perhaps would not have the ability to increase our system because of B.L.M. policies. There is a real possibility that our spring production is permanently reduced. B.L.M. policy now may not allow us to increase any facilities on the B.L.M. sites we have (lower springs and tanks now on B.L.M. property).

It may be worthwhile to note that today most water purveyors do not consider adequate water to be less than 400 – 600 gallons per day per home without meters. With meters people tend to conserve due to high costs, this is where the 250 gallon per day per home seems adequate. This is not a safe basis for people like us who do not have unlimited storage for us to take care of fire emergencies. That water must be in the tanks at all times.

Verification of this statement can be obtained by calling Steve Adams EHS in charge, District 7 Health Department, (208) 756-7250

Question #2

(Q) Is the proposed water supply insufficient for the purpose intended?

(A) No. The water rights are more than needed. What good are the rights if you can't pump, distribute or have fire protection? The springs seem to be drying out having already reduced output by 50%. Storage is minimal, and the pumps are only capable of 45.3 gallons per minute at the tank.

So, the problem is not water rights. The new water right would be 94 gallons per minute. The problem is that we have only part of the storage and pump capacity for the homes, resort and forest use we have now. This system was built and designed to serve only 58 homes, the resort and the Federal Parks. We are at maximum output now, and the resort is not even on line yet. And the new development of the springs reduced output, complicates things further. What does this tell you? It tells me we are in trouble now.

The answer is we need to increase storage and pumping and pipe size to meet the construction standards and the health regulations on chlorine contact time, if we add anything at all. Again, the problem is NOT water rights. It is storage system size. I know, I built and designed this system. That is a matter of record. Additionally, spring failure outputs have added to the problems.

Ref: Bill Smith – Eng. DEQ 1994-95

Also, we have a high quality system for the size designed. See Bill's letter to the Board about the work quality and planning. Now, speculation and lack of enforcement place it all at risk.

Update Notice:

On 4-9-05 approximately, the supply spring number 1 failed to put out enough water to maintain capacity. The backup system is now going online to correct this. Both systems will need to be maintained online to meet pump gallons per minute capacities to supply the existing homes. This situation will exist until Mother Nature corrects this problem.

Ref: Water manager Steve Adams, phone number (208) 756-7250

Question #3

(Q) Is this application made in good faith or for delay or speculative purposes?

(A) This is not made for the reasons the Board says. It is not being done for the lot owners. In my opinion, it is a diversion considering that over 11 years, only 10 people inquired only because of their intent to sell. Since then, some have sold out or given their tax title to the county.

Ref: List of 1993 owners who still own the property – Board meeting tape 10-05

Proof – Water meeting saying we “don’t care about water, we just want more hookups”.

Ref: Meeting tape dated 10-05

“Call IDWR, tell them to just rubber stamp our plan” – by a speculating Board member

This "Board of speculation" only wants the status change requested, so that hookups can be added without spending any money on system upgrades, forgetting the overloading on the system. "Just add hookups" (tape proof 3/06 11-05) never mind capacity, health standards or fire flow. Those are the Board's words. Ref. tape 11-05

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Is this right? We need to protect what exists now first. Any plans need to have the speculators pay up front and equally. Lots and homes would have to pay the same fixed amount of tax. Taxation for this purpose, based on value, is not workable or fair. As it stands, it is just the current high value homeowners who will bear the cost for these 'bare lot speculators'. This is not fair to the homeowners who have already invested in a workable system, and who gave notice and opportunity to all to join them at the time the system was built. This deadline was established and extended to 1998. Still no action was taken by these lot owners to build anything. Only two homes took advantage of the inclusion when the water system was built.

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So, they are speculating on getting municipal use and then the original Order of 1993 won't stop them.

Proof of Speculation (page 1 of 2) (copy to question 6)

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There needs to be a fixed water management rule, which says only one manager works on the system. The public cannot touch it in any way. There is NO protection otherwise – not for dependability, correctness of work or maintaining required health standards, both present and future. There are future EPA requirements pending that we cannot meet with current storage.

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In my opinion, all of the 'help the vacant lot owners who pay taxes' is a diversion tactic only, to cover up special interest speculation. There are 400 lots, estimated 21 buildable. We now have 66 homes, with 2 unauthorized homes and 1 farm hookup known to date. These have all been ignored by the Board. (Also, all members have said they will step down after this issue is decided, prior to or at the next election.)

Water District Policy at present is:

- (1) Steal a connection – OK
- (2) Mess with the mains (dig in) – OK
- (3) Ignore the IDWR order – OK
- (4) No back flow protection – OK
- (5) No liability for breaking things – OK
- (6) No proper records of water used or discharged to overflow – OK
- (7) A waste leak – forget it if we still have water – OK

As long as there is still water in the faucet, fix nothing and spend nothing. Ignore the IDWR order and do whatever waste is OK with their group. We need a water cop with power. The manager will do it. In my opinion, the Board is dysfunctional. They even admit that they have absolutely no knowledge of public water.

When the speculators get their water, everything could be sold and these same speculators could bug out, leaving all of the problems and cost with the buyers and the homeowners of Williams Lake. This is a typical speculation operation pulled off by speculators in every state in the union. In many places, these problems are being addressed by new laws that prevent any sales until all improvements are in place and paid for. This is what we need to protect ourselves. However, the only protection we have is our 1993 Order that we use as a basis to secure ourselves with the bonds and building the system, which constitutes a meeting of the minds and consideration in making a contract.

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Question #4

(Q) Has the applicant sufficient financial resources with which to complete the project?

(A) No – not the money or an affordable way to pay, and not the knowledge to over see it.

In my opinion, the Board does not have a clue of what is needed and has maximum debt now. They only want to allow 'speculation', and then they may walk out and leave others to pay... (Same old scam). The bonds now take over half of all the money collected, a maintenance man and a lawyer take more, and according to the Board they are broke.

Tape 11-05, 12-05, 1-06, 2-06, 3-06 – No money left. It is the same each year.

However, they hire engineers with the hope of supporting Board speculation. The last one hired charged \$6,000 for a letter and the engineer would not say what the Board wanted to hear. The engineer has not done calculations for the system, as far as I can see. They cannot make any statement pro or con at this point. The Board members need to understand that fact. There is also the issue of our water and our water tanks being on B.L.M. land with new Federal restrictions that may prevent any expansion ever.

District money comes from taxes on homes. These taxes are too high now. I spend \$1,348 of my taxes per year for water only. A lot pays only a few dollars per year.

There will be no money available until the current system and the bonds are paid off. This will be approximately 15 years from now.

If any expansion at all is allowed to occur, all of the facilities have to be expanded and this expansion should be paid for by the lot owners who would benefit by the expansion and paid for through a separate LID.

In a phone call from me in 3-06, the engineer stated that there were no formal calculations except a review of an as-built. This is not exactly what the Board is trying to indicate that the engineer said, in my opinion.

Ref: Engineer's letter in file 4 and 5

Ref: See tax info enclosed

Pumps and Storage Facts (copy to question 2 and 4)

The system is comprised of the following:

- 2000' +/- of 6" pipe

- 2000' +/- of 4" pipe

- 2000' +/- of 2" pipe

- 1 10' x 16' tank (of which 12' is usable)

- 1 20' x 16' tank (of which 14' is usable – control is 10')

So, we have storage capacity in the tanks and mains of 43,000 gallons maximum dry.

The pumps must keep up by filling at night when use is down. Pumps must not cycle on/off more often than 10 minutes between starts. The storage must have enough reserve to cover a peak spike of demand or a fire call. At present, we should have at best 90,000 gallons to service the homes we have (that's 90,000 gallons of stored water). We are now short over 50% of our present need, with only 43,000 gallons existing storage.

See building standards marked "E" 2.

Peak water use is now over 33,000 gallons per day recorded on the power clock (see manager's report to the Board). So, we now have 24 hours of water if a pump fails, that is all. This amount of water in this situation is minimal and would not be enough during a repair. Home and fire protection would NOT EXIST.

If we add homes, we would need to add storage, pump capacity and distribution. That is the real issue here. Also, if the IDWR contract won't protect us, then we have no ability to protect the system from order abuse. The Utilities Commission has no control over us. See Law Copy enclosed marked "E" 3

Note: The 33,000 gallons per day now used in Summer by the residents of Williams Lake does not include the Resort which with current sewer permits issued will equal the use of another 12 homes when it opens for business.

Question #5

(Q) Will the proposed use under this permit conflict with the local public interest?

(A) Yes. The whole proposed use has no plan to support it - no proper engineering completed to date. There is no money and no plan in my opinion, and there is no possible way to pay for it, except a separate LID. The District is already at maximum debt on existing homes. Our water source has reduced from 85 GPM to 50 GPM over the last 11 years. I suspect perched water is not being recharged at a high enough volume. We may soon need to use the back up system 24/7/365. The Board has NO way or money to add storage or to increase the pump capacity. We now have 7.5 HP pumps, which is as big as it gets without 3 phase power - all of this on B.L.M. land. It is now at maximum for what we have and given the health contact regulations and water use at peak times, we are over capacity to protect the pumps at this time and we cannot meet current and future health standards without blackout days.

Ref: District 7 Health Dept. See enclosed page on pumps.

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Question #6

(Q) Is the proposed use contrary to the conservation of water resources within the state of Idaho?

(A) Yes. The Williams Lake Water Board has no proper records from meters or any other source. They have very random records. Look at the waste now, unchecked waste. For example, they do not follow the directive of the 1993 IDWR order to have a required maintenance book. Even now, the maintenance book does not exist after all of these years. This is just one example.

They allow waste (see explanation below) of water on a wholesale basis. They don't control who has access to the mains and valves. The manager appointed has no control over the Board and so he can't protect the system without action from them. The Board really does not understand the laws, health requirements of the system or any electrical or plumbing parts of the system, so the manager's job must be really tough.

The 'Winter' switch is gone. It was removed because nobody knew what it was, so another 1600 gallons per day are wasted in cold weather. This is only one example of the waste due to management policies. Many others can be cited. This information can be supplied upon request.

When preventive maintenance is required on a water system, it must be done right away to avoid further damage and costs. It cannot wait for some Board meeting to give any order a maintenance manager to do the work and avoid all this future trouble. Remember this – water can make a decision with no delays.

Conservation Example

In September 2005, one Board member installed a non-approved side pipe off of the community water system to water 12-14 horses on his 'Windridge Morgans Ranch'. This is a commercial use ranch including 12 acres plus a barn. This connection is taking water without Board approval and goes against the 'In House Only Use' rule. This member has used the water (for outside use) from Sept. 2005 until now, April 2006.

At this same time, Sept. 2005, a leak was detected that was started at the same time the hookup was made. This was detected by increased electric bills. Seven months later, the extra +/- 30,000 gallons per day shut down the pumps. Repairs were made at a cost of over \$1,000 plus labor. The Board then dug up and fixed the leak and paid approximately \$3,700 total, however they left the 'outdoor use' connection in place and the water system paid the bill. At least to date, the homeowner has not been asked to pay and has not paid the bill.

Is this an example of Board conservation? Is it proper management of a public water supply?

WE NEED TO FOLLOW THE IDWR ORDERS!

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The person who caused the expense of repairing the water system is not paying the \$3,000-4,000 cost of digging, pump replacement or power bills. What is that all about? At least he has not paid to date.

Reference Note: On approximately 4-8-06 a second pump burned out due to a lack of spring water to supply it. Because GPM of both springs has dropped to half of what it used to be, the emergency backup system must now be kept online full time. This will be until Mother Nature changes that flow.

In my opinion, all of the 'help the vacant lot owners who pay taxes' is a diversion tactic only, to cover up special interest speculation. There are 400 lots, estimated 21 buildable. We now have 66 homes, with 2 unauthorized homes and 1 farm hookup known to date. These have all been ignored by the Board. (Also, all members have said they will step down after this issue is decided, prior to or at the next election.)

Water District Policy at present is:

- (1) Steal a connection – OK
- (2) Mess with the mains (dig in) – OK
- (3) Ignore the IDWR order – OK
- (4) No back flow protection – OK
- (5) No liability for breaking things – OK
- (6) No proper records of water used or discharged to overflow – OK
- (7) A waste leak – forget it if we still have water – OK

As long as there is still water in the faucet, fix nothing and spend nothing. Ignore the IDWR order and do whatever waste is OK with their group. We need a water cop with power. The manager will do it. In my opinion, the Board is dysfunctional. They even admit that they have absolutely no knowledge of public water.

When the speculators get their water, everything could be sold and these same speculators could bug out, leaving all of the problems and cost with the buyers and the homeowners of Williams Lake. This is a typical speculation operation pulled off by speculators in every state in the union. In many places, these problems are being addressed by new laws that prevent any sales until all improvements are in place and paid for. This is what we need to protect ourselves. However, the only protection we have is our 1993 Order that we use as a basis to secure ourselves with the bonds and building the system, which constitutes a meeting of the minds and consideration in making a contract.

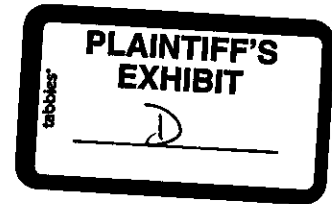
MILTON A. (JOCK) SLAVIN

ATTORNEY AT LAW

1016 MAIN ST., P.O. BOX 1103, SALMON, IDAHO 83467

208/756-2030

July 31, 1997



Idaho Real Estate Commission
Executive Director: Jeri Pyeatt
633 N. 4th Street
P.O. Box 83720
Boise, ID. 83720-0077

RE: Williams Lake Recreational Water and Sewer District

Dear Director Pyeatt:

This office represents the Williams Lake Recreational Water and Sewer District of Lemhi County Idaho.

Because of the current limitations and the development of the new water system at Williams Lake, Lemhi County, Idaho, water connections and sewer permits are not available for new construction.

We have been having certain real estate sales agents representing that the permits and connections are available for new development at Williams Lake and would ask that you help the District in properly informing the agents throughout the State of Idaho as to non-availability for purposes development.

Very truly yours,

MILTON A. SLAVIN
Attorney/Secretary
Williams Lake Recreational Water and Sewer District

MAS/st

cc: Harold Sisco, Chairman

willake/realest.let

Rec'd B-4-97

MILTON A. (JOCK) SLAVIN

ATTORNEY AT LAW

1016 MAIN ST., P.O. BOX 1103, SALMON, IDAHO 83467

208/756-2030

July 31, 1997

Steve Adams
District 7 Health
104 S. Daisy
Salmon, ID. 83467

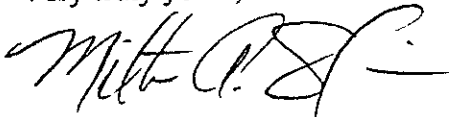
RE: Sewer Permits

Dear Steve:

The Board of Directors for the Williams Lake Recreational Water and Sewer District is hereby requesting that you do not accept or issue any new construction permits for individual residence septic systems within the Williams Lake Recreational Water and Sewer District boundaries.

Cluster septic systems are being considered and the District is supporting the design and implementation of those systems for the protection and the purity of Williams Lake. Based on the support of the cluster systems, the District is requesting that no further individual residence septic systems be allowed or permitted at the lake at this time.

Very truly yours,



MILTON A. SLAVIN
Secretary/Attorney for
Williams Lake Recreational Water and Sewer District

MAS/st

cc: Harold Sisco

willake/adams.let

Rec'd 8-4-97



MAILING ADDRESS
IDAHO REAL ESTATE COMMISSION
PO BOX 83720
BOISE ID 83720-0077

**STATE OF IDAHO
REAL ESTATE COMMISSION**

OFFICE & EXPRESS MAIL ADDRESS
633 N 4TH ST
BOISE ID 83702
TEL: (208) 334-3285; FAX: (208) 334-2050
TRS (TELECOMMUNICATIONS
RELAY SYSTEM) 1 800 377-3529

August 12, 1997

MR MILTON A SLAVIN
ATTORNEY AT LAW
PO BOX 1103
SALMON ID 83467

Dear Mr. Slavin:

Thank you for advising us of the current limitations and the development of the new water system at Williams Lake, Lemhi County, Idaho.

In response to your request, we are forwarding a copy of your letter to all persons listed in the Commission records as having active real estate licenses in either Lemhi or Custer counties.

If we may be of any further help to you, please advise.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jeri Pyeatt".

Geraldine (Jeri) Pyeatt
Executive Director

JP:jn

Rec'd B-4-97

MILTON A. (JOCK) SLAVIN

ATTORNEY AT LAW

1016 MAIN ST., P.O. BOX 1103, SALMON, IDAHO 83467

208/756-2030

September 18, 1997

Daryl J. Fauth
Blaine County Title
208 Spruce Ave. North
P.O. Box 3176
Ketchum, ID. 83340

RE: Williams Lake Recreational Water and Sewer District

Dear Mr. Fauth:

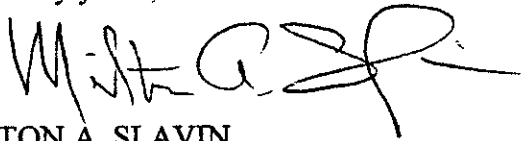
I have reviewed your letter of September 4, 1997 and would have the following comments and/or corrections:

My letter of July 31, 1997 was not written "mistakenly" because the first sentence of the letter states "currently" unable to furnish water and sewer to new owners. This letter was to monish potential purchasers that if they were buying unimproved lots they could not expect water to be delivered via the new water system immediately.

As you stated in your letter of September 4, 1997 we will need to apply for and receive an expansion of the existing water rights before we can provide water for new hook-ups.

If you should have any further questions please feel free to contact me at your earliest convenience.

Very truly yours,



MILTON A. SLAVIN

MAS/st

cc: Board of Directors, Williams Lake Recreational Water and Sewer District

willake/fauth.let

Rec'd E-4-97

Memo

**PLAINTIFF'S
EXHIBIT**

tabbies

E

To: File 75-7052 and 75-7589
From: Roger Warner *RW*
CC: Gary Spackman, Sharla Cox
Date: 5/25/2006
Re: Williams Lake Pre-hearing Conference Held on 4/24/06

BLM/Forest Service Building, Challis Hwy, Salmon Idaho, 2:00 pm

Subject pre-hearing conference was held in the matter of Williams Lake permit amendments referenced above. A roster of attendance was kept for all of those that attended. Representing the Williams Lake Recreation Water and Sewer Board was Jock Slavin. Mr. Slavin opened our discussion by explaining the purpose of making the amendments to the existing permits. The reasons given were: flexibility of use of the water, being able to increase the number of homes from limit of 64-66 to whatever the system is capable of handling, and enjoying a permit/license without a volume limit. To facilitate the explanation of their reasoning, two engineers from Forsgren and Associates from Rexburg also spoke to explain that their firm was hired to perform the first chapter of a 6-chapter study of their system. They reiterated their need for the water under those conditions. However, they were unaware of the amount of water that was found to be beneficially used and recommended for licensure was 0.21 cfs and 38.4 acre-feet per annum. They were under the impression that they would be under the permit amount of 0.5 cfs and would be unlimited on volume based upon the proposed change to municipal status. My explanation to the applicants was that since it was a change or amendment to an existing permit and given the detailed and narrow order that was issued for the permit, that they would likely NOT be allowed to increase the number of homes nor would they be able to increase the volume or go to unlimited volume.

All of the protestants had opportunities to ask questions and all of them were requested to state what it would take to release the protest. Most were very distrustful of the water board and their past track record and felt that they needed to adhere to the original conditions of the Spackman order before they would allow the applications to move forward.

The group was given 90 days to negotiate a settlement or until July 24 whereby an order to compel discovery would be issued. A deadline was given until August 27th to complete discovery. A hearing date was set for September 27th.

Follow-up conversations with Gary Spackman were held today via telephone. We discussed my position on limiting the number of houses and volume. Gary agreed that we treat as if a transfer of nature of use and the pre-existing conditions carry with it. Questions were raised about the downstream hydro and it's standing in the hearing process. Gary indicated that he felt that they should be a part of it at least in considering the public interest and the investment in the hydro facility. We received a release of protest from Ms Smith at the conference.



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

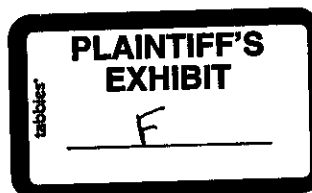
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

March 27, 1998

John McKinney
Attorney at Law
1015 Main Street
Salmon, ID 83467



RE: TELEPHONE INQUIRY

Dear Mr. McKinney:

Enclosed at your request on this date is a copy of a letter FAXed to the department from Keith B. Amar on March 16, 1998. You apparently already have a copy of my letter dated March 17, 1998 responding to Mr. Amar.

With respect to continued development under Permit Nos. 75-07589 and 75-07590 in the name of Williams Lake Recreational Water and Sewer District (district), the opportunity to continue with additional development under the permits ceased with the filing of the proof of beneficial use of water on January 23, 1998 by Harold Sisco on behalf of the district. Development which did not exist on January 23, 1998, will have to occur under different permits than 75-07589 and 75-07590.

If you have questions, please feel free to contact me or the department.

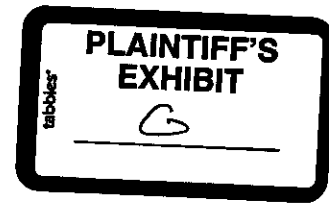
Sincerely,

L. GLEN SAXTON, Chief
Water Allocation Bureau

Encl: 2

c: Keith B. Amar
IDWR - E. Region

Feasibility Study



system leaks - $\frac{1}{2}$ gal per joint ≈ 1.25 gal/day

**WILLIAM LAKE WATER & SEWER
WATER FACILITIES PLANNING STUDY
CHAPTER 1
August 2004**



FORS GREN

ASSOCIATES / INC.

A COMPANY OF ENGINEERS AND SCIENTISTS

July 19, 2004

Williams Lake Recreational Water & Sewer District
Fred Jacobsmeyer and Board
29 Buck Tail Drive
Salmon, ID 83467

RE: Water Facility Planning Study Chapter 1

Dear Mr. Jacobsmeyer and Board:

Thank you for the opportunity to provide you a system water model and corresponding Chapter 1 for a Water Facilities Planning Study. This document has been based on the Idaho Department of Environmental Quality guidelines for a Water Facilities Planning Study and is therefore structured to qualify for the Idaho State Revolving Fund (SRF) funds. To complete the additional five chapters which outline alternatives for the system, the District will need to request DEQ a Planning Grant next winter with funding available in July depending upon the Districts relative rank compared with other applicants.

The primary topic of concern is the current water rights and future growth capacity. The section titled EXISTING WATER SYSTEM describes the current water rights as "domestic use" rights limited to 0.5 cfs and allocated to 64 specific homes. This allocation is restrictive and does not provide sufficient flexibility to the Williams Lake Recreational Water & Sewer District to allow further home construction. Forsgren has been in direct communication with the Department of Water Resources both in Idaho Falls and the Boise offices to determine what options are available to the Williams Lake Recreational Water & Sewer District that will provide sufficient flexibility for growth.

Forsgren has found that the Williams Lake Recreational Water & Sewer District submitted the required *proof of beneficial use* form to the Idaho Department of Water Resources in 1998. Upon receipt of this form, the Idaho Department of Water Resources is obligated to perform a *beneficial use field exam* to verify the submitted information on the *proof of beneficial use* form and thus finalizing the water right with a license. Fortunately, the Idaho Department of Water Resources has not yet conducted the *beneficial use field exam* and therefore the current water right has not been finalized or licensed. This provides an opportunity for the Williams Lake Recreational Water & Sewer District to request the Idaho Department of Water Resources conduct the *beneficial use field exam* and in the process modify the water right designation from "domestic use" to "municipal use". A "municipal use" designation will not increase the rate or total volume of water allocated to the licensed water right but will allocate the water to the Williams Lake Recreational Water & Sewer District for distribution rather than to the 64 specific homes. What this means is, the estimated 11.7 million gallons of

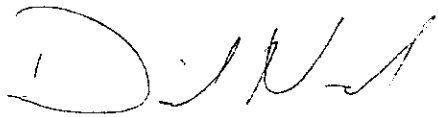
water per year that would be allocated specifically to the 64 homes under a "use it or lose it" scenario would be allocated to the Williams Lake Recreational Water & Sewer District for distribution to any number of homes.

A second and possibly concurrent option would be for the Williams Lake Recreational Water & Sewer District to apply for an additional water right. This water right could be applied for under the "municipal use" designation.

Forsgren recommends the Williams Lake Recreational Water & Sewer District exercise both options.

Sincerely,

FORSGREN ASSOCIATES, INC



Dave Noel, P.E.
Project Engineer

Copy: Jim Bob Infanger, Williams Lake Recreational Water & Sewer District Board Member
Tim Jenson, Williams Lake Recreational Water & Sewer District Board Member
Charles C. Noble, Williams Lake Recreational Water & Sewer District Board Member
Milt Slavins, Williams Lake Recreational Water & Sewer District Attorney
Steve Adams, District Seven Health



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CHAPTER 1

EXISTING CONDITIONS

Project Boundaries

Williams Lake, named after Henry Williams, an early pioneer rancher, is located in north central Lemhi County approximately 12 miles south of Salmon at 5,252 elevation. The lake was formed approximately 6,000 years ago when a landslide, probably triggered by an earthquake, blocked Lake Creek, the primary source of inflow. See Figure 1.1 for a project vicinity map. Figure 1.2 shows a bird's-eye view of the Williams Lake area.

Environmental Conditions

The Williams Lake water system has the potential to impact various elements of the surrounding environment resulting in temporary or permanent alterations in environmental conditions. Because of this potential, it is essential to establish a baseline for environmental conditions as well as determine if any environmental conditions will change as a result of human activity related to recommended project improvements.

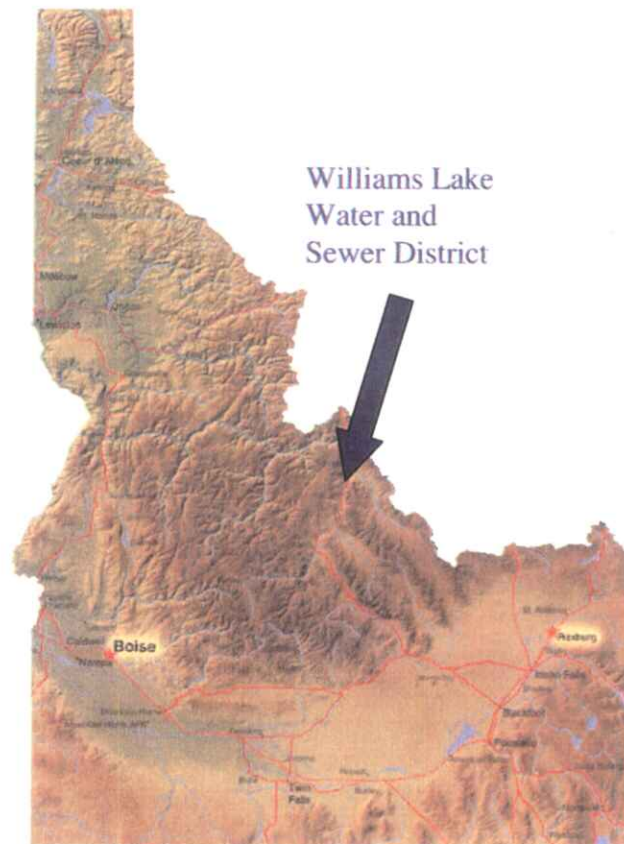


Figure 1.1 – Vicinity Map

Physiography, Topography, Geology, Soils

Physiography:

Williams Lake lies within the Salmon River Drainage, within an area referred to as the Salmon River Mountains, within the Northern Rocky Mountains.



FIGURE 1.2
WILLIAMS LAKE, ID
WATER STUDY
AERIAL VIEW

AUGUST 2004

FORSGREEN
ASSOCIATES, INC



Topography/Surface hydrology:

Slopes are moderate to steep; the creek drainage containing Williams Lake flows eastward into the Salmon River. East-sloping ridges to the north and south of Williams Lake are over 7000 feet; the drainage divide to the west has summits exceeding 9000 feet above sea level.

Geology:

Williams Lake is impounded by an earth slide. Except where concealed by Quaternary alluvium, the site consists of exposures of dark-colored feldspathic quartzite with minor limestone that are mapped as Precambrian, to the north, ridge tops consist of Eocene Volcanics (the Challis Volcanics) including silicic and basaltic volcanic ejecta, flows and re-worked debris (information from Geologic Map of Idaho, Bond, 1978)

Surface Water and Ground Water Hydrology

Surface Water

The portion of the Salmon River between North Fork and the headwaters is 173 miles long and drains approximately 6,000 square miles. Highways 93 and 75 border the entire stretch of river. The headwaters area, upstream from Thompson Creek, is within the Sawtooth National Recreation Area, which is administered by the USFS. Major tributaries include the Lemhi, Pahsimeroi, East Fork Salmon, and Yankee Fork Salmon rivers. Lake Creek is a minor tributary of the Salmon. Lake Creek replenishes Williams Lake and emerges from the natural dam formed by the slide below the earth impoundment

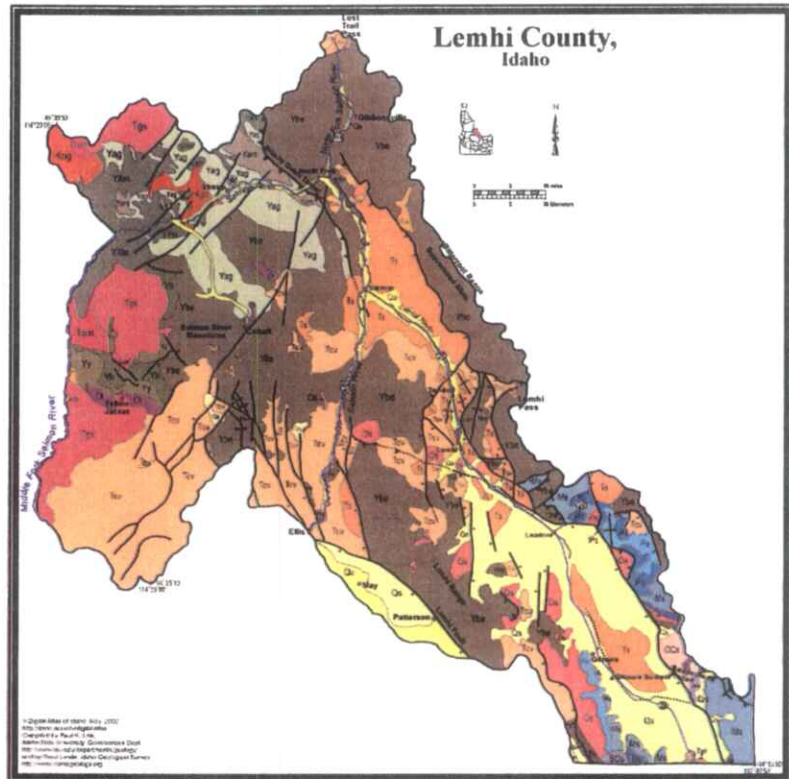


Figure 1.3 – Surface Geology Map of Lemhi County and Williams Lake

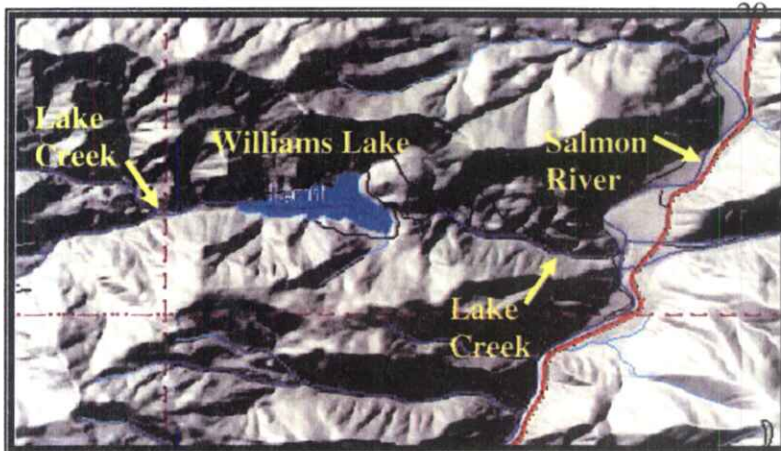


Figure 1.4 – Surface Water Resources

via two springs to continue as a tributary to the Salmon River.

An example is given here: 17040206
17 - the water resource region-Pacific Northwest Region:
The drainage within the United States that ultimately discharges into:
(a) the Straits of Georgia and of Juan De Fuca, and (b) the Pacific Ocean within the states of Oregon and Washington, and that part of the Great Basin whose discharge is into the state of Oregon. Includes all of Washington and parts of California, Idaho, Montana, Nevada, Oregon, Utah, and Wyoming.
1704 - the sub-region -- Upper Snake:
The Snake River Basin to and including the Clover Creek Basin. Idaho, Nevada, Utah, Wyoming. Area = 35600 sq.mi.
170402 - the accounting unit - Upper Snake:
The Snake River Basin from Kelly Mountain to and including the Clover Creek Basin. Idaho, Nevada, Utah, Wyoming. Area = 29900 sq.mi.
17040206 - the cataloging unit -- American Falls. Idaho. Area = 2850 sq.mi.

Figure 1.5 – Hydrologic Unit Code (HUC) Example

Drainage Basin

Drainage basins in the United States have been divided and sub-divided at four different levels and each assigned a unique hydrologic unit code (HUC) consisting of eight digits based on these four levels. The four levels from largest to smallest are regions, sub-regions, accounting units, and cataloging units. The watershed name in which Williams Lake is situated is Middle Salmon-Panther with USGS HUC Cataloging Unit Number 17060203.

Groundwater

Groundwater in the area surrounding Williams Lake moves down gradient generally following the surface contours toward the Salmon River.

Fauna, Flora, and Natural Communities

At present, there are no identified endangered or threatened species anticipated. Prior to the construction of any major improvements, a biological survey with results incorporated into an Environmental Information Document (EID) describing potential environmental impacts must be submitted to the Idaho Department of Environmental Quality (IDEQ). If necessary, a biological survey will be conducted and results included in the EID, with the anticipated result of a Finding of No Significant Impact (FONSI)

Housing, Industrial, and Commercial Development

Williams Lake is a resort community comprising approximately 64 seasonal dwelling units connected to the water system. Williams Lake provides the only commercial enterprise within the Williams Lake Community. Industrial activity is nonexistent.

Cultural Resources

Cultural resources investigation will be compiled as part of a future EID or FPS.

Utility Use

Floodplains/Wetlands

Wetlands are limited within the boundaries of the Williams Lake Water and Sewer District with any potential wetlands appearing adjacent to the edge of the lake.

Wild/Scenic Rivers

In an effort to preserve rivers in their natural state, the United States Congress created the National Wild and Scenic Rivers System in October of 1968. The act pronounced,

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

The nearest river reach designated as Wild and Scenic is the main stem of the Salmon River from it's confluence with the North Fork of the Salmon River downstream to Long Tom Bar; a total reach of 125 miles, 79 miles as wild and 46 miles classified as recreational. Lake Creek, the source of domestic water for the Williams Lake community is a tributary to the Salmon River merging with the Salmon River well upstream of the wild and scenic segment. Therefore, there is no impact of any proposed improvement to a Wild and Scenic River.

Existing Drinking Water Systems

Two public drinking water systems are listed in the Williams Lake area, one belonging to the Williams Lake Recreational Water and Sewer District and a separate system belonging to the Williams Lake Lodge. The systems are functionally separate with independent sources.

Public Health Considerations

Public Health concerns regarding the water system have not been raised. Therefore, this study did not include an evaluation of Public Health consideration.

Prime Agricultural Lands Protection

The Williams Lake community is primarily recreational property with little to no agricultural use or benefit. Any improvements to the system do not impact any prime agricultural lands.

Proximity to Sole Source Aquifer

The Sole Source Aquifer (SSA) Protection Program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq). It states that:

"If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for federal assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer."

EPA defines a sole or principal source aquifer as one which supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas can have no alternative drinking water source(s) which could physically, legally, and economically supply all those who depend upon the aquifer for drinking water. For convenience, all designated sole or principal source aquifers are referred to as "sole source aquifers" (SSA)

As of 2001, the EPA has designated 72 sole source aquifers within the United States, 13 of which are located in Region X defined as the states of Washington, Oregon, and Idaho.

The Williams Lake water supply does not originate in a sole source aquifer.

Land Use and Development

The Williams Lake community is a private enclave surrounded by Salmon-Challis National Forest. The land use is primarily forested or open hillside covered with sage brush or grass. Some farming occurs along the Salmon River corridor. Residential development, primarily vacation housing, has occurred around the eastern end of the lake. There are nearly 300 platted lots although only sixty-four have habitable structures constructed thereon.

Existing Water System

Water Source (Point 1)

The source of the Williams Lake domestic water are two springs located in the canyon at the base of the natural slide that forms Williams Lake. Most probably, the seepage of lake water through the natural slide provides the spring water. Figure 1.6 shows the existing water system overlayed on existing contour maps. Figure 1.7 shows the existing water system including the two springs overlayed on aerial photo.

Water Rights

All the waters in Idaho, when flowing in their natural channels, including the waters of all natural springs and lakes within the boundaries of the state, and ground waters of the state, are public waters by authority of the constitution and statutes of the State of Idaho.

The constitution and statutes of the State of Idaho guarantee the right to appropriate the public waters of the State of Idaho. When a private right to the use of public waters is established by appropriation, a water right is established that is a real property right much like property rights in land. The constitution and statutes of the State of Idaho protect private property rights, including water rights.

A water right is the right to divert the public waters of the state of Idaho and put them to a beneficial use, in accordance with one's priority date (IDWR, 2004).

Acquiring a water right in the State of Idaho consists of four consecutive components:

1. Potential user submits an application for specific water rights to the Department of Water Resources.
2. Department of Water Resources grants a conditional permit for a specific development period.
3. Potential user submits proof of beneficial use.
4. Department of Water Resources performs beneficial use exam and issues a water right license.

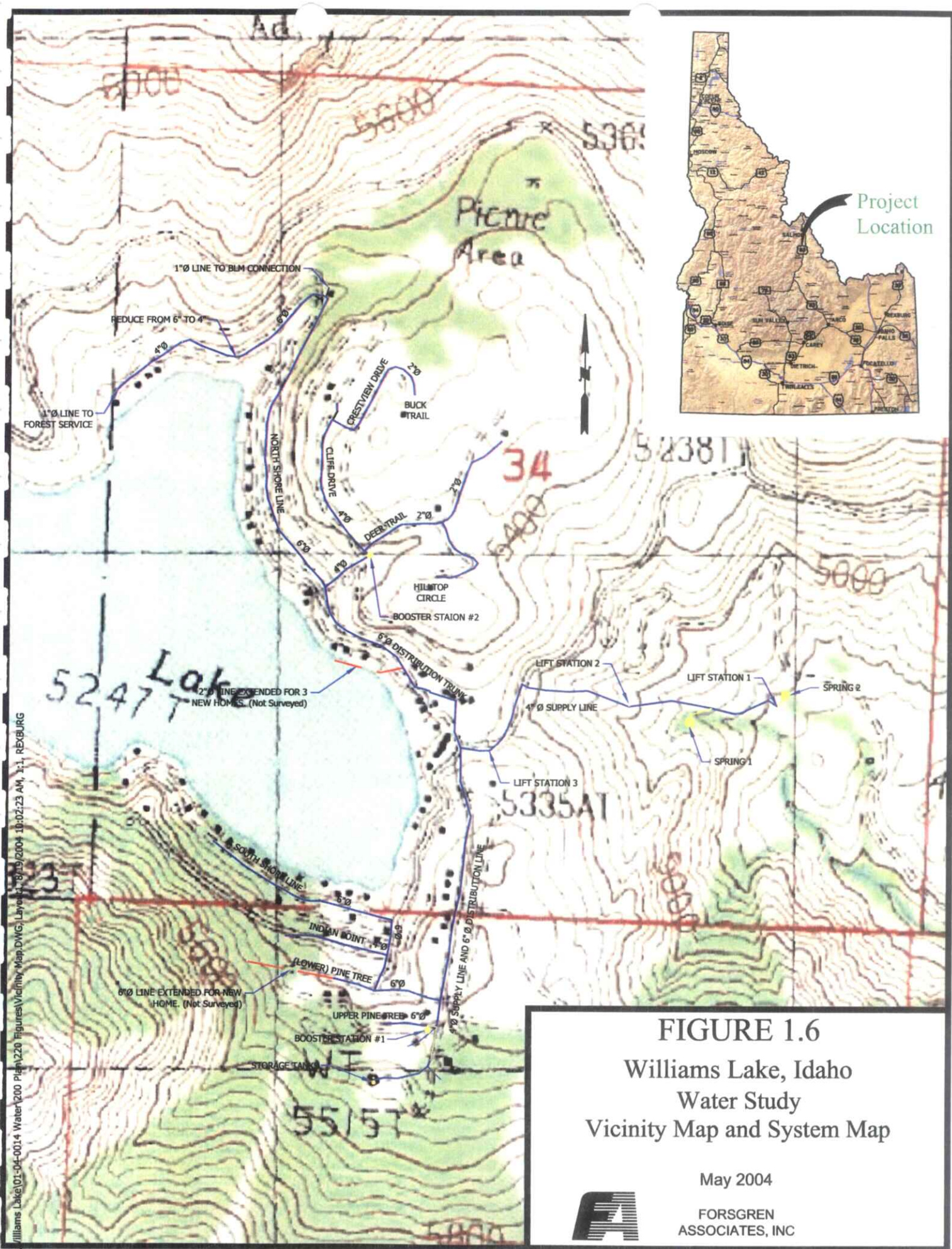


FIGURE 1.6
Williams Lake, Idaho
Water Study
Vicinity Map and System Map

May 2004



FORSGREN
ASSOCIATES, INC

K:\Williams Lake\01-04-0014 Water\200 Plan\220 Figures\Vicinity Map.DWG, Layer=1, 8/19/2004 10:02:23 AM, 2:1, REXBURG

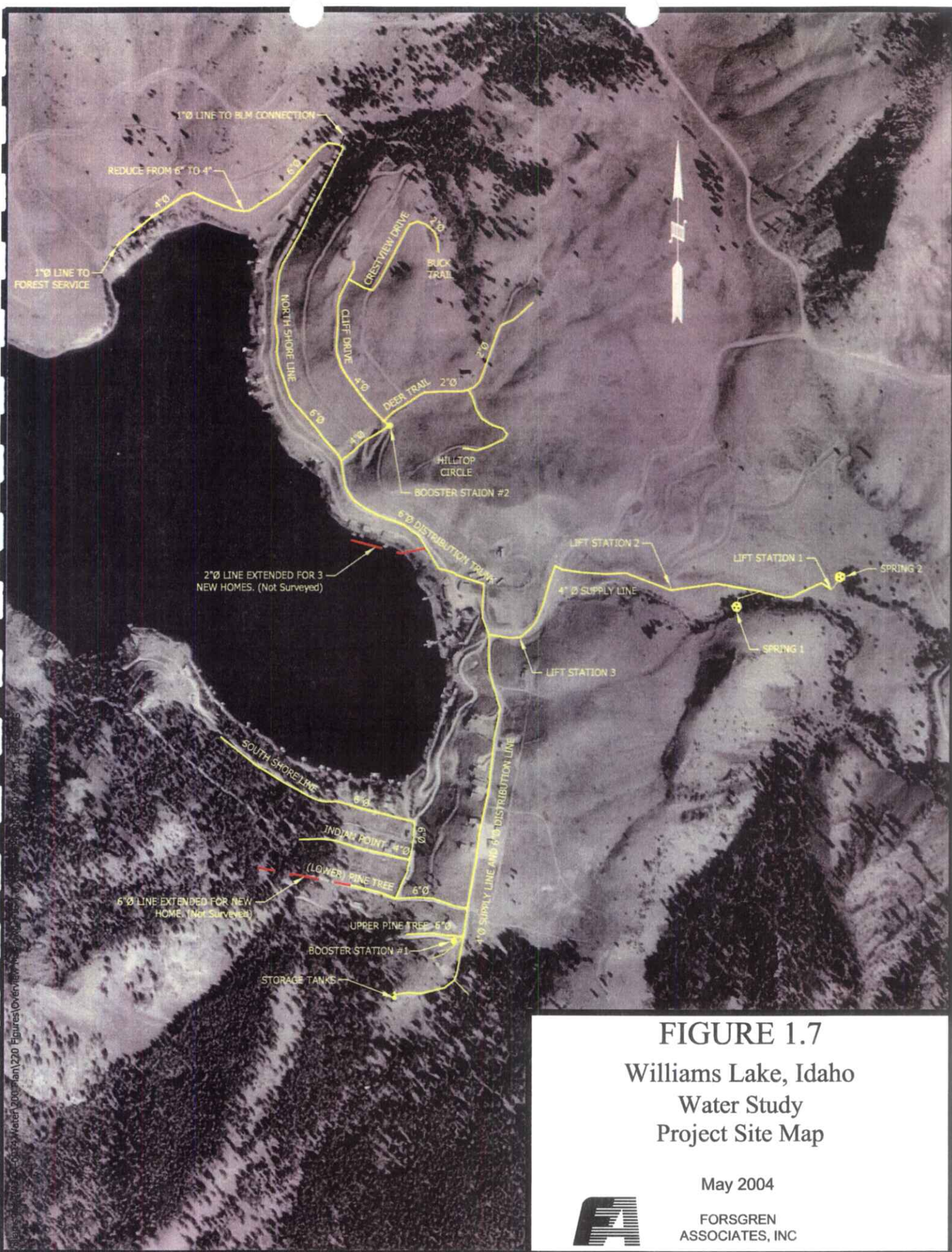


FIGURE 1.7
Williams Lake, Idaho
Water Study
Project Site Map

May 2004



FORSGBEN
ASSOCIATES, INC

1 *Priority Date*

2 A priority date is the date a potential user files a water right application with IDWR. How this
3 date is determined is described in the section below. The priority date is important because the
4 priority date determines who gets water when there is a shortage. If there is not enough water
5 available to satisfy all of the water rights, then the persons with the oldest (or senior) water rights
6 get their water rights satisfied first and so on in order until there is no water left. It is the persons
7 with the new (or junior) water rights who do not get water when there is not enough to satisfy all
8 the water rights. This practice is often described by “first in time, first in line” under western
9 water law. (IDWR, 2004)

10 *Beneficial Use*

11 Domestic use, irrigation, stock-watering, manufacturing, mining, hydropower, municipal use,
12 aquaculture, recreation, and fish and wildlife are all beneficial uses. The amount of the water
13 right is the amount of water put to beneficial use during the development period and verified by
14 the Department of Water Resources with a beneficial use field exam. The Williams Lake
15 Recreational Water and Sewer District water permits issued in 1992, No. 75-7589 and No. 75-
16 7590, specify “domestic use”. Domestic use water rights are typically limited to non-
17 consumptive uses such as in-house use and watering of household stock. Due to the beneficial
18 use requirement, a water right (or a portion of a water right) may be lost if it is not used for a
19 continuous five-year period. (IDWR, 2004)

20 The Williams Lake Recreational Water and Sewer District submitted the “Proof of Beneficial
21 Use” form to the Department of Water Resources in January 1998. A “Beneficial Use Field
22 Exam” has not been provided. The proof of beneficial use submitted specifies “domestic use”
23 for 64 dwellings and a flow rate of 0.50 cubic feet per second. The Department of water
24 resources typically licenses a domestic use water right for specific dwellings, with a specific
25 maximum flow rate, and a not to exceed volume calculated on an average annual basis. For the
26 Williams Lake Recreational Water and Sewer District system it is estimated the Department of
27 Water Resources will calculate an average annual not to exceed volume based on approximately
28 500 gallons per dwelling per day. This calculates to approximately 11,680,000 gallons per year.

29 *Diversion*

30 A diversion is a structure used to divert the water from its natural source. Typical diversion
31 structures include pumps, headgates, ditches, pipelines, and dams, or some combination. A
32 diversion is generally required to establish a water right. The source of the Williams Lake
33 domestic water are two springs located in the canyon at the base of the natural slide that forms
34 Williams Lake. A separate diversion structure consisting of storage and pumping facilities is
35 provided for each source spring.

36 The Idaho Water Resource Board is, however, authorized to acquire water rights without
37 diversions. These water rights are called “instream flow” water rights, and are typically
38 authorized for purposes of protecting some public interest in a natural stream or lake, such as
39 recreation, wildlife, or natural beauty. A water right may also be acquired to water livestock

directly from the stream, which is called an “instream livestock” water right. Instream water rights are not permitted for the Williams Lake Recreational Water and Sewer District.

Water law in Idaho is based on the appropriation doctrine, because water rights in Idaho are based upon diversion and beneficial use of water. The appropriation doctrine has also been called “first in time is first in right”, because the priority date determines who gets water when there is not enough to go around. The water right is said to have “appropriated” water.

A water right under the law of the state of Idaho can be established only by appropriation, and once established, it can be lost if it is not used. (IDWR, 2004).

Surface Water

Prior to May 20, 1971, there were two ways in which a right to surface water could be established. The first way was to simply divert water and apply it to beneficial use. These water rights are called “beneficial use”, “historic use” or “constitutional” water rights. The priority date for a water right established by this method is the date water was first put to beneficial use.

The second way to establish a right to surface water was to comply with the statutory method in effect at the time the water right was established. The current statutory method is an application/permit/license procedure that is described further below. The priority date for a water right established by this method is the date of filing the application with IDWR, and this priority date is shown on the license that is issued when the process is completed. Prior to 1903, Idaho had a “posted notice” statute, which provided for posting of a notice at the point of diversion and recording the notice at the county recorder’s office, followed by actual diversion and beneficial use of water, among other things. If the statutory requirements were met then the priority date for a water right established under the posted notice statute was the date of posting the notice. Water rights established under the old statutory method are called “Posted Notice” water rights, but are considered beneficial use rights because they are not confirmed by a license or decree.

As of May 20, 1971, there is only one way to establish a right to surface water, and that is by following the application/permit/license procedure that is described further below. The one exception to this rule is for water rights used solely for instream watering of livestock. (IDWR, 2004).

Ground Water

Prior to March 25, 1963, there were two ways to establish rights to ground water, which are the same methods described above under Surface Water. As of March 25, 1963, there is only one way to establish a right to ground water, and that is by following the application/permit/license procedure that is described further below. There is one exception to this rule. A “beneficial use” right to ground water may still be established for domestic purposes. “Domestic purposes” is defined by statute as “(a) 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 is not in excess of thirteen thousand (13,000) gallons per day, or (b) any other uses, if the total use does not exceed a diversion rate of four one-hundredths

(0.04) cubic feet per second and a diversion volume of twenty-five hundred (2,500) gallons per day.” The exception for domestic purposes does not include “water for multiple ownership subdivisions, mobile home parks, commercial or business establishments” unless the use does not exceed a diversion rate of four one-hundredths (0.04) cubic feet per second and a diversion volume of twenty-five hundred (2,500) gallons per day. (IDWR, 2004).

Ground Water

IDWR records record water right permits for the Williams Lake Water and Sewer District as follows:

Table I - Williams Lake Water & Sewer District Water Rights

Water Right	Priority Date	Source	Beneficial Use	Diversion Rate	Comments
75-7052	03/23/1990	Williams Lake	Domestic	0.5 cfs	For 66 units
75-7589	06/29/1992	Lake Creek	Domestic	0.5 cfs	• Combined rate for 7589 and 7590 limited to 0.5 cfs. • Domestic use is for 100 homes. • Limited to in-house use and watering of domestic stock
75-7590	06/29/1992	Lake Creek	Domestic	0.5 cfs	• Combined rate for 7589 and 7590 limited to 0.5 cfs. • Domestic use is for 100 homes. • Limited to in-house use and watering of domestic stock

Source Capacity

Water from the spring sources is collected in a series of spring collection boxes and diverted to the storage reservoir by means of three booster pumps constructed in series.

Water Storage (Point 2)

The Williams Lake water system uses two welded steel water storage reservoirs; the first and older reservoir is 10-foot in diameter and 18-feet in height and the second newer reservoir is 21.5-feet in diameter and 16-feet in height. Both the reservoir supply line and the distribution line provide hydraulic connections between the reservoirs, although each can be isolated by means of a gate valve. The total storage capacity of the reservoirs is 50,850 gallons as follows:

43,000 usable

Table II - Water Storage Capacity

Storage Reservoir	Diameter	Height	Supply Line	Distribution Line	Volume
Tank 1	10-foot	18-foot	4-inch welded steel	6-inch welded steel	9,400 gallons
Tank 2	21.5-foot	16-foot	4-inch welded steel	6-inch welded steel	41,450 gallons
				Total	50,850 gallons

Distribution System (Point 3)

The distribution system is made up of 2", 4" and 6" main lines with laterals that feed approximately 64 resort dwellings along the east side of Williams lake. The distribution system is a single pressure zone fed by a single storage reservoir (tank 2) located at the eastern most point of the system. The maximum water surface elevation in the system is 5,473.00 feet. Additionally, two booster-pumping stations are strategically located to increase system pressure to the dwellings located at the highest elevations. Booster pump station #1 is located near the east end of Upper Pine Tree and serves to boost pressure along Upper Pine Tree. Booster pump station #2 is located near the south end of Cliff Drive and provides increased system pressure along Cliff Drive, Crestview Drive, Buck Trail, Deer Trail, and Hilltop Circle.

Hydraulic Analysis

A water model was developed to analyze peak hour flow and corresponding pressure in the system. Published usage rates (Tchobanoglous, 1991) for resort dwellings were used to evaluate average daily flows. The average daily flow values were multiplied by a peaking factor to determine the average peak hour flow rate. Values used are as follows:

- Average Daily flow per person per day for a resort area – 60 gpcpd
- Number of persons per dwelling for a resort area – 4 persons
- Peak hour factor – 2.7 x average daily flow

Based on this information, Forsgren Associates estimated average values of 28.8 gallons per minute (gpm) and 0.45 gallons per minute (gpm) for the total system peak hour flow and peak hour flow per dwelling respectively.

Also required to develop the water model was an analysis of how the water demand would be consumed throughout the system. Aerial photographs overlaid on contour maps were used to identify where dwellings are located. These locations are incorporated into the water model. Since the system is primarily a gravity system fed by a single elevated storage reservoir the elevation of each dwelling is directly related to the system pressure at that dwelling. The water model does not, however, evaluate system flow and pressure at each dwelling specifically but rather, at incremental points along the main lines and at the approximate end of each main line. Each point analyzed is called a node. The number of dwellings and the corresponding peak hour

flows were determined between each node and that value was assigned to the nearest down stream node. This type of evaluation allows the model to determine the flow and pressure between each node. Normal acceptable operation pressure for water systems is 60 psi with a minimum of 35 psi. The steady state analysis for the peak hour flow demand indicates that system pressures vary between approximately 15 psi and 153 psi in the main lines. The reason for this variation in pressure is due in part to a nearly 120-foot difference in elevation between dwellings located at the highest and lowest elevations. Additionally, dwellings located along Deer Trail and Cliff Drive are influenced by booster pump station #2 but are located at very low elevations as shown on Figure 1.5 The water model report is included in Appendix II.

Fire Protection Capabilities

Adequate fire protection is defined in the Uniform Fire Code in Appendix 3A, Section 5 as a minimum of 1000 gpm with 20 psi residual pressure for a duration of 2 hours for one and two family dwellings having a fire area of less than 3600 ft². This amounts to a total fire flow capacity to be available at any time of 120,000 gallons.

The Williams Lake water distribution and storage system does not provide adequate fire protection for the dwellings served as defined by the Uniform Fire Code. The total capacity of the Williams lake water reservoir is approximately 51,000 gallons.

The water model was used to determine the amount and duration that water could be supplied at the 20-psi minimum pressure. It was determined that the current system can not provide any amount of water at or above 20 psi pressure south of or along Upper Pine Tree. For north of Upper Pine Tree, however, it was determined that 80 gpm at 20 psi, for a short time, could be provided at any one location without significantly impacting the system.

On July 1, 2004 Forsgren representatives performed water flow and pressure test along Shore-Line Drive to verify fire flow capacities. These tests were performed using 2 ½" fire hose and do not account for pipe losses in a 50' 1 ½" fire hose and nozzle. Test results verified that a single 80 gpm fire flow can be provide with minimal pressure loss in the system. With the fire riser valve wide open 230 gpm flow was realized with 6 psi pressure drop in the system.

Water Quality (Point 4)

Safe Drinking Water Act

The **Safe Drinking Water Act** (SDWA) was originally passed by Congress in 1974 and is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. In 1986 Congress amended the law to require many actions to protect drinking water and its sources – rivers, lakes, reservoirs, springs, and ground water wells. The law was amended again in 1996 to emphasize sound science and risk-based standard setting,

small water supply system flexibility and technical assistance, community-empowered source water assessment and protection, public right-to-know, and water system infrastructure assistance through a multi-billion-dollar state revolving loan fund.

Water Quality

Under the SDWA drinking water standards apply to water systems differently based on community type and size. All public water systems, however, must have at least 15 service connections or serve at least 25 people per day for 60 days of the year. The Williams Lake Water system is classified as a Community Water System.

Treatment Facilities

Presently there is no treatment capability for either spring source for the Williams Lake Water system.

System Financing (Point 5)

Operation and Maintenance

The Williams Lake Water System employs a single operator who is tasked with all operation and maintenance duties associated with the water and sewer systems.

An area of concern is use of water from the Williams Lake Water System for private property irrigation. This practice is not allowed under the current water right and is strongly discouraged.

User Rates

There are no flow meters on the spring pumps, booster pumps, or individual service hook-ups. The lack of flow meters prevents the City from knowing how much water is being provided to each customer as well as the total daily consumption. Presently, each dwelling is charged a fixed fee on a monthly basis.

REFERENCES

1. Tchobanoglous, George and Burton, Franklin L., *Wastewater Engineering: Treatment, Reuse and Disposal, Third Edition*, Metcalf & Eddy, Inc., McGraw-Hill Publishing Company, 1991.
2. Bond, *Geologic Map of Idaho*, 1978

APPENDIX I WATER RIGHTS

IDWR Water Right and Adjudication Search

Note: This search tool identifies active water rights and active transfers. If you want to search both active and inactive water rights, please check the box below.

☐ Search for both active and inactive water right records.

Search Results

Type of Query

USAGE INSTRUCTION

☐ All SRBA & Water Rights	
SRBA ☐ Claims ☐ Recommendations ☐ Both	Water Rights ☐ Applications ☐ Permits ☐ Decrees, Licenses and Statutory Claims ☐ Transfers ☒ All of the above

Basin

Who

What

When

Where

Clear

Search

Help

Query parameters:

OrganizationName = williams lake

Search for: active Records

Information for type: Statutory Claim, Decree and License

	Record	Basin	Sequence	Suffix	Version	Basis	Status	Priority Date	Diversion Rate	Source
Details	1	75	2155			Decreed	Active	1963-11-12	0.2	SPR

Information for type: Permit

	Record	Basin	Sequence	Suffix	Version	Basis	Status	Priority Date	Diversion Rate	Source
Details	2	75	7052				Active	1990-03-23	0.5	WILLI LAKE
Details	3	75	7589				Active	1992-06-29	0.5	LAKE CREEK

Details	4	75	7590				Active	1992-06-29	0.5	LAKE CREEK

Number of records = 4

DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

[Close](#)

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

5/19/2004

WATER RIGHT NO. 75-7053
Status: Lapsed

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAMS LAKE WATER & SEWER DIST

Water Right 75-7053

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

05/19/2004

WATER RIGHT NO. 75-7052

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAMS LAKE WATER & SEWER DIST PO BOX 82 SALMON, ID 83467 (208)756-2945

Priority Date: 03/23/1990

Status: Active

<u>Source</u>	<u>Tributary</u>
WILLIAMS LAKE	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
DOMESTIC	1/01	12/31	0.5 CFS	
Total Diversion			0.5 CFS	

Location of Point(s) of Diversion:

WILLIAMS LAKE	Lt 3	Sec. 34	Township 20N	Range 21E	LEMHI County
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Place(s) of use:

Place of Use Legal Description: DOMESTIC LEMHI County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
19N	21E	3	2			3			4				SWNE	

20N		34	1	ENE	2		3		4			
				SENW								

Remarks:

1. General Domestic use is for 66 units.

Dates:

Proof Due Date: 09/01/1976

Proof Made Date: 03/23/1990

Approved Date: 08/02/1974

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 07/01/1974

Protest Deadline Date:

Number of Protests: 0

Field Exam Date::

Date Sent to State Off:

Date Received at State Off:

Other Information:

State or Federal:

Owner Name Connector:

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

IDAHO DEPARTMENT OF WATER RESOURCES

Water Permit Report

05/19/2004

WATER RIGHT NO. 75-7590

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAMS LAKE WATER & SEWER DIST PO BOX 82 SALMON, ID 83467 (208)756-2945

Priority Date: 06/29/1992
Status: Active

<u>Source</u>	<u>Tributary</u>
LAKE CREEK	SALMON RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
DOMESTIC	1/01	12/31	0.5 CFS	
Total Diversion			0.5 CFS	

Location of Point(s) of Diversion:

LAKE CREEK	SWNESE	Sec. 34	Township 20N	Range 21E	LEMHI County
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Place(s) of use:

Place of Use Legal Description: DOMESTIC LEMHI County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
19N	21E	3		SWNE			SENE							

20N		34		ENW															
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Conditions of Approval:

1.	004	The issuance of this right does not grant any right-of-way or easement across the land of another.
2.	01C	A flow measurement port or other device as specified by the Department shall be installed by the right holder to provide for the installation of measuring equipment and the determination of the rate of diversion by the Department.
3.	02	Use of water for domestic purposes under this right shall be limited to in-house use and watering of household stock. <i>off internet</i>
4.	26A	Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.

Remarks:

1.	General	Subject to all prior rights except subordinated hydropower rights. The combined rate of diversion for Rights 75-07589 and 75-07590 shall be limited to 0.50 cubic feet per second. Only homes built and served by district water lines before or during the development period may be recognized as legitimate places of use. Place of use is located within Williams Lake Subdivision. Domestic use is for 100 homes.
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Dates:

Proof Due Date: 03/01/1998
 Proof Made Date: 01/23/1998
 Approved Date: 03/01/1993
 Moratorium Expiration Date:
 Enlargement Use Priority Date:
 Enlargement Statute Priority Date:
 Application Received Date: 06/29/1992
 Protest Deadline Date:
 Number of Protests: 0
 Field Exam Date:
 Date Sent to State Off:
 Date Received at State Off:

Other Information:

State or Federal:
 Owner Name Connector:
 Water District Number:
 Generic Max Rate per Acre:
 Generic Max Volume per Acre:
 Swan Falls Trust or Nontrust:
 Swan Falls Dismissed:

DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

05/19/2004

WATER RIGHT NO. 75-7589

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAMS LAKE WATER & SEWER DIST PO BOX 82 SALMON, ID 83467 (208)756-2945

Priority Date: 06/29/1992
Status: Active

<u>Source</u>	<u>Tributary</u>
LAKE CREEK	SALMON RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
DOMESTIC	1/01	12/31	0.5 CFS	
Total Diversion			0.5 CFS	

Location of Point(s) of Diversion:

LAKE CREEK	NESWSE	Sec. 34	Township 20N	Range 21E	LEMHI County
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Place(s) of use:

Place of Use Legal Description: DOMESTIC LEMHI County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
19N	21E	3		SWNE			SENE							

20N		34		NW															
-----	--	----	--	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Conditions of Approval:

1.	004	The issuance of this right does not grant any right-of-way or easement across the land of another.
2.	01C	A flow measurement port or other device as specified by the Department shall be installed by the right holder to provide for the installation of measuring equipment and the determination of the rate of diversion by the Department.
3.	021	Use of water for domestic purposes under this right shall be limited to in-house use and watering of household stock.
4.	26A	Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.

Remarks:

1.	General	Subject to all prior rights except subordinated hydropower rights. The combined rate of diversion for Rights 75-07589 and 75-07590 shall be limited to 0.50 cubic feet per second. Only homes built and served by district water lines before or during the development period may be recognized as legitimate places of use. Place of use is located within Williams Lake Subdivision. Domestic use is for 100 homes.
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Dates:

Proof Due Date: 03/01/1998

Proof Made Date: 01/23/1998

Approved Date: 03/01/1993

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 06/29/1992

Protest Deadline Date:

Number of Protests: 0

Field Exam Date::

Date Sent to State Off:

Date Received at State Off:

Other Information:

State or Federal:

Owner Name Connector:

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

[Close](#)IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

05/19/2004

WATER RIGHT NO. 75-2155

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAMS LAKE RESORT INC C/O ROBERT L POWELL PRESIDENT PO BOX 774 SALMON, ID 83467 (208)756-3696
Original Owner	JOSEPH ERIK GLIKSMAN
Original Owner	MARY ELIZABETH GLIKSMAN
Original Owner	PATRICIA ERIN GLIKSMAN
Original Owner	KRISTI LYNN GLIKSMAN TURCHI
Original Owner	MELISSA RAE WIELAND 87 DAPPLEGRAY LN ROLLING HILLS ESTATES, CA 90274 (213)325-9315
Original Owner	MELVIN M MELTON 87 DAPPLEGRAY LN SALMON, ID
Original Owner	KATHLEEN R GLIKSMAN PO BOX 1150 SALMON, ID 83467 (208)756-2007

Priority Date: 11/12/1963

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
SPRING	WILLIAMS LAKE

--	--	--	--	--	--	--	--	--	--

Beneficial Use	From	To	Diversion Rate	Volume
DOMESTIC	1/01	12/31	0.2 CFS	5 AFA
Total Diversion			0.2 CFS	

Location of Point(s) of Diversion:

SPRING	NENESW	Sec. 33	Township 20N	Range 21E	LEMHI County
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Place(s) of use:

Place of Use Legal Description: DOMESTIC LEMHI County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
20N	21E	34		SESW										

Conditions of Approval:

1.	N13	THE QUANTITY OF WATER UNDER THIS RIGHT SHALL NOT EXCEED 13,000 GALLONS PER DAY.
2.	N11	THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.

Remarks:

1.	Purpose of Use	RESORT LODGE
2.	Explanatory	PARCEL NO. RP20N21E344801A

Dates:

Licensed Date:

Decreed Date: 09/08/2000

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector: AND

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

RECEIVED

JAN 23 1998

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Department of Water Resources

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

MA, Slough (208) 756-2030
(Accountant) Salmon Business Service

1. Permit No. 75-07589 Telephone No. (208) 756-4845
2. Name(s) of Permit Holder(s): Williams Lake Recreational Water & Sewer District
3. Mailing Address: Box 82, Salmon, ID 83467
4. Source of Water: Spring ☐ GROUNDWATER (well), Date Drilled: mo. _____ / yr. _____
 a. Well Driller: _____ Drilling Permit Number: _____
 b. OPTIONAL:
 Pump Horsepower: _____ Pressure (psi): _____ Dynamic pumping level (ft): _____
5. Use(s) (as authorized by the water right permit):
 Domestic (No. of households): 64 dom. Stockwater (No. and type of stock): _____
 Irrigation (No. of acres): _____ Other: + Williams Lake Resort
6. Total rate of diversion and/or volume for which proof is submitted: 0.50 cfs OR _____ acre feet
7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)
 (This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)

Measuring Device:	Is a measuring device required?	Yes _____ or No ☒
	Has the measuring device been installed?	Yes _____ or No _____
Flow Measurement Port:	Is a flow measurement port required?	Yes ☒ or No _____
	Has the measurement port been installed?	Yes _____ or No ☒

* Please waive conditions
8. Fee Enclosed: \$ 100.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)
9. Person to contact to accompany the Department representative during field examination of the water system.
 Name: Harold G Sisco Telephone Number: 756-4845
 Address: _____
10. The information given on this form is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the State of Idaho.

Signature of permit holder: Harold G Sisco, Chairman Date: 1-22-1998
 (include your title, if on behalf of company or organization)

* per request of permit holder on 1-23-98 Gly

RECEIVED

JAN 23 1998

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Department of Water Resources

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

MA, Sloan (208) 756-2030
(Accountant) Salmon Business Service

1. Permit No. 75-07589 Telephone No. (208) 756-4845

2. Name(s) of Permit Holder(s): Williams Lake Recreational water & Sewer District

3. Mailing Address: Box 82, Salmon, ID 83467

4. Source of Water: Spring If GROUNDWATER (well), Date Drilled: mo. ____ / yr. ____

a. Well Driller: _____ Drilling Permit Number: _____

b. OPTIONAL: Pump Horsepower: _____ Pressure (psi): _____ Dynamic pumping level (ft): _____

5. Use(s) (as authorized by the water right permit):

Domestic (No. of households): 64 dom. Stockwater (No. and type of stock): _____

Irrigation (No. of acres): _____ Other: + Williams Lake Resort

6. Total rate of diversion and/or volume for which proof is submitted: 0.50 cfs OR _____ acre feet

7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)
(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)

Measuring Device:	Is a measuring device required?	Yes _____ or No ☒
	Has the measuring device been installed?	Yes _____ or No _____
Flow Measurement Port:	Is a flow measurement port required?	Yes ☒ or No _____
	Has the measurement port been installed?	Yes _____ or No ☒

* Please write conditions

8. Fee Enclosed: \$ 100.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Harold G Sisco Telephone Number: 756-4845

Address: _____

10. The information given on this form is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the State of Idaho.

Signature of permit holder: Harold G Sisco, Chairman Date: 1-22-1998
(include your title, if on behalf of company or organization)

* per request of permit holder on 1-23-98 Gly

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APPENDIX II

WATER MODEL RESULTS

Analysis Results

Scenario: Base

Steady State Analysis

Title: Williams Lake
 Project Engineer: Brent "Husk" Crowther
 Project Date: 02/02/04 02:30:54 PM
 Comments: Based on digital survey data produced by Land and Water Consulting, Inc. dated 12/97.

Scenario Summary

Scenario	Base
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Base-Demand
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Liquid Characteristics

Liquid	Water at 20C(68F)	Specific Gravity	1.00
Kinematic Viscosity	1.0804e-5 ft ² /s		

Network Inventory

Pressure Pipes	43	Number of Tanks	1
Number of Reservoirs	0	- Constant Area:	1
Number of Pressure Junctions	41	- Variable Area:	0
Number of Pumps	2	Number of Valves	0
- Constant Power:	0	- FCV's:	0
- One Point (Design Point):	0	- PBV's:	0
- Standard (3 Point):	2	- PRV's:	0
- Standard Extended:	0	- PSV's:	0
- Custom Extended:	0	- TCV's:	0
- Multiple Point:	0	- GPV's:	0
Number of Spot Elevations	0		

Pressure Pipes Inventory

2.0 in	3,651.00 ft	6.0 in	10,623.00 ft
4.0 in	2,951.00 ft		
Total Length	17,225.00 ft		

Pressure Junctions @ 0.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-7	5,674.84	153.52	354.84	0.00
J-8	5,674.84	153.52	354.84	0.00
J-9	5,464.85	90.53	209.25	0.00
J-10	5,464.85	62.67	144.85	0.00
J-11	5,674.84	118.70	274.34	0.00

Analysis Results

Scenario: Base

Steady State Analysis

Pressure Junctions @ 0.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-14	5,464.96	25.99	60.07	0.00
J-15	5,674.93	92.99	214.93	0.00
J-17	5,464.96	30.14	69.66	0.46
J-20	5,674.93	97.32	224.93	0.00
J-21	5,674.82	116.37	270.12	0.00
J-22	5,674.81	153.51	354.81	0.46
J-23	5,464.92	64.77	149.72	0.92
J-24	5,464.92	60.53	139.92	0.00
J-25	5,464.94	19.44	44.94	0.46
J-26	5,674.83	133.14	307.73	0.00
J-27	5,674.81	123.23	284.81	0.46
J-28	5,464.86	95.44	220.58	0.46
J-29	5,464.86	93.83	216.86	1.38
J-30	5,464.92	-6.53	-15.08	0.46
J-31	5,464.91	85.02	196.51	3.21
J-32	5,464.91	70.44	162.81	1.38
J-33	5,674.85	147.86	341.76	0.00
J-34	5,674.83	105.34	244.63	0.46
J-35	5,464.85	87.72	202.75	0.00
J-36	5,464.92	48.77	112.72	0.92
J-37	5,464.91	91.60	211.71	0.92
J-38	5,464.85	88.59	204.76	2.75
J-39	5,464.84	104.50	241.54	0.92
J-40	5,464.88	91.89	212.38	1.38
J-83	5,464.85	86.54	200.02	0.00
J-84	5,464.85	90.55	209.30	1.38
J-85	5,464.85	93.68	216.53	0.46
J-86	5,464.91	97.74	225.91	3.67
J-87	5,464.89	73.42	169.69	0.46
J-88	5,464.91	44.52	102.91	1.84
J-90	5,674.84	122.78	283.79	0.00
J-91	5,464.84	96.93	224.04	2.75
J-92	5,674.83	110.02	254.29	0.00
J-93	5,464.94	15.12	34.94	0.92
J-94	5,464.94	40.95	94.64	0.46
J-95	5,674.93	105.97	244.93	0.46

Pressure Pipes @ 0.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (ft/1000ft)
P-140	Open	0.46	0.01	5,464.92	5,464.92	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,464.91	5,464.91	0.00	0.00	0.00	0.00
P-143	Open	0.46	0.05	5,674.83	5,674.81	0.01	0.00	0.01	0.02
P-145	Open	0.00	0.00	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,674.82	5,674.81	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,674.84	5,674.84	0.00	0.00	0.00	0.00

Analysis Results

Scenario: Base

Steady State Analysis

Pressure Pipes @ 0.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$ft/1000ft)
P-149	Open	0.00	0.00	5,674.84	5,674.84	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,464.92	5,464.92	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	5,464.86	5,464.86	0.00	0.00	0.00	0.00
P-180	Open	9.65	0.11	5,464.86	5,464.85	0.01	0.00	0.01	0.01
P-185	Open	11.49	0.13	5,464.88	5,464.86	0.01	0.00	0.01	0.02
P-187	Open	0.92	0.09	5,674.85	5,674.83	0.02	0.00	0.02	0.04
P-188	Open	0.46	0.05	5,674.83	5,674.82	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,464.92	5,464.92	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,464.92	5,464.91	0.00	0.00	0.00	0.01
P-197	Open	29.42	0.33	5,465.00	5,464.96	0.04	0.00	0.04	0.10
P-198	Open	29.42	0.33	5,464.96	5,464.96	0.00	0.00	0.00	0.10
P-207	Open	-8.26	0.09	5,464.85	5,464.85	0.00	0.00	0.00	0.01
P-203	Open	3.67	0.04	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,464.91	5,464.91	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,464.91	5,464.91	0.00	0.00	0.00	0.00
P-215	Open	15.17	0.17	5,464.92	5,464.91	0.02	0.00	0.02	0.03
P-216	Open	12.87	0.15	5,464.89	5,464.89	0.01	0.00	0.01	0.02
P-217	Open	13.33	0.15	5,464.91	5,464.89	0.02	0.00	0.02	0.02
P-220	Open	0.46	0.01	5,674.85	5,674.84	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,674.84	5,674.84	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,464.85	5,464.84	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,464.84	5,464.84	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,674.84	5,674.83	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,674.83	5,674.83	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,464.94	5,464.94	0.00	0.00	0.00	0.00
P-231	Open	28.96	0.33	5,464.96	5,464.94	0.02	0.00	0.02	0.10
P-232	Open	26.65	0.30	5,464.94	5,464.92	0.01	0.00	0.01	0.09
P-233	Open	-1.38	0.02	5,464.94	5,464.94	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	5,674.93	5,674.93	0.00	0.00	0.00	0.00
P-235	Open	0.47	0.05	5,674.94	5,674.93	0.00	0.00	0.00	0.03
P-236	Open	0.00	0.00	5,674.93	5,674.93	0.00	0.00	0.00	0.00
P-237	Open	1.38	0.04	5,464.85	5,464.85	0.00	0.00	0.00	0.00
P-238	Open	1.38	0.14	5,674.85	5,674.85	0.00	0.00	0.00	0.05
P-239	Open	0.47	0.05	5,464.94	5,464.94	0.00	0.00	0.00	0.02

Pumps @ 0.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	464.94	5,674.94	0.47	10.00	1.00	0.02
PMP-2	On	464.85	5,674.85	1.38	10.00	1.00	0.07

Title: Williams Lake

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Forsgren Associates

37 Brookside Road Waterbury, CT 06708 USA

Project Engineer: Brent "Husk" Crowther

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Analysis Results
Scenario: Base
Steady State Analysis

Tanks @ 0.00 hr								
Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,465.00	9.30	4.02	44.1	7,109.57	50.58	-50.58	Filling

Title: Williams Lake

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Forsgren Associates

Project Engineer: Brent "Husk" Crowther

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Analysis Results

Scenario: Base

Extended Period Analysis

Title: Williams Lake
 Project Engineer: Brent "Husk" Crowther
 Project Date: 02/02/04 02:30:54 PM
 Comments: Based on digital survey data produced by Land and Water Consulting, Inc. dated 12/97.

Scenario Summary

Scenario	Base
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Base-Demand
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Liquid Characteristics

Liquid	Water at 20C(68F)	Specific Gravity	1.00
Kinematic Viscosity	1.0804e-5 ft ² /s		

Network Inventory

Pressure Pipes	43	Number of Tanks	1
Number of Reservoirs	0	- Constant Area:	1
Number of Pressure Junctions	41	- Variable Area:	0
Number of Pumps	2	Number of Valves	0
- Constant Power:	0	- FCV's:	0
- One Point (Design Point):	0	- PBV's:	0
- Standard (3 Point):	2	- PRV's:	0
- Standard Extended:	0	- PSV's:	0
- Custom Extended:	0	- TCV's:	0
- Multiple Point:	0	- GPV's:	0
Number of Spot Elevations	0		

Pressure Pipes Inventory

2.0 in	3,651.00 ft	6.0 in	10,623.00 ft
4.0 in	2,951.00 ft		
Total Length	17,225.00 ft		

Pressure Junctions @ 0.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-7	5,641.13	440.65	641.13	0.00
J-8	5,641.13	138.94	321.13	0.00
J-9	5,461.58	89.12	205.98	0.00
J-10	5,461.58	61.26	141.58	0.00
J-11	5,641.13	104.11	240.63	0.00

Title: Williams Lake

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37 Brookside Road Waterbury, CT 06708 USA

Project Engineer: Brent "Husk" Crowther

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Junctions @ 0.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-14	5,464.59	25.83	59.70	0.00
J-15	5,674.30	92.72	214.30	0.00
J-17	5,464.54	29.96	69.24	0.46
J-20	5,674.30	97.04	224.30	0.00
J-21	5,549.42	62.61	144.72	0.00
J-22	5,549.41	99.26	229.41	0.46
J-23	5,464.12	64.43	148.92	0.92
J-24	5,464.12	60.19	139.12	0.00
J-25	5,464.30	19.17	44.30	0.46
J-26	5,549.42	78.88	182.32	0.00
J-27	5,441.06	22.09	51.06	80.46
J-28	5,462.18	94.28	217.90	0.46
J-29	5,462.18	92.67	214.18	1.38
J-30	5,464.12	-6.87	-15.88	0.46
J-31	5,464.11	84.68	195.71	3.21
J-32	5,464.11	70.09	162.01	1.38
J-33	5,641.13	133.27	308.03	0.00
J-34	5,641.11	91.25	210.91	0.46
J-35	5,461.59	86.31	199.49	0.00
J-36	5,464.12	48.42	111.92	0.92
J-37	5,464.11	91.25	210.91	0.92
J-38	5,461.59	87.18	201.50	2.75
J-39	5,461.58	103.09	238.28	0.92
J-40	5,462.76	90.97	210.26	1.38
J-83	5,461.58	85.13	196.75	0.00
J-84	5,461.59	89.14	206.04	1.38
J-85	5,461.58	92.27	213.26	0.46
J-86	5,464.11	97.40	225.11	3.67
J-87	5,463.13	72.65	167.93	0.46
J-88	5,463.71	44.00	101.71	1.84
J-90	5,641.13	108.20	250.08	0.00
J-91	5,461.58	95.52	220.78	2.75
J-92	5,641.12	95.43	220.58	0.00
J-93	5,464.30	14.84	34.30	0.92
J-94	5,464.30	40.67	94.00	0.46
J-95	5,674.30	105.70	244.30	0.46

Pressure Pipes @ 0.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$ft/1000ft)
P-140	Open	0.46	0.01	5,464.12	5,464.12	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,464.11	5,464.11	0.00	0.00	0.00	0.00
P-143	Open	80.46	8.22	5,549.42	5,441.06	108.37	0.00	108.37	163.70
P-145	Open	0.00	0.00	5,461.58	5,461.58	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,549.42	5,549.41	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,641.13	5,641.13	0.00	0.00	0.00	0.00

Title: Williams Lake

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37 Brookside Road

Waterbury, CT 06708 USA

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Project Engineer: Brent "Husk" Crowther

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 0.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structural Hydraulic Grade (ft)	Downstream Structural Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$ft/1000ft)
P-149	Open	0.00	0.00	5,641.13	5,641.13	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,464.12	5,464.12	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	5,462.18	5,462.18	0.00	0.00	0.00	0.00
P-180	Open	39.65	1.02	5,462.18	5,461.59	0.59	0.00	0.59	0.76
P-185	Open	91.49	1.04	5,462.76	5,462.18	0.58	0.00	0.58	0.79
P-187	Open	80.92	8.26	5,641.13	5,549.42	91.71	0.00	91.71	165.53
P-188	Open	0.46	0.05	5,549.42	5,549.42	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,464.12	5,464.12	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,464.12	5,464.11	0.00	0.00	0.00	0.01
P-197	Open	109.42	1.24	5,465.00	5,464.59	0.41	0.00	0.41	1.11
P-198	Open	109.42	1.24	5,464.59	5,464.54	0.05	0.00	0.05	1.11
P-207	Open	-8.26	0.09	5,461.59	5,461.59	0.00	0.00	0.00	0.01
P-208	Open	3.67	0.04	5,461.58	5,461.58	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,461.59	5,461.59	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,461.59	5,461.58	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,461.58	5,461.58	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,464.11	5,464.11	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,464.11	5,464.11	0.00	0.00	0.00	0.00
P-215	Open	95.17	1.08	5,464.12	5,463.71	0.42	0.00	0.42	0.85
P-216	Open	92.87	1.05	5,463.13	5,462.76	0.37	0.00	0.37	0.82
P-217	Open	93.33	1.06	5,463.71	5,463.13	0.58	0.00	0.58	0.82
P-220	Open	0.46	0.01	5,641.13	5,641.13	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,641.13	5,641.13	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,461.58	5,461.58	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,461.58	5,461.58	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,641.13	5,641.12	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,641.12	5,641.11	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,464.30	5,464.30	0.00	0.00	0.00	0.00
P-231	Open	108.96	1.24	5,464.54	5,464.30	0.24	0.00	0.24	1.10
P-232	Open	106.65	1.21	5,464.30	5,464.12	0.18	0.00	0.18	1.06
P-233	Open	-1.38	0.02	5,464.30	5,464.30	0.00	0.00	0.00	0.01
P-234	Open	0.00	0.00	5,674.30	5,674.30	0.00	0.00	0.00	0.00
P-235	Open	0.47	0.05	5,674.30	5,674.30	0.00	0.00	0.00	0.03
P-236	Open	0.00	0.00	5,674.30	5,674.30	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	5,461.59	5,459.89	1.70	0.00	1.70	4.83
P-238	Open	81.38	8.31	5,649.07	5,641.13	7.94	0.00	7.94	176.46
P-239	Open	0.47	0.05	5,464.30	5,464.30	0.00	0.00	0.00	0.02

Pumps @ 0.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	464.30	5,674.30	0.47	110.00	1.00	0.02
PMP-2	On	459.89	5,649.07	81.38	89.18	1.00	3.89

Title: Williams Lake

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Project Engineer: Brent "Husk" Crowther

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Analysis Results
Scenario: Base
Extended Period Analysis

Tanks @ 0.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,465.00	9.30	4.02	44.1	7,109.57	-29.42	29.42	Draining

Pressure Junctions @ 2.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (Calculated) (gpm)
J-7	5,639.83	440.09	639.83	0.00
J-8	5,639.83	138.38	319.83	0.00
J-9	5,460.28	88.56	204.68	0.00
J-10	5,460.28	60.69	140.28	0.00
J-11	5,639.83	103.55	239.33	0.00
J-14	5,463.29	25.27	58.40	0.00
J-15	5,673.00	92.16	213.00	0.00
J-17	5,463.24	29.40	67.94	0.46
J-20	5,673.00	96.48	223.00	0.00
J-21	5,548.12	62.05	143.42	0.00
J-22	5,548.11	98.69	228.11	0.46
J-23	5,462.82	63.87	147.62	0.92
J-24	5,462.82	59.63	137.82	0.00
J-25	5,463.00	18.61	43.00	0.46
J-26	5,548.13	78.32	181.03	0.00
J-27	5,439.76	21.53	49.76	80.46
J-28	5,460.88	93.71	216.60	0.46
J-29	5,460.88	92.10	212.88	1.38
J-30	5,462.82	-7.43	-17.18	0.46
J-31	5,462.81	84.11	194.41	3.21
J-32	5,462.81	69.53	160.71	1.38
J-33	5,639.83	132.71	306.73	0.00
J-34	5,639.81	90.69	209.61	0.46
J-35	5,460.29	85.75	198.19	0.00
J-36	5,462.82	47.86	110.62	0.92
J-37	5,462.81	90.69	209.61	0.92
J-38	5,460.29	86.62	200.20	2.75
J-39	5,460.28	102.53	236.98	0.92
J-40	5,461.46	90.41	208.96	1.38
J-83	5,460.28	84.56	195.45	0.00
J-84	5,460.29	88.58	204.74	1.38
J-85	5,460.29	91.71	211.97	0.46
J-86	5,462.81	96.83	223.81	3.67
J-87	5,461.83	72.09	166.63	0.46
J-88	5,462.41	43.44	100.41	1.84
J-90	5,639.83	107.64	248.78	0.00
J-91	5,460.28	94.96	219.48	2.75
J-92	5,639.82	94.87	219.28	0.00
J-93	5,463.00	14.28	33.00	0.92
J-94	5,463.00	40.11	92.70	0.46
J-95	5,673.00	105.14	243.00	0.46

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 2.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structural Hydraulic Grade (ft)	Downstream Structural Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$/ft/1000ft)
P-140	Open	0.46	0.01	5,462.82	5,462.82	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,462.31	5,462.81	0.00	0.00	0.00	0.00
P-143	Open	80.46	8.22	5,548.13	5,439.76	103.37	0.00	103.37	163.70
P-145	Open	0.00	0.00	5,460.28	5,460.28	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,548.12	5,548.11	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,639.83	5,639.83	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	5,639.83	5,639.83	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,462.82	5,462.82	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	5,460.88	5,460.88	0.00	0.00	0.00	0.00
P-180	Open	89.64	1.02	5,460.88	5,460.29	0.59	0.00	0.59	0.76
P-185	Open	91.48	1.04	5,461.46	5,460.88	0.58	0.00	0.58	0.79
P-187	Open	80.92	8.26	5,639.83	5,548.13	91.71	0.00	91.71	165.53
P-188	Open	0.46	0.05	5,548.13	5,548.12	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,462.82	5,462.82	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,462.82	5,462.81	0.00	0.00	0.00	0.01
P-197	Open	109.40	1.24	5,463.70	5,463.29	0.41	0.00	0.41	1.11
P-198	Open	109.40	1.24	5,463.29	5,463.24	0.05	0.00	0.05	1.11
P-207	Open	-8.26	0.09	5,460.29	5,460.29	0.30	0.00	0.00	0.01
P-208	Open	3.67	0.04	5,460.28	5,460.28	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,460.29	5,460.29	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,460.29	5,460.29	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,460.29	5,460.28	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,462.81	5,462.81	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,462.81	5,462.81	0.00	0.00	0.00	0.00
P-215	Open	95.16	1.08	5,462.82	5,462.41	0.42	0.00	0.42	0.85
P-216	Open	92.86	1.05	5,461.83	5,461.46	0.37	0.00	0.37	0.82
P-217	Open	93.32	1.06	5,462.41	5,461.83	0.58	0.00	0.58	0.82
P-220	Open	0.46	0.01	5,639.83	5,639.83	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,639.83	5,639.83	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,460.28	5,460.28	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,460.28	5,460.28	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,639.83	5,639.82	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,639.82	5,639.81	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,463.00	5,463.00	0.00	0.00	0.00	0.00
P-231	Open	108.94	1.24	5,463.24	5,463.00	0.24	0.00	0.24	1.10
P-232	Open	106.64	1.21	5,463.00	5,462.82	0.18	0.00	0.18	1.05
P-233	Open	-1.38	0.02	5,463.00	5,463.00	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	5,673.00	5,673.00	0.00	0.00	0.00	0.00
P-235	Open	0.46	0.05	5,673.00	5,673.00	0.00	0.00	0.00	0.03
P-236	Open	0.00	0.00	5,673.00	5,673.00	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	5,460.29	5,458.59	1.70	0.00	1.70	4.83
P-238	Open	81.38	8.31	5,647.77	5,639.83	7.94	0.00	7.94	176.46
P-239	Open	0.46	0.05	5,463.00	5,463.00	0.00	0.00	0.00	0.01

Analysis Results

Scenario: Base

Extended Period Analysis

Pumps @ 2.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	463.00	5,673.00	0.46	110.00	1.00	0.02
PMP-2	On	458.59	5,647.77	81.38	89.18	1.00	3.89

Tanks @ 2.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,463.70	8.00	3.46	35.0	3,579.55	29.40	29.40	Draining

Pressure Junctions @ 4.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (Calculated) (gpm)
J-7	5,638.53	439.53	638.53	0.00
J-8	5,638.53	137.81	318.53	0.00
J-9	5,458.98	87.99	203.38	0.00
J-10	5,458.98	60.13	138.98	0.00
J-11	5,638.53	102.99	238.03	0.00
J-14	5,461.99	24.71	57.10	0.00
J-15	5,671.70	91.59	211.70	0.00
J-17	5,461.94	28.83	66.64	0.46
J-20	5,671.70	95.92	221.70	0.00
J-21	5,546.82	61.49	142.12	0.00
J-22	5,546.82	98.13	226.82	0.46
J-23	5,461.52	63.30	146.32	0.92
J-24	5,461.52	59.06	136.52	0.00
J-25	5,461.71	18.04	41.71	0.46
J-26	5,546.83	77.76	179.73	0.00
J-27	5,438.46	20.97	48.46	80.46
J-28	5,459.58	93.15	215.30	0.46
J-29	5,459.58	91.54	211.58	1.38
J-30	5,461.52	-8.00	-18.48	0.46
J-31	5,461.51	83.55	193.11	3.21
J-32	5,461.51	68.97	159.41	1.38
J-33	5,638.54	132.15	305.44	0.00
J-34	5,638.52	90.13	208.32	0.46
J-35	5,458.99	85.19	196.89	0.00
J-36	5,461.52	47.30	109.32	0.92
J-37	5,461.51	90.13	208.31	0.92
J-38	5,458.99	86.05	198.90	2.75
J-39	5,458.98	101.97	235.68	0.92
J-40	5,460.16	89.85	207.66	1.38
J-83	5,458.98	84.00	194.15	0.00
J-84	5,458.99	88.02	203.44	1.38
J-85	5,458.99	91.15	210.67	0.46
J-86	5,461.51	96.27	222.51	3.67

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Junctions @ 4.00 hr				
Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-87	5,460.53	71.53	165.33	0.46
J-88	5,461.11	42.88	99.11	1.84
J-90	5,638.53	107.07	247.48	0.00
J-91	5,458.98	94.40	218.18	2.75
J-92	5,638.52	94.31	217.98	0.00
J-93	5,461.71	13.72	31.71	0.92
J-94	5,461.71	39.55	91.41	0.46
J-95	5,671.70	104.57	241.70	0.46

Pressure Pipes @ 4.00 hr									
Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient \$/1000ft
P-140	Open	0.46	0.01	5,461.52	5,461.52	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,461.51	5,461.51	0.00	0.00	0.00	0.00
P-143	Open	80.46	8.22	5,546.83	5,438.46	108.37	0.00	108.37	163.70
P-145	Open	0.00	0.00	5,458.98	5,458.98	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,546.82	5,546.82	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,638.53	5,638.53	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	5,638.53	5,638.53	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,461.52	5,461.52	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	5,459.58	5,459.58	0.00	0.00	0.00	0.00
P-180	Open	89.64	1.02	5,459.58	5,458.99	0.59	0.00	0.59	0.76
P-185	Open	91.48	1.04	5,460.16	5,459.58	0.58	0.00	0.58	0.79
P-187	Open	80.92	8.26	5,638.54	5,546.83	91.71	0.00	91.71	165.53
P-188	Open	0.46	0.05	5,546.83	5,546.82	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,461.52	5,461.52	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,461.52	5,461.51	0.00	0.00	0.00	0.01
P-197	Open	109.41	1.24	5,462.40	5,461.99	0.41	0.00	0.41	1.11
P-198	Open	109.41	1.24	5,461.99	5,461.94	0.05	0.00	0.05	1.11
P-207	Open	-8.26	0.09	5,458.99	5,458.99	0.00	0.00	0.00	0.01
P-208	Open	3.67	0.04	5,458.98	5,458.98	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,458.99	5,458.99	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,458.99	5,458.99	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,458.99	5,458.98	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,461.51	5,461.51	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,461.51	5,461.51	0.00	0.00	0.00	0.00
P-215	Open	95.16	1.08	5,461.52	5,461.11	0.42	0.00	0.42	0.85
P-216	Open	92.86	1.05	5,460.53	5,460.16	0.37	0.00	0.37	0.82
P-217	Open	93.32	1.06	5,461.11	5,460.53	0.58	0.00	0.58	0.82
P-220	Open	0.46	0.01	5,638.54	5,638.53	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,638.53	5,638.53	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,458.98	5,458.98	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,458.98	5,458.98	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,638.53	5,638.52	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,638.52	5,638.52	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,461.71	5,461.71	0.00	0.00	0.00	0.00

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 4.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (ft/1000ft)
P-231	Open	108.95	1.24	5,461.94	5,461.71	0.24	0.00	0.24	1.10
P-232	Open	106.64	1.21	5,461.71	5,461.52	0.18	0.00	0.18	1.06
P-233	Open	-1.38	0.02	5,461.71	5,461.71	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	5,671.70	5,671.70	0.00	0.00	0.00	0.00
P-235	Open	0.47	0.05	5,671.70	5,671.70	0.00	0.00	0.00	0.00
P-236	Open	0.00	0.00	5,671.70	5,671.70	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	5,458.99	5,457.29	1.70	0.00	1.70	4.83
P-238	Open	81.38	8.31	5,646.48	5,638.54	7.94	0.00	7.94	176.44
P-239	Open	0.47	0.05	5,461.71	5,461.70	0.00	0.00	0.00	0.02

Pumps @ 4.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge Pump (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	461.70	5,671.70	0.47	10.00	1.00	0.02
PMP-2	On	457.29	5,646.48	81.38	89.19	1.00	3.89

Tanks @ 4.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Inflow Volume (gal)	Outflow (gpm)	Current Status
T-1	5,462.40	6.70	2.90	25.9	0,050.86	29.41	Draining

Pressure Junctions @ 6.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-7	5,637.23	438.96	637.23	0.00
J-8	5,637.23	137.25	317.23	0.00
J-9	5,457.68	87.43	202.08	0.00
J-10	5,457.68	59.57	137.68	0.00
J-11	5,637.23	102.42	236.73	0.00
J-14	5,460.69	24.14	55.80	0.00
J-15	5,670.40	91.03	210.40	0.00
J-17	5,460.64	28.27	65.34	0.46
J-20	5,670.40	95.36	220.40	0.00
J-21	5,545.52	60.93	140.82	0.00
J-22	5,545.51	97.57	225.51	0.46
J-23	5,460.22	62.74	145.02	0.92
J-24	5,460.22	58.50	135.22	0.00
J-25	5,460.41	17.48	40.41	0.46
J-26	5,545.53	77.20	178.43	0.00
J-27	5,437.16	20.40	47.16	80.46
J-28	5,458.28	92.59	214.00	0.46

Analysis Results
Scenario: Base
Extended Period Analysis

Pressure Junctions @ 6.00 hr				
Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-29	5,458.28	90.98	210.28	1.38
J-30	5,460.22	-8.56	-19.78	0.46
J-31	5,460.21	82.99	191.81	3.21
J-32	5,460.21	68.41	158.11	1.38
J-33	5,637.23	131.58	304.13	0.00
J-34	5,637.21	89.57	207.01	0.46
J-35	5,457.69	84.62	195.59	0.00
J-36	5,460.23	48.74	108.03	0.92
J-37	5,460.21	89.56	207.01	0.92
J-38	5,457.69	85.49	197.60	2.75
J-39	5,457.68	101.40	234.38	0.92
J-40	5,458.86	89.28	206.36	1.38
J-83	5,457.68	83.44	192.85	0.00
J-84	5,457.69	87.46	202.14	1.38
J-85	5,457.69	90.58	209.37	0.46
J-86	5,460.21	95.71	221.21	3.67
J-87	5,459.23	70.97	164.03	0.46
J-88	5,459.81	42.32	97.81	1.34
J-90	5,637.23	106.51	246.18	0.00
J-91	5,457.68	93.83	216.88	2.75
J-92	5,637.22	93.75	216.68	0.00
J-93	5,460.41	13.16	30.41	0.92
J-94	5,460.41	38.98	90.11	0.46
J-95	5,670.40	104.01	240.40	0.46

Pressure Pipes @ 6.00 hr									
Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$/1000ft)
P-140	Open	0.46	0.01	5,460.22	5,460.22	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,460.21	5,460.21	0.00	0.00	0.00	0.00
P-143	Open	80.46	8.22	5,545.53	5,437.16	108.37	0.00	108.37	163.70
P-145	Open	0.00	0.00	5,457.68	5,457.68	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,545.52	5,545.51	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,637.23	5,637.23	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	5,637.23	5,637.23	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,460.22	5,460.22	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	5,458.28	5,458.28	0.00	0.00	0.00	0.00
P-180	Open	89.65	1.02	5,458.28	5,457.69	0.59	0.00	0.59	0.76
P-185	Open	91.49	1.04	5,458.86	5,458.28	0.58	0.00	0.58	0.79
P-187	Open	80.92	8.26	5,637.23	5,545.53	91.71	0.00	91.71	165.53
P-188	Open	0.46	0.05	5,545.53	5,545.52	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,460.23	5,460.22	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,460.22	5,460.21	0.00	0.00	0.00	0.01
P-197	Open	109.41	1.24	5,461.10	5,460.69	0.41	0.00	0.41	1.11
P-198	Open	109.41	1.24	5,460.69	5,460.64	0.05	0.00	0.05	1.11
P-207	Open	-8.26	0.09	5,457.69	5,457.69	0.00	0.00	0.00	0.01

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 6.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient \$/1000ft
P-208	Open	3.67	0.04	5,457.68	5,457.68	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,457.69	5,457.69	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,457.69	5,457.69	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,457.69	5,457.68	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,460.21	5,460.21	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,460.21	5,460.21	0.00	0.00	0.00	0.00
P-215	Open	95.17	1.08	5,460.23	5,459.81	0.42	0.00	0.42	0.35
P-216	Open	92.87	1.05	5,459.23	5,458.86	0.37	0.00	0.37	0.82
P-217	Open	93.33	1.06	5,459.81	5,459.23	0.58	0.00	0.58	0.82
P-220	Open	0.46	0.01	5,637.23	5,637.23	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,637.23	5,637.23	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,457.68	5,457.68	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,457.68	5,457.68	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,637.23	5,637.22	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,637.22	5,637.21	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,460.41	5,460.41	0.00	0.00	0.00	0.00
P-231	Open	108.95	1.24	5,460.64	5,460.41	0.24	0.00	0.24	1.10
P-232	Open	106.65	1.21	5,460.41	5,460.23	0.18	0.00	0.18	1.05
P-233	Open	-1.38	0.02	5,460.41	5,460.41	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	5,670.40	5,670.40	0.00	0.00	0.00	0.00
P-235	Open	0.46	0.05	5,670.40	5,670.40	0.00	0.00	0.00	0.03
P-236	Open	0.00	0.00	5,670.40	5,670.40	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	5,457.69	5,455.99	1.70	0.00	1.70	4.83
P-238	Open	81.38	8.31	5,645.17	5,637.23	7.94	0.00	7.94	176.46
P-239	Open	0.46	0.05	5,460.41	5,460.40	0.00	0.00	0.00	0.01

Pumps @ 6.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	460.40	5,670.40	0.46	10.00	1.00	0.02
PMP-2	On	455.99	5,645.17	81.38	89.18	1.00	3.89

Tanks @ 6.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,461.10	5.40	2.34	16.8	6,522.17	-29.41	29.41	Draining

Pressure Junctions @ 6.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-7	5,635.94	438.40	635.94	0.00

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Analysis Results
Scenario: Base
Extended Period Analysis

Pressure Junctions @ 8.00 hr				
Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-3	5,635.94	136.69	315.94	0.00
J-9	5,456.39	86.87	200.79	0.00
J-10	5,456.39	59.01	136.39	0.00
J-11	5,635.94	101.86	235.44	0.00
J-14	5,459.39	23.58	54.50	0.00
J-15	5,669.10	90.47	209.10	0.00
J-17	5,459.34	27.71	64.04	0.46
J-20	5,669.10	94.80	219.10	0.00
J-21	5,544.22	60.36	139.52	0.00
J-22	5,544.22	97.01	224.22	0.46
J-23	5,458.92	62.18	143.72	0.92
J-24	5,458.92	57.94	133.92	0.00
J-25	5,459.11	16.92	39.11	0.46
J-26	5,544.23	76.64	177.13	0.00
J-27	5,435.86	19.84	45.86	80.46
J-28	5,456.98	92.03	212.70	0.46
J-29	5,456.98	90.42	208.98	1.38
J-30	5,458.92	-9.12	-21.08	0.46
J-31	5,458.92	82.43	190.52	3.21
J-32	5,458.91	67.85	156.81	1.38
J-33	5,635.94	131.02	302.84	0.00
J-34	5,635.92	89.00	205.72	0.46
J-35	5,456.39	84.06	194.29	0.00
J-36	5,458.93	46.18	106.73	0.92
J-37	5,458.91	89.00	205.71	0.92
J-38	5,456.39	84.93	196.30	2.75
J-39	5,456.38	100.84	233.08	0.92
J-40	5,457.56	88.72	205.06	1.38
J-83	5,456.38	82.88	191.55	0.00
J-84	5,456.39	86.89	200.84	1.38
J-85	5,456.39	90.02	208.07	0.46
J-86	5,458.91	95.15	219.91	3.67
J-87	5,457.93	70.41	162.73	0.46
J-88	5,458.51	41.75	96.51	1.84
J-90	5,635.94	105.95	244.89	0.00
J-91	5,456.38	93.27	215.58	2.75
J-92	5,635.92	93.19	215.38	0.00
J-93	5,459.11	12.59	29.11	0.92
J-94	5,459.11	38.42	88.81	0.46
J-95	5,669.10	103.45	239.10	0.46

Pressure Pipes @ 8.00 hr									
Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Head (ft)	Headloss Gradient (\$/ft/1000ft)
P-140	Open	0.46	0.01	5,458.92	5,458.92	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	5,458.92	5,458.91	0.00	0.00	0.00	0.00

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 8.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-143	Open	80.46	8.22	5,544.23	5,435.36	108.37	0.00	108.37	163.70
P-145	Open	0.00	0.00	5,456.39	5,456.39	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	5,544.22	5,544.22	0.00	0.00	0.00	0.02
P-148	Open	0.00	0.00	5,635.94	5,635.94	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	5,635.94	5,635.94	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	5,458.92	5,458.92	0.00	0.00	0.00	0.00
P-154	Open	1.03	0.02	5,456.98	5,456.98	0.00	0.00	0.00	0.00
P-180	Open	89.64	1.02	5,456.98	5,456.39	0.59	0.00	0.59	0.76
P-185	Open	91.48	1.04	5,457.56	5,456.98	0.58	0.00	0.58	0.79
P-187	Open	80.92	8.26	5,635.94	5,544.23	91.71	0.00	91.71	163.53
P-188	Open	0.46	0.05	5,544.23	5,544.22	0.01	0.00	0.01	0.02
P-193	Open	10.56	0.12	5,458.93	5,458.92	0.01	0.00	0.01	0.02
P-194	Open	9.18	0.10	5,458.92	5,458.92	0.00	0.00	0.00	0.01
P-197	Open	109.41	1.24	5,459.80	5,459.39	0.41	0.00	0.41	1.11
P-198	Open	109.41	1.24	5,459.39	5,459.34	0.05	0.00	0.05	1.11
P-207	Open	-3.26	0.09	5,456.39	5,456.39	0.00	0.00	0.00	0.01
P-208	Open	3.67	0.04	5,456.39	5,456.38	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	5,456.39	5,456.39	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	5,456.39	5,456.39	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	5,456.39	5,456.39	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	5,458.92	5,458.91	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	5,458.91	5,458.91	0.00	0.00	0.00	0.00
P-215	Open	95.16	1.06	5,458.93	5,453.51	0.42	0.00	0.42	0.85
P-216	Open	92.36	1.05	5,457.93	5,457.56	0.37	0.00	0.37	0.82
P-217	Open	93.32	1.06	5,458.51	5,457.93	0.58	0.00	0.58	0.82
P-220	Open	0.46	0.01	5,635.94	5,635.94	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	5,635.94	5,635.94	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	5,456.38	5,456.38	0.00	0.00	0.00	0.01
P-223	Open	0.92	0.02	5,456.38	5,456.38	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	5,635.94	5,635.92	0.01	0.00	0.01	0.02
P-225	Open	0.46	0.05	5,635.92	5,635.92	0.01	0.00	0.01	0.02
P-228	Open	0.46	0.01	5,459.11	5,459.11	0.00	0.00	0.00	0.00
P-231	Open	108.95	1.24	5,459.34	5,459.11	0.24	0.00	0.24	1.10
P-232	Open	106.64	1.21	5,459.11	5,458.93	0.18	0.00	0.18	1.06
P-233	Open	-1.38	0.02	5,459.11	5,459.11	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	5,669.10	5,669.10	0.00	0.00	0.00	0.00
P-235	Open	0.47	0.05	5,669.10	5,669.10	0.00	0.00	0.00	0.00
P-236	Open	0.00	0.00	5,669.10	5,669.10	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	5,456.39	5,454.69	1.70	0.00	1.70	4.83
P-238	Open	81.38	8.31	5,643.88	5,635.94	7.94	0.00	7.94	176.44
P-239	Open	0.47	0.05	5,459.11	5,459.10	0.00	0.00	0.00	0.02

Analysis Results

Scenario: Base

Extended Period Analysis

Pumps @ 8.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	459.10	5,669.10	0.47	10.00	1.00	0.02
PMP-2	On	454.69	5,643.88	81.38	89.19	1.00	3.89

Tanks @ 8.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,459.80	4.10	1.77	7.7	2,992.16	29.41	29.41	Draining

Pressure Junctions @ 9.70 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (Calculated) (gpm)
J-7	4,368,768.00	1,543,212.00	1,368,768.00	0.00
J-8	4,368,768.00	1,545,514.00	1,374,088.00	0.00
J-9	4,368,948.00	1,545,564.00	1,374,203.60	0.00
J-10	4,368,948.00	1,545,592.00	1,374,268.00	0.00
J-11	4,368,768.00	1,545,549.00	1,374,168.50	0.00
J-14	4,368,946.00	1,545,628.00	1,374,350.89	0.00
J-15	4,368,736.00	1,545,561.00	1,374,196.00	0.00
J-17	4,368,946.00	1,545,624.00	1,374,341.30	0.46
J-20	4,368,736.00	1,545,556.00	1,374,186.00	0.00
J-21	4,368,860.00	1,545,590.00	1,374,264.70	0.00
J-22	4,368,860.00	1,545,554.00	1,374,180.00	0.46
J-23	4,368,946.00	1,545,589.00	1,374,261.20	0.92
J-24	4,368,946.00	1,545,593.00	1,374,271.00	0.00
J-25	4,368,946.00	1,545,634.00	1,374,366.00	0.46
J-26	4,368,860.00	1,545,574.00	1,374,227.10	0.00
J-27	4,368,968.00	1,545,631.00	1,374,358.00	80.46
J-28	4,368,948.00	1,545,559.00	1,374,192.28	0.46
J-29	4,368,948.00	1,545,561.00	1,374,196.00	1.38
J-30	4,368,946.00	1,545,660.00	1,374,426.00	0.46
J-31	4,368,946.00	1,545,569.00	1,374,214.40	3.21
J-32	4,368,946.00	1,545,583.00	1,374,248.10	1.38
J-33	4,368,768.00	1,545,520.00	1,374,101.10	0.00
J-34	4,368,768.00	1,545,562.00	1,374,198.20	0.46
J-35	4,368,948.00	1,545,567.00	1,374,210.10	0.00
J-36	4,368,946.00	1,545,605.00	1,374,298.20	0.92
J-37	4,368,946.00	1,545,562.00	1,374,199.20	0.92
J-38	4,368,948.00	1,545,566.00	1,374,208.09	2.75
J-39	4,368,948.00	1,545,550.00	1,374,171.30	0.92
J-40	4,368,946.00	1,545,562.00	1,374,198.50	1.38
J-83	4,368,948.00	1,545,568.00	1,374,212.83	0.00
J-84	4,368,948.00	1,545,564.00	1,374,203.55	1.38
J-85	4,368,948.00	1,545,561.00	1,374,196.32	0.46
J-86	4,368,946.00	1,545,556.00	1,374,185.00	3.67

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Junctions @ 9.70 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (Calculated) (gpm)
J-87	4,368,946.00	1,545,580.00	1,374,241.20	0.46
J-88	4,368,946.00	1,545,609.00	1,374,308.00	1.84
J-90	4,368,768.00	1,545,545.00	1,374,159.05	0.00
J-91	4,368,948.00	1,545,558.00	1,374,188.30	2.75
J-92	4,368,768.00	1,545,558.00	1,374,188.54	0.00
J-93	4,368,946.00	1,545,639.00	1,374,376.00	0.92
J-94	4,368,946.00	1,545,613.00	1,374,316.30	0.46
J-95	4,368,736.00	1,545,548.00	1,374,166.00	0.46

Pressure Pipes @ 9.70 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Head (ft)	Headloss Gradient (\$/1000ft)
P-140	Open	0.46	0.01	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-141	Open	1.38	0.04	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-143	Open	80.46	8.22	-24,368,860.00	-24,368,968.00	108.00	0.00	108.00	163.14
P-145	Open	0.00	0.00	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-147	Open	0.46	0.05	-24,368,860.00	-24,368,860.00	0.00	0.00	0.00	0.00
P-148	Open	0.00	0.00	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-153	Open	0.46	0.01	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-154	Open	1.38	0.02	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-180	Open	89.64	1.02	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-185	Open	91.48	1.04	-24,368,946.00	-24,368,948.00	2.00	0.00	2.00	2.74
P-187	Open	80.92	8.26	-24,368,768.00	-24,368,860.00	92.00	0.00	92.00	166.06
P-188	Open	0.46	0.05	-24,368,860.00	-24,368,860.00	0.00	0.00	0.00	0.00
P-193	Open	10.56	0.12	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-194	Open	9.18	0.10	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-197	Temporarily Closed	0.00	0.00	5,458.70	-24,368,946.00	0.00	0.00	0.00	0.00
P-198	Open	109.40	1.24	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-207	Open	-8.26	0.09	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-208	Open	3.67	0.04	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-210	Open	5.51	0.06	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-211	Open	4.13	0.05	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-212	Open	3.67	0.04	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-213	Open	4.59	0.05	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-214	Open	0.92	0.01	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-215	Open	95.16	1.08	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-216	Open	92.86	1.05	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-217	Open	93.32	1.06	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-220	Open	0.46	0.01	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-221	Open	0.46	0.01	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-222	Open	3.67	0.09	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-223	Open	0.92	0.02	-24,368,948.00	-24,368,948.00	0.00	0.00	0.00	0.00
P-224	Open	0.46	0.05	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-225	Open	0.46	0.05	-24,368,768.00	-24,368,768.00	0.00	0.00	0.00	0.00
P-228	Open	0.46	0.01	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00

Title: Williams Lake

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 9.70 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (\$ft/1000ft)
P-231	Open	108.94	1.24	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-232	Open	106.64	1.21	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-233	Open	-1.38	0.02	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	-24,368,736.00	-24,368,736.00	0.00	0.00	0.00	0.00
P-235	Open	0.46	0.05	-24,368,736.00	-24,368,736.00	0.00	0.00	0.00	0.00
P-236	Open	0.00	0.00	-24,368,736.00	-24,368,736.00	0.00	0.00	0.00	0.00
P-237	Open	81.38	2.08	-24,368,946.00	-24,368,950.00	2.00	0.00	2.00	5.68
P-238	Open	81.38	8.31	-24,368,760.00	-24,368,768.00	8.00	0.00	8.00	177.78
P-239	Open	0.46	0.05	-24,368,946.00	-24,368,946.00	0.00	0.00	0.00	0.00

Pumps @ 9.70 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	3,368,946.00	3,368,736.00	0.46	10.00	1.00	0.02
PMP-2	On	3,368,950.00	3,368,760.00	81.38	90.00	1.00	3.90

Tanks @ 9.70 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	3,458.70	3.00	1.30	0.0	0.53	29.40	29.40	Empty

Pressure Junctions @ 10.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-7	0.00	0.00	0.00	0.00
J-8	0.00	2,301.71	3,320.00	0.00
J-9	0.00	2,273.85	3,255.60	0.00
J-10	0.00	2,301.71	3,320.00	0.00
J-11	0.00	2,336.54	3,400.50	0.00
J-14	0.00	2,338.44	3,404.89	0.00
J-15	0.00	2,362.28	3,460.00	0.00
J-17	0.00	2,334.29	3,395.30	0.00
J-20	0.00	2,357.96	3,450.00	0.00
J-21	0.00	2,338.36	3,404.70	0.00
J-22	0.00	2,301.71	3,320.00	0.00
J-23	0.00	2,299.64	3,315.20	0.00
J-24	0.00	2,303.88	3,325.00	0.00
J-25	0.00	2,344.98	3,420.00	0.00
J-26	0.00	2,322.09	3,367.10	0.00
J-27	0.00	2,332.00	3,390.00	0.00
J-28	0.00	2,268.95	3,244.28	0.00

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Analysis Results
Scenario: Base
Extended Period Analysis

Pressure Junctions @ 10.00 hr

Label	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)	Demand (gpm)
J-29	0.00	2,270.56	5,248.00	0.00
J-30	0.00	2,370.94	5,480.00	0.00
J-31	0.00	2,279.39	5,268.40	0.00
J-32	0.00	2,293.97	5,302.10	0.00
J-33	0.00	2,307.38	5,333.10	0.00
J-34	0.00	2,349.39	5,430.20	0.00
J-35	0.00	2,276.66	5,262.10	0.00
J-36	0.00	2,315.64	5,352.20	0.00
J-37	0.00	2,272.81	5,253.20	0.00
J-38	0.00	2,275.79	5,260.09	0.00
J-39	0.00	2,259.87	5,223.30	0.00
J-40	0.00	2,272.51	5,252.50	0.00
J-83	0.00	2,277.84	5,264.83	0.00
J-84	0.00	2,273.83	5,255.55	0.00
J-85	0.00	2,270.70	5,248.32	0.00
J-86	0.00	2,266.67	5,239.00	0.00
J-87	0.00	2,290.98	5,295.20	0.00
J-88	0.00	2,319.88	5,362.00	0.00
J-90	0.00	2,332.45	5,391.05	0.00
J-91	0.00	2,267.45	5,240.80	0.00
J-92	0.00	2,345.21	5,420.54	0.00
J-93	0.00	2,349.30	5,430.00	0.00
J-94	0.00	2,323.47	5,370.30	0.00
J-95	0.00	2,349.30	5,430.00	0.00

Pressure Pipes @ 10.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (ft/100ft)
P-140	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-141	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-143	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-145	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-147	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-148	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-149	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-153	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-154	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-180	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-185	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-187	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-188	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-193	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-194	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-197	Temporarily Cl	0.00	0.00	5,458.70	0.00	0.00	0.00	0.00	0.00
P-198	Open	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-207	Open	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Title: Williams Lake

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Project Engineer: Brent "Husk" Crowther

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Analysis Results

Scenario: Base

Extended Period Analysis

Pressure Pipes @ 10.00 hr

Label	Control Status	Discharge (gpm)	Velocity (ft/s)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Calculated Friction Headloss (ft)	Calculated Minor Headloss (ft)	Pressure Headloss (ft)	Headloss Gradient (ft/1000ft)
P-208	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-210	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-211	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-212	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-213	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-214	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-215	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-216	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-217	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-220	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-221	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-222	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-223	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-224	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-225	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-228	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-231	Open	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-232	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-233	Open	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-234	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-235	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-236	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-237	Open	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-238	Open	0.01	0.00	1,836.25	0.00	1,836.25	0.00	,836.25	,805.66
P-239	Open	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pumps @ 10.00 hr

Label	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Relative Speed	Calculated Water Power (Hp)
PMP-1	On	0.00	0.00	0.00	0.00	1.00	0.00
PMP-2	On	0.00	1,836.25	0.01	,836.25	1.00	0.00

Tanks @ 10.00 hr

Label	Calculated Hydraulic Grade (ft)	Calculated Level (ft)	Pressure (psi)	Calculated Percent Full (%)	Calculated Volume (gal)	Inflow (gpm)	Outflow (gpm)	Current Status
T-1	5,458.70	3.00	1.30	0.0	0.53	79.98	-79.98	Filling

