



**RICHARDSON & O'LEARY, PLLC**  
ATTORNEYS AT LAW

Molly O'Leary

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2007 AUG -6 PM 4:23

IDAHO PUBLIC  
UTILITIES COMMISSION

August 6, 2007

Ms. Jean Jewell  
Commission Secretary  
Idaho Public Utilities Commission  
P O Box 83720  
Boise ID 83720-0074

*Hand Delivered*

RE: Case No. EAG-W-07-01

Dear Ms. Jewell:

I am enclosing an original and seven (7) copies of the APPLICATION OF EAGLE WATER COMPANY, INC. FOR EXTENSION EMERGENCY SURCHARGE.

Please note that with the original, we are including the FINAL ENGINEERING REPORT ON THE WATER SUPPLY SYSTEM STUDY for Eagle Water Company, Inc.

Also enclosed is a copy to be date stamped and returned for our files.

Sincerely,

Nina Curtis

Richardson & O'Leary, PLLC

Molly O'Leary (ISB # 4996)  
Richardson & O'Leary, P.L.L.C.  
P.O. Box 7218  
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Attorneys for Eagle Water Company, Inc.

BEFORE THE  
IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE INVESTIGATION )  
OF LOW WATER PRESSURE IN A )  
PORTION OF EAGLE WATER )  
COMPANY'S SERVICE AREA )

CASE NO. EAG-W: 07-01  
EAGLE WATER COMPANY, INC.'S  
APPLICATION FOR SURCHARGE  
EXTENSION

COMES NOW, Eagle Water Company, Inc. ("Eagle Water" or "the Company") and hereby requests that the Idaho Public Utilities Commission ("the Commission") issue an order extending the collection of the current surcharge to cover certain necessary expenses previously incurred, and additional necessary expenses the Company continues to incur, in connection with improvements to its water system pursuant to this Commission's Order No.29840 and pursuant to a subsequent Consent Order entered into with the Idaho Department of Environmental Quality ("DEQ") on February 17, 2006. These expenses are proper expenses to be duly recovered from the Company's ratepayers.

Eagle Water's request is based on the following:

EAGLE WATER COMPANY, INC.  
APPLICATION FOR EXTENSION  
OF SURCHARGE - 1

1. On August 1, 2005, DEQ issued a Notice of Violation to Eagle Water, alleging that the Company failed to maintain minimum water pressure in an isolated portion of its system serving the upper reaches of Eagle Springs Subdivision in Eagle, Idaho.

2. On August 3, 2005, the Commission ordered Eagle Water to conduct an engineering study to identify and address current and long-term system pressure issues, if any. Order No. 29840. In addition, the Commission ordered Eagle Water to file an Application for an Emergency Surcharge to finance short-term system improvements.

3. On August 25, 2005, Eagle Water filed an Application for Emergency Surcharge, initiating the current docket. Among other things, Eagle Water outlined the need for an additional source of water supply to mitigate current or long-term water pressure concerns for its system.

4. DEQ filed Comments in response to Eagle Water's Application for Emergency Surcharge, supporting Eagle Water's request for funding for a new well as a "critical component of any complete and long-range plan that may be proposed in the forthcoming, detailed engineering report." Order No. 29903, p. 5.

5. On October 27, 2005, the Commission entered Order No. 29903 approving the implementation of a surcharge to recover no more than \$160,389.00, but reserved judgment on the recovery of \$40,027 of the funds requested by Eagle Water for replacement of its 8-inch line, pending the provision of additional information by the Company. Upon Staff recommendation, the Commission denied Eagle Water's request

for implementation of a surcharge to cover the cost of a new system well, pending completion of the Company's engineering report.

6. On February 6, 2006, the Commission entered Order No. 29969, limiting the authorized surcharge total to \$112,414.

7. On February 17, 2006, Eagle Water entered into a Consent Order with DEQ, as a resolution of the August 2005 Notice of Violation. Among other things, the Consent Order required Eagle Water to complete an engineering report detailing:

- a. Recommended actions to meet the requirements of IDAPA 58.01.08;
- b. A funding plan to implement the recommendations; and
- c. A project implementation schedule for the recommendations.

8. Eagle Water submitted its first draft Preliminary Engineering Report to DEQ in May of 2006. Subsequent drafts were submitted in January, March, May and June of 2007, despite technical glitches with the Haestad computer modeling software that was used for the report; departure of the engineer who worked on the initial draft; the lack of a similarly qualified engineer on staff at MTC, Inc.; an aortic aneurism suffered by MTC's principal, Jim Rees, P.E.; and contradictory peak flow standards required by DEQ which necessitated no less than 36 revised computer modeling runs.

9. On October 30, 2006, December 28, 2006, March 7, 2007, and June 1, 2007 the Commission entered orders extending the deadline for Eagle Water's submission of its Final Engineering Report due to the DEQ review delays, and authorized the Company to continue to collect the previously authorized surcharge

“subject to refund.” The Commission further instructed Eagle Water not to convert “the surcharge funds to its own use until such time as the Commission may approve the recovery of engineering and processing costs in excess of \$112,414.” Order No. 30331, p. 3.

10. As of July 11, 2007, \$165,749.90 has been collected by Eagle Water in surcharge fees. Of that amount, the following has been expended:

• MTC, Inc. (Engineering Report)	-	\$44,741.29
• Ward Engineering Group (Engineering Report)	-	\$35,000.00
• Geneva Trent (Accounting fees for Engineering Report)	-	\$ 337.50
TOTAL		\$80,078.79

11. The balance of the Surcharge Account as of July 12, 2007 was \$91,303.76. See **Exhibit 1**, attached.

12. Legal fees for the original Surcharge Application totaled \$10,945.22. See **Exhibit 2**, attached. Although the entire amount has been paid by Eagle Water, none of the amount paid was paid from the Surcharge Account.

13. On June 26, 2007, DEQ notified Eagle Water that its June 18, 2007 Preliminary Engineering Report could be re-submitted as a Final Engineering Report for formal approval. See **Exhibit 3**, attached. The Engineering Report was then re-submitted to DEQ as “Final”. See **Exhibit 4**<sup>1</sup>, attached. The report was accepted by DEQ on July 6, 2007. See **Exhibit 5**, attached.

14. The engineering fees for the Engineering Report totaled \$218,394.30. See **Exhibit 6**. Of this amount, \$79,741.29 has been paid to date from the Surcharge Account.

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<sup>1</sup> Eagle Water has provided the Commission with one complete copy of the full Engineering Report, and seven copies of the Executive Summary.

15. Legal fees for the Engineering Report have totaled \$16,231.84 as of the date of this Application. See **Exhibit 7**, attached. Of that amount, \$11,334.32 has been paid, leaving a balance of \$4,897.42. None of the fees paid to date were paid from the Surcharge Account.

16. Accounting fees for the Engineering Report have totaled \$600.00 as of the date of this Application. Of that amount, \$337.50 has been paid from the Surcharge Account. See **Exhibit 8**, attached.

17. Because Eagle Water is a small company, the cost of preparing and processing this Surcharge Extension Application will represent a significant extraordinary expense. Geneva Trent, CPA, estimates that her accounting services for this Surcharge Extension Application will total \$600.00. See **Exhibit 9**, attached. Richardson & O'Leary, PLLC estimates that its legal fees for this Surcharge Extension Application will total \$12,000.00. See **Exhibit 10**, attached.

18. In addition to the foregoing, the Final Engineering Report contains the following system improvement recommendations:

**COMPLETED – 2006**

Addition of Well # 7	\$638,600.00
Construction of Well # 7 Interconnection Infrastructure	\$153,300.00
Repair of Well # 4	\$56,100.00
<b>TOTAL</b>	<b>\$848,000.00</b>

**MANDATORY ACTIONS – 2007**

Interconnect Eagle Water system with the City of Eagle’s municipal water system for emergency flow redundancy	\$71,000.00 <sup>2</sup>
Install Pressure Reducing-Sustaining Valve on Floating Feather Road mainline	\$43, 120.00
<b>TOTAL</b>	<b>\$114,120.00</b>

19. The total of the above figures is as follows:

Balance owed on engineering fees for Engineering Report	\$161,394.30
Legal Fees for Engineering Report	\$16,231.84
Outstanding Accounting Fees for Engineering Report	\$262.50
Estimated Accounting Fees for Surcharge Extension Application	\$600.00
Legal Fees for Previous Surcharge Application	\$10,945.22
Estimated Legal Fees for Surcharge Extension Application	\$12,000.00
Completed System Improvements	\$848,000.00
Mandatory System Improvements	\$114,120.00

<sup>2</sup> The Cost Estimate in the Final Engineering Report for this Action Item was based on an interconnection with United Water-Idaho. The actual interconnection will be with the City of Eagle’s system, which this lower cost estimate reflects. See **Exhibit 11**, attached.

<b>TOTAL</b>	<b>\$1,163,553.86</b>
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20. The above figure, less the balance in the Surcharge Account as of July 12, 2007, leaves a balance of \$1,072,250.10 in additional funds needed to pay the above-listed expenditures.

21. As the Commission is aware, Eagle Water has entered into an Asset Purchase Agreement with the City of Eagle for the purchase of the Company's water system. That agreement was approved by the City of Eagle City Council on July 10, 2007. Following a Due Diligence period, that transaction is expected to close in November of 2007.

22. Assuming that transaction closes as anticipated by the parties, any system improvements accomplished by Eagle Water by the Closing Date, will be recouped by Eagle Water as part of the Purchase Price. Nevertheless, Eagle Water is reserving its right to request recovery of the Completed Action and Mandatory Action system improvements pending the outcome of its transaction with the City of Eagle.

23. In the interim, Eagle Water requests that the Commission issue an order authorizing it to recover its outstanding debt for professional services associated with the previous Surcharge Application and the Engineering Report (\$188,833.86) plus the estimated professional fees associated with this Surcharge Extension Application (\$12,600.00) through a surcharge on its Customers' usage in excess of 600 cubic feet per month. The total of said fees is \$201,433.86.



24. Based on the present Surcharge Account balance of \$91,303.76, Eagle Water anticipates it will actually only need to borrow an additional \$110,130.10 to cover the outstanding professional fees, provided the Commission authorizes it to spend the current Surcharge Account balance on said fees. Under the terms of a financing proposal from Idaho Banking Company, the cost of the loan would be approximately 10.25 percent spread over 2 years. See **Exhibit 12**<sup>3</sup>, attached.

25. The Company further requests the Commission to issue an order approving the extension of the current scheduled surcharge as a fair, just and reasonable method for recovery of its costs associated with the professional fees referenced above. Certified Public Accountant Geneva Trent has calculated the expected revenue from the continuation of said surcharge and the expected loan pay-off schedule. See **Exhibit 13**, attached.

26. The Company will maintain a separate balancing account on its books with all transactions related to this Application flowing through the account on a monthly basis as transactions occur. None of the expenditures proposed in this Surcharge Extension Application will be recorded to the Company's plant accounts and the Company will not seek to add these costs to its rate base for rate-making purposes. Quarterly status reports will be provided to the Commission, in writing, to apprise the Commission of moneys expended.

27. Communications with reference to this request should be sent to the following:

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<sup>3</sup> Although Idaho Banking Company's loan proposal is based on the full amount of the outstanding professional fees, as previously stated, Eagle Water anticipates that it will only need to borrow \$110,130.10.

Molly O'Leary  
Richardson & O'Leary, P.L.L.C.  
P.O. Box 7218  
Boise, ID 83707

Robert V. DeShazo., Jr., President  
Eagle Water Company, Inc.  
P.O. Box 455  
Eagle, ID 83616

28. Because the issues presented by this request are limited in scope, Eagle Water requests that this request be processed without the need for a hearing, under Commission Rule of Procedure 202, Modified Procedure.

RESPECTFULLY SUBMITTED this 6th day of August, 2007.

Richardson & O'Leary P.L.L.C.

By

  
Molly O'Leary

Attorneys for Eagle Water Company,  
Inc.

# **EXHIBIT 1**



July 12, 2007

**Eagle Water Company, Inc.**  
Attn: Robert De Shazo, Jr.  
172 W State Street  
Eagle, ID 83616

**Eagle**  
402 S.Eagle Rd.  
Eagle, Idaho 83616  
208-939-7040

**Fairview**  
6010 Fairview Ave.  
Boise, Idaho 83704  
208-472-4700

**Meridian**  
1875 S. Eagle Rd.  
Meridian, Idaho 83642  
208-955-0686

**ParkCenter**  
449 E. Parkcenter Blvd.  
Boise, Idaho 83706  
208-395-1505

**Mortgage**  
2965 E. Tarpon Dr., Ste. 150  
Meridian, Idaho 83642  
208-378-1013

**Construction**  
2965 E. Tarpon Dr., Ste. 150  
Meridian, Idaho 83642  
208-947-5588

RE: PUC Surcharge Account Summary

To Whom It May Concern:

Following is a summary of the Eagle Water Company, Inc. PUC Surcharge account and loan held at Idaho Banking Company.

Thank you,

Becky Fowers  
AVP & Branch Manager  
208-939-0554

CC: Molly O'Leary via email

All numbers as of 7/11/07:

Total deposits:	\$174,437.23
Total withdrawals:	<u>83,133.47</u>
Current Balance:	\$ 91,303.76

Withdrawal Detail:

Loan Fees:	\$ 1,411.00
Interest Payments:	1,643.68
Principle Payments:	45,078.79
Cashiers Check:	<u>35,000.00</u> (Ward Engineering Group)
Total Account Withdrawals:	\$ 83,133.47

Loan Summary:

Loan Advance 2/8/06:	\$ 44,741.29 (cash. check to MTC, Inc.)
Loan Advance 7/7/06:	<u>337.50</u> (cash. check to Geneva Trent, CPA)
Total Principle Advanced:	\$ 45,078.79

Total Payments outlined above, loan paid in full and closed.

# **EXHIBIT 2**

RICHARDSON & O'LEARY, PLLC

515 N. 27th Street  
 P.O. Box 7218  
 Boise, ID 83707

# Statement

Date
7/15/2007

To:
Eagle Water Company Robert. V. DeShazo, Jr., Pres. PO Box 455 172-D W.State Street Eagle, ID 83616

		Amount Due	Amount Enc.		
		\$4,779.62			
Date	Transaction	Amount	Balance		
07/31/2005	Balance forward		0.00		
	15RO - Surcharge-				
08/15/2005	INV #2138. Due 08/15/2005.	256.67	256.67		
08/16/2005	PMT #1012. from trust fund	-256.67	0.00		
09/15/2005	INV #2207. Due 09/15/2005.	3,493.64	3,493.64		
09/21/2005	PMT #6812.	-3,337.50	156.14		
10/10/2005	INV #2228. Due 10/10/2005.	2,762.05	2,918.19		
11/08/2005	INV #2281. Due 11/08/2005.	2,024.08	4,942.27		
11/08/2005	INV #FC 370. Due 11/08/2005. Finance Charge	29.18	4,971.45		
11/21/2005	PMT #6989.	-3,614.91	1,356.54		
12/13/2005	INV #2313. Due 12/13/2005.	853.32	2,209.86		
01/11/2006	INV #FC 398. Due 01/11/2006. Finance Charge	21.81	2,231.67		
01/12/2006	INV #2366. Due 01/12/2006.	297.50	2,529.17		
02/07/2006	INV #FC 422. Due 02/07/2006. Finance Charge	24.78	2,553.95		
02/09/2006	INV #2427. Due 02/09/2006.	302.41	2,856.36		
03/13/2006	INV #2489. Due 03/13/2006.	105.00	2,961.36		
03/15/2006	INV #FC 436. Due 03/15/2006. Finance Charge	28.86	2,990.22		
04/24/2006	INV #2537. Due 04/24/2006.	40.83	3,031.05		
06/20/2006	INV #2664. Due 06/20/2006.	84.58	3,115.63		
06/20/2006	INV #FC 476. Due 06/20/2006. Finance Charge	29.26	3,144.89		
06/20/2006	INV #2689. Due 06/20/2006.	277.08	3,421.97		
06/26/2006	PMT #7553.	-2,209.86	1,212.11		
07/12/2006	INV #FC 498. Due 07/12/2006. Finance Charge	11.07	1,223.18		
07/17/2006	INV #2716. Due 07/17/2006.	75.83	1,299.01		
08/10/2006	INV #2751. Due 08/10/2006.	71.50	1,370.51		
08/31/2006	PMT #7816.	-821.19	549.32		
08/31/2006	PMT #3300.	-84.58	464.74		
10/10/2006	INV #2860. Due 10/10/2006.	0.00	464.74		
10/12/2006	INV #FC 607. Due 10/12/2006. Finance Charge	4.24	468.98		
10/23/2006	PMT	-468.98	0.00		
11/10/2006	INV #2924. Due 11/10/2006.	122.36	122.36		
12/12/2006	INV #2991. Due 12/12/2006.	29.17	151.53		
01/15/2007	INV #3057. Due 01/15/2007.	1,120.01	1,271.54		
<b>CURRENT</b>	<b>1-30 DAYS PAST DUE</b>	<b>31-60 DAYS PAST DUE</b>	<b>61-90 DAYS PAST DUE</b>	<b>OVER 90 DAYS PAST DUE</b>	<b>Amount Due</b>
0.00	46.49	470.95	3,667.19	594.99	\$4,779.62

RICHARDSON & O'LEARY, PLLC

515 N. 27th Street  
 P.O. Box 7218  
 Boise, ID 83707

# Statement

Date
7/15/2007

To:
Eagle Water Company Robert. V. DeShazo, Jr., Pres. PO Box 455 172-D W.State Street Eagle, ID 83616

		Amount Due	Amount Enc.		
		\$4,779.62			
Date	Transaction	Amount	Balance		
02/15/2007	INV #3121. Due 02/15/2007.	373.33	1,644.87		
02/21/2007	PMT #8431.	-1,271.54	373.33		
03/14/2007	INV #3169. Due 03/14/2007.	221.66	594.99		
04/16/2007	INV #3217. Due 04/16/2007.	3,581.67	4,176.66		
05/07/2007	INV #FC 777. Due 05/07/2007. Finance Charge	41.77	4,218.43		
05/10/2007	INV #3273. Due 05/10/2007.	43.75	4,262.18		
06/06/2007	INV #FC 801. Due 06/06/2007. Finance Charge	42.20	4,304.38		
06/12/2007	INV #3334. Due 06/12/2007.	428.75	4,733.13		
07/11/2007	INV #FC 829. Due 07/11/2007. Finance Charge	46.49	4,779.62		
<b>CURRENT</b>	<b>1-30 DAYS PAST DUE</b>	<b>31-60 DAYS PAST DUE</b>	<b>61-90 DAYS PAST DUE</b>	<b>OVER 90 DAYS PAST DUE</b>	<b>Amount Due</b>
0.00	46.49	470.95	3,667.19	594.99	\$4,779.62

# **EXHIBIT 3**





STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

June 26, 2007

TSP&S-142/2007

Mr. Robert V. DeShazo, Jr.  
Eagle Water Company, Inc.  
172 W. State Street  
Eagle, Idaho 83616

Mr. James Rees, P.E.  
MTC, Inc.  
707 N. 27<sup>th</sup> Street  
Boise, Idaho 83702

RE: Eagle Water Company (*City of Eagle, Ada County*)  
Acceptance of Preliminary Engineering Report

Dear Mr. DeShazo and Mr. Rees:

The Idaho Department of Environmental Quality (DEQ) has reviewed the Preliminary Engineering Report for the Eagle Water Company (EWC) water system, received on June 18, 2007, and has determined that it satisfies the requirements for such a document as set forth in the DEQ/EWC Consent Order signed by both parties on February 17, 2006. In accordance with that Consent Order, DEQ hereby directs EWC to change the title of the document to "Final Engineering Report", and submit it to DEQ for formal approval.

Please call me with any questions at 373-0514, or contact me via e-mail at [peter.bair@deq.idaho.gov](mailto:peter.bair@deq.idaho.gov).

Sincerely,

Peter S. Bair, P.E.  
Technical II Engineer

PSB:sjt

C: Tiffany Floyd, Drinking Water Manager, DEQ Boise Regional Office  
Mark Mason, P.E. Engineering Manager, DEQ Boise Regional Office  
Stephanie Ebright, Attorney General's Office, DEQ State Office  
Monty Marchus, P.E., DEQ Boise Regional Office  
Molly O'Leary, Richardson & O'Leary PLLC, P.O. Box 7218, Boise, Idaho 83707  
BRO Source File  
TSP&S Reading File

# **EXHIBIT 4**

**\*\*\*Please note that the attached  
is the Summary of the  
Engineering Report**



MTC, INC.

CONSULTING ENGINEERS, SURVEYORS, AND PLANNERS

707 N. 27TH ST. BOISE, IDAHO 83702-3113 (208) 345-0780 FAX (208) 343-8967



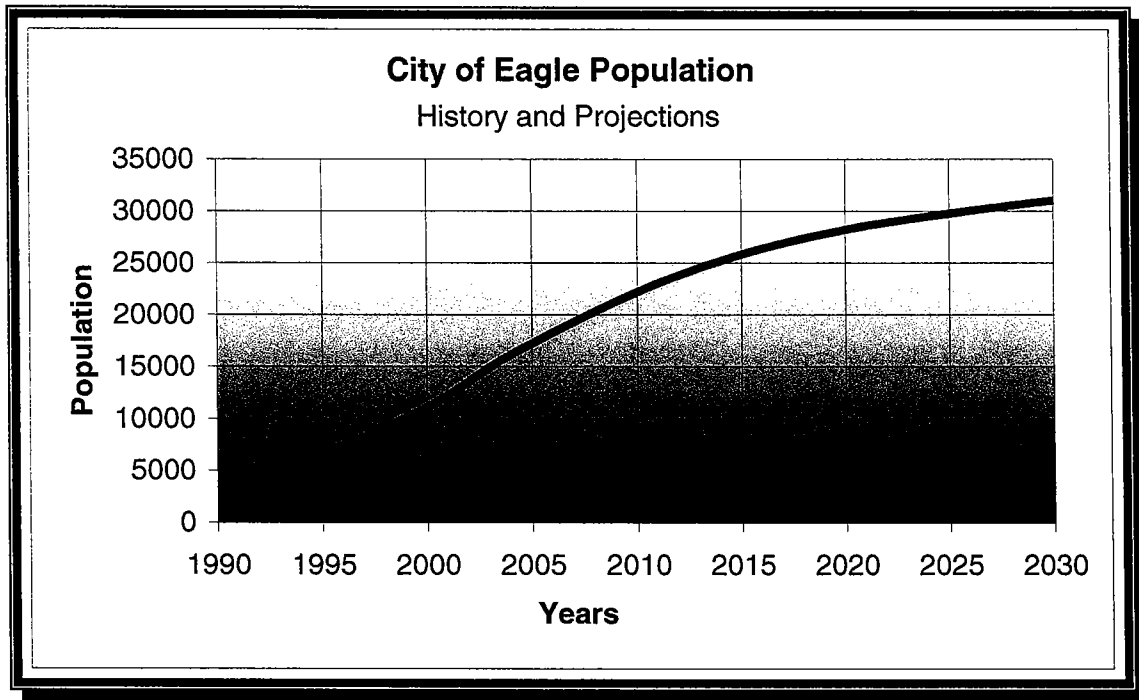
Mr. Robert V. DeShazo, Jr.  
Eagle Water Company, Inc.  
P.O. Box 455  
Eagle, ID 83616

June 27, 2007  
Project 05-840

Dear Mr. DeShazo,

The Final Engineering Report characterizes the water system of Eagle Water Company (EWC) for the purpose of 1) to identify current system pressure and supply deficiencies, if and 2) to identify and analyze potential remedial actions, and 3) to generate a model for EWC to use as a tool in current and future planning, monitoring, and management. The scope of the Final Engineering Report was system-wide. At the current time, the Idaho Department of Environmental Quality (IDEQ) has placed a development moratorium on the Company's certified service area until potential remedial actions are identified.

The City of Eagle has been a significant growth pattern. Census and population estimates (as obtained from the Idaho State Department of Commerce and Labor and other sources) and population projects from the demographic group COMPASS of IDAHO was integrated to develop the chart below which was used in estimating population and growth rates:



Portions of this growth were by annexation and were outside the Company's service area. However, growth has also occurred within the EWC service area through population growth, residential infilling, and an expanding commercial base. This is shown in the table below by the increase in the number of residential and commercial accounts serviced for the current water accounts and the anticipated water accounts for 2010 and 2026.

**Water Accounts Summary**

Year	Residential Accounts	Commercial Accounts	Agricultural Accounts	Total Water System Accounts
2006 w/ Approved Developments	2,924	358	112	3,394
2010	3,333	408	112	3,853
2026	3,603	530	112	4,245

The above table above indicates, the assumption that growth will only occur in Residential and Commercial accounts. Agricultural accounts would conservatively

remain constant even though Agricultural accounts will likely decrease as development occurs. In addition, the City of Eagle has policy that all new development must be equipped with a pressurized secondary irrigation system utilizing existing irrigation water rights.

The maximum day demand data was obtained from EWC personnel. The data indicates a steadily increasing which is attributed to the increase in water accounts served. To determine the maximum day demand per account and if it's changing with time, the maximum day demand was divided by the number accounts for the years 2003 through 2006. The results are listed in the table below.

The maximum day demand results are listed in the table below.

**Maximum Day Demand**

Year	Maximum Day Demand (gpd)	Account Total	Maximum Day Demand per Account (gpm)
2003	4,647,000	2,745	1.18
2004	4,763,000	2,888	1.15
2005	5,180,000	3,196	1.13
2006	5,261,000	3,261	1.12

The table shows a continual decrease with time for maximum day demand per account. In projecting future demands on the water system, it is conservatively assumed that each water account would have a maximum day demand of 1.12 gpm instead of following the downward trend.

The peak hour flow demand was determined from available flow data, industry references, and peaking factors used by local water systems. A list of some of the industry references and peaking factors from local water systems are shown below.

### System Demand

Reference	Peaking Factor for Peak Hour Flow Demand
Dewberry and Davis Land Development Handbook	1.58
City of Eagle	1.50
Star Sewer and Water District's	1.45
City of Meridian Water Master Plan Update	1.38

After careful consideration and discussion with IDEQ (See Appendix D), it was agreed that a peaking factor of 1.50 be used from maximum day demand to peak hour flow. Thus, each water account would have a peak hour flow demand of 1.68 gpm (1.12 gpm\*1.5). As part of the agreement of using a 1.5 peaking factor for peak hour flow, EWC will monitor the system for peak hour flow and maximum day demand this summer (2007) in order to validate the decision.

Each water account was considered a dwelling unit (D.U.). The plan of study was to utilize computer based modeling software, calibrate the model to available existing system data, and then test various scenarios in the model to see their impact on the overall system's modeled operation.

A computer model was setup to simulate the following: maximum day demand with fire flow and the peak hour flow demand under the existing 2006 water system w/ approved developments, 2006 with required improvements, the projected 2010 water system, and projected 2026 water system. Each of these scenarios was run with Well #4 off and then Well #6 off per the General Design Conditions (Section 501.17.a).

Specific standards (utilized in this modeling) establishing pressure, flow and redundancy requirements were obtained from *Idaho Rules for Public Drinking Water Systems (IRPDWS)*. These standards require a minimum zone pressure of 20 psi during the maximum day demand plus fire flow scenario. The system also needs to meet the system wide operational pressure standards of 100 psi maximum and a minimum of 40 psi during normal operations and peak hour flow demand.

Calibration of the model was verified comparing modeling results with actual fire hydrant flow test data. Two separate scenarios were used to verify that the model reflects actual field conditions. The scenarios were before and after Well #7 was put into service and a total of 8 fire hydrant flow tests were compared. The model agrees with reasonable variance to measured field conditions. Varying pressure and flow availability within the system are likely when using data from different hours during the day, years, and seasons.

The modeling results for the different scenarios were analyzed to identify improvements to the system and make recommendations. One of these evaluated improvements was the use of a water storage facility. The concept of utilizing a tank for a supplemental source when one of the wells is out of service was studied from several angles. The recommended storage capacity of one million gallons was used for the study. To be effective the tank must supply water to the highest service connection with the required working pressure of 40 psi. This would require the minimum operating water level of the tank to be around elevation 2840 feet. The tank must be located outside the existing certificated area for proper elevation or EWC would need to construct an elevated tank. There are few, if any, locations available for the construction of an elevated tank. Two locations outside the service area were evaluated for a tank location. To fill either of the tanks, a tank booster pump station would be required. Due to siting, easements, and economics concerns along with the need for an additional water supply in the near future; it was determined that a water storage facility would be nice but not a necessity.

A computer model was setup to simulate the following: maximum day demand with fire flow and the peak hour flow demand under the existing 2006 Water System w/ Approved Developments, 2006 with Required Improvements, the projected 2010 Water System, and projected 2026 Water System. Each of these scenarios was run with Well #4 off and then Well #6 off per the General Design Conditions (Section 501.17.a).

After evaluating and modeling numerous options, a list of recommendations were developed. The recommendations were divided into the following categories: Mandatory, Future, Suggested, and Completed Actions. Mandatory Actions are those

immediately required to bring the system into compliance with regulations. Future Actions are recommendations required to support future development. Suggested Actions are items that would optimize the water system but are not required. Completed Actions are recent improvements that have been beneficial to the current water system. For ease of implementation and organization, the action categories have been divided into two subcategories: (1) planning items and (2) construction projects.

**MANADATORY ACTIONS**

PLANNING ITEMS

A list of MANDATORY planning items to bring the water system into compliance is as follows:

- None

CONSTRUCTION PROJECTS

The following list of MANDATORY construction projects along with their construction priority has been developed to increase the service pressure, available fire flow, and water supply within the water system. However, the 2006 Approved Development analysis identified improvement project-related deficiencies within the existing water system. As the model results indicated, the maximum day demand plus fire flow, with Well #4 off, identified 5 residential junctions in the upper pressure zone with fire flow availability less than 1000 gpm and the minimum fire flow for commercial junctions of 1668 gpm. The peak hour demand indicated that the pressure dropped below 40 psi when Well #4 off and then again when Well #6 is off. The results for the 2006 Approved Development indicate the need for the following list of Mandatory construction projects to bring the water system into compliance with IRPDWS requirements.

<u>Priority #</u>	<u>Date</u>	<u>Description</u>	<u>Cost Estimate</u>
1	(2007-2008)	Water Interconnect .....	\$151,250
		Interconnect water systems with either United Water or City of Eagle for emergency flow redundancy. The United Water	



interconnect should be made on Floating Feather Road just downstream of the proposed PRSV to feed the lower pressure zone. The United Water Interconnect should be designed to produce 1845 gpm at 61.5 PSI. The City of Eagle interconnect should be made upstream of the proposed PRSV to feed the upper pressure zone. This interconnect should be designed to produce 1845 gpm at 74 PSI. Cost estimate is for United Water Interconnect as modeled in the report and would require a traffic rated vault, miscellaneous valves, flow meter, and appurtenances.

Cost Itemization

Construction	\$ 125,000
Engineering (12%)	\$ 12,500
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Subtotal	\$ 137,500
Contingency (10%)	\$ 13,750
Total	\$ 151,250

Timeline Overview

Design	July 2007
Permitted	September 2007
Construction	December 2007

- 2 (2007) Install PRSV on Floating Feather Road .....\$43,120
- Replace existing throttling valve with a pressure reducing/sustaining valve. In the water model, the upstream pressure setting was set at 72.5 psi and downstream pressure remained near 55 psi.

Cost Itemization

Construction	\$ 35,000
Engineering (12%)	\$ 4,200
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Subtotal	\$ 39,200
Contingency (10%)	\$ 3,920
Total	\$ 43,120

Timeline Overview

Design	July 2007
Permitted	August 2007
Construction	December 2007, Will be installed during low flow conditions.

**FUTURE ACTIONS**

PLANNING ITEMS

A list of FUTURE planning recommendations is as follows:

- None

CONSTRUCTION PROJECTS

The list below is for Future construction projects which have been selected to able the water system to service the anticipated growth and also eliminate reliance on the proposed water interconnect.

<u>Priority #</u>	<u>Date</u>	<u>Description</u>	<u>Cost Estimate</u>
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1	(2008-???)	New Water Source .....	\$898,040
		There are two viable options to increase the available water supply within the water system. The first option would be to renovate existing water sources for additional supply and equip these sources with emergency backup power. The second option would be to drill and construct new water source which would be equipped with emergency backup power. As	

previously stated, the water requirement of 2365 gpm is required for the 2010 and 2026 Scenarios. This item also includes associated piping (\$35/ft at 1350 ft) and land (\$150,000).

Cost Itemization

Construction	\$ 785,000
Engineering (4%)	\$ 31,400
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Subtotal	\$ 816,400
Contingency (10%)	\$ 81,640
Total	\$ 898,040

Timeline Overview

Siting	October 2007
Design	February 2008
Permitted	October 2008
Construction	December 2008

\* The questions marks for the completion date indicate the uncertainty associated with siting and permitting a new water source.

- 2 (2008-2009) Well #2 Booster Pump Station Modification .....\$38,115  
 Increase the pumping head in Booster Pump Station #2 by replacing existing pumps with pumps that produce a combined flow 640 gpm at 148' TDH. This will enable the use of the 90,000 gallon Well #2 water storage tank to attenuate the peak demand on the water sources. The model was setup with two pumps in operation for convenience only. Any major pump modifications made will require the pumping station to be equipped with redundant pumping capacity. It should be designed with either a duplex pumping station with equal sized pumps or a triplex pumping station with two identical smaller pumps and a jockey pump meeting the required flow and head parameters.

Cost Itemization

Construction	\$ 31,500
Engineering (10%)	\$ 3,150

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Subtotal	\$ 34,650
Contingency (10%)	\$ 3,465
Total	\$ 38,115

Timeline Overview

Design	March 2008
Approval	July 2008
Construction	November 2008

(As Developed)

West Enchantment Street, West Cobblestone Way, and West Yellowstone Street Piping Interconnect \$30/ft @ 3,740 ft plus Bore & Jack \$50,000, .....\$253,616  
Increase the capacity of fire flow near Well #6 when it is off line. It should be a requirement of the developer of residential parcel #2 to make the looped connection including the bore and jack under the canal. The cost should be split between the developer and EWC.

Cost Itemization

Construction	\$ 209,600
Engineering (10%)	\$ 20,960

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Subtotal	\$ 230,560
Contingency (10%)	\$ 23,056
Total	\$ 253,616

Timeline Overview – Will be development driven.

