

THE STATE OF NEW HAMPSHIRE

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**PUBLIC UTILITIES COMMISSION**  
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May 20, 2010

Ms. Debra A. Howland, Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, New Hampshire 03301



Re: DW 10-111, Hampstead Area Water Company, Inc.  
Petition for Approval of Financing for 2009 and 2010 Capital Additions

Dear Ms. Howland:

On April 20, 2010, Hampstead Area Water Company, Inc. (HAWC) filed a petition with the Commission seeking authority pursuant to RSA 369 to issue long term debt in the combined amount of \$451,465. Accompanying the petition was the pre-filed direct testimony of Stephen P. St. Cyr, consultant to HAWC. Staff has reviewed the petition and recommends that the Commission approve HAWC's request through the issuance of an order *nisi*.

The funds that HAWC is seeking authority to borrow are from its affiliate, Lewis Builders Development, Inc. (LBDI). HAWC is seeking to use the proceeds of this borrowing to fund various capital additions previously constructed in 2009 as well as planned for 2010. HAWC's 2009 capital additions totaled \$114,065 and included the replacement of numerous meters and pumps as well as the replacement of mains, services and curb boxes. HAWC contends that these improvements, especially the meter and pump replacements, were necessary to achieve proper functioning within its water systems. For 2010, HAWC is proposing to borrow \$337,400 in order to fund various projects including a replacement well, a new vehicle, new water treatment filters, various station upgrades as well as additional meter and pump replacements. HAWC contends that a number of these projects are associated with its water loss program and were planned based upon recommendations made by the New Hampshire Department of Environmental Services (NHDES).

HAWC proposes the execution of two separate promissory notes with LBDI. The first relates to the 2009 capital additions in the amount of \$114,065. The proposed term

of this note is twenty years at an interest rate of 2.25% above the prime rate which is to be adjusted every three years. The initial proposed interest rate will be 5.50% which will result in monthly installments of principal and interest in the amount of \$784.64. The second proposed note with LBDI relates to the proposed 2010 capital additions which are anticipated to cost \$337,400. The proposed term of this note is also twenty years at an interest rate of 2.25% over prime and adjustable every three years as well. The initial monthly installment of principal and interest on this note at an interest rate of 5.50% is calculated to be \$2,320.93.

As part of its review of the petition, Staff submitted discovery requests to HAWC. The responses to those discovery requests received from HAWC are attached to this correspondence. Through discovery, HAWC amended the schedules attached to the direct testimony of Stephen P. St. Cyr relative to the pro-forma financial impact of the proposed capital improvements and financing (see HAWC's responses to Staff 1-4, 1-6, 1-7, 1-8, 1-9 and 1-10). Most notably, HAWC adjusted the service lives of two Greensand Filters planned for installation during 2010 from 10 years to 28 years (See HAWC response to Staff 1-9). This amendment results in a \$2,304 decrease in the annual depreciation expense on the new assets from \$26,775 to \$24,471 (See amended Schedules SPS-5 and SPS-6). As a result of this and other related adjustments, HAWC reduced its projection of the estimated revenue increase associated with the 2009 and 2010 capital additions and financings from \$60,540 to \$57,578 (See amended Schedule SPS-7). Staff estimates that this translates to a 4.34% rate increase.

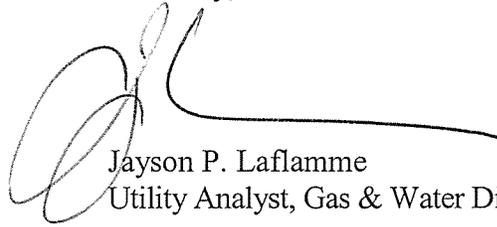
As indicated by the amended schedules to the direct pre-filed testimony of Mr. St. Cyr, the impact of the proposed financing on HAWC's balance sheet is expected to be minimal. The capital structure of HAWC will change from approximately 87% debt / 13% equity before the proposed financing to approximately 88% debt / 12% equity after the financing.

Staff concurs with HAWC regarding the necessity of the projects both previously completed in 2009 as well as proposed for 2010. Staff is especially supportive of the proposed measures undertaken by HAWC at the suggestion of NHDES towards reducing the loss of water within its systems. Staff believes that such measures are beneficial to the public good in that they both preserve a precious natural resource and ultimately result in cost savings for HAWC and its customers. Staff believes that HAWC has adequately demonstrated the necessity of both the projects previously completed in 2009 as well as proposed for 2010 towards achieving the safe and adequate supply of water to its customers in a cost efficient manner. Further, Staff believes that the terms of the proposed financing are extremely favorable which will also ultimately benefit HAWC's ratepayers.

May 20, 2010

As previously stated, Staff recommends the Commission approve HAWC's request for financing in this docket through the issuance of an order *nisi*. If you have any questions with regard to this matter, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Jayson P. Laflamme". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jayson P. Laflamme  
Utility Analyst, Gas & Water Division

A handwritten signature in black ink, appearing to read "Douglas W. Brogan". The signature is cursive and somewhat stylized.

Douglas W. Brogan  
Utility Engineer, Gas & Water Division

Attachment: HAWC's Discovery Responses

cc: Service List

ROBERT LEVINE  
HAMPSTEAD AREA WATER COMPANY  
54 SAWYER AVE  
ATKINSON NH 03811

STEPHEN P ST CYR  
STEPHEN P ST CYR & ASSOC  
17 SKY OAKS DR  
BIDDEFORD ME 04005

Docket #: 10-111      Printed: May 21, 2010

**FILING INSTRUCTIONS:    PURSUANT TO N.H. ADMIN RULE PUC 203.02(a),**

**WITH THE EXCEPTION OF DISCOVERY, FILE 7 COPIES (INCLUDING COVER LETTER) TO:**

DEBRA A HOWLAND  
EXEC DIRECTOR & SECRETARY  
NHPUC  
21 SOUTH FRUIT STREET, SUITE 10  
CONCORD NH 03301-2429

**PURSUANT TO N.H. ADMIN RULE 203.09 (d), FILE DISCOVERY**

**DIRECTLY WITH THE FOLLOWING STAFF**

**RATHER THAN WITH THE EXECUTIVE DIRECTOR**

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21 SOUTH FRUIT ST, SUITE 10  
CONCORD NH 03301-2429

BULK MATERIALS:

Upon request, Staff may waive receipt of some of its multiple copies of bulk materials filed as data responses. Staff cannot waive other parties' right to receive bulk materials.

AMANDA NOONAN  
CONSUMER AFFAIRS DIRECTOR  
NHPUC  
21 SOUTH FRUIT ST, SUITE 10  
CONCORD NH 03301-2429

# *The Lewis Group of Companies*

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54 Sawyer Avenue - Atkinson, New Hampshire 03811 (603)362-5333 - (603)362-4936 (fax)

May 7, 2010

Marcia Thunberg, Esq.  
NH PUC  
21 S. Fruit Street, Suite 10  
Concord, NH 03301-2429

RE: DW-10-111  
Answers to Staff Data Requests – Set 1

Dear Marcia:

Please find enclosed the Company's Answers to Staff Data Requests – Set 1 regarding the above referenced docket. An electronic copy via email has also been sent to you and all persons on the service list.

Feel free to call me if you have any questions.

Very truly yours,



Robert C. Levine, Esq.  
General Counsel

Enclosures  
RCL/ja

cc: HAWC Mgrs.  
Stephen St. Cyr  
10-111 Service List

F:\Legal\HAWC\DW-10-111 2010 Financing Petition Correspondence\RCL ltr to Staff-response DR's set 1 05.05.10.doc

**DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10**

**Date of Response: 05-05-10**

**Staff 1-1**

**Witness: John Sullivan**

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Reference Exhibit 1: Did the Company record any plant retirements relative to any of the 2009 Capital Additions indicated on Exhibit 1? If yes, please provide the relevant details regarding these retirements.

**Answer:**

Please note that the 2009 retirements are reflected on the 12/31/09 balance sheet. See attached.

**DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1**

**Date request received: 04-26-10  
Staff 1-2**

**Date of Response: 05-05-10  
Witness: Charles Lanza & John Sullivan**

Reference Exhibit 1:

- a) Please indicate the reason for the 84 customer meters installed in Lancaster Farms, as listed near the bottom of the exhibit.
- b) Please provide a general explanation of the criteria used by the Company to determine whether a particular cost should be recorded as a capital addition or an operating expense.
- c) For each of the following entries, please provide an explanation of the repair made and why it was recorded as a plant addition as opposed to an operating expense:

<u>Sheet #</u>	<u>Account</u>	<u>Date</u>	<u>Amount</u>	<u>Description</u>
VG 8	307	12/18/09	\$1,014.05	Repair Well
VG 8	307	12/31/09	1,287.04	Repair Well
WR 36-40	331	02/27/09	1,805.38	Repair Main
HAMP 7	331	05/29/09	3,472.67	Repair Main
HAMP 7	331	11/30/09	1,061.88	Repair Main
BM	331	12/31/09	1,442.28	Repair Main
WR 9-13	333	03/31/09	3,474.12	Repair Service Line
BM	333	05/29/09	1,563.33	Repair Service Line
LF	333	05/29/09	1,126.95	Repair Lawn . . .
WR 9-13	333	08/21/09	1,155.43	Repair Service Line
WR 9-13	333	10/30/09	1,729.61	Repair Service Line
HAMP 7	333	10/30/09	2,003.49	Repair Curb Box
KF	333	10/30/09	1,277.04	Repair Curb Box
HAMP 7	333	11/30/09	1,024.23	Repair Service Line

**Answer:**

1-2 (a): The 84 Meters were installed at Lancaster Farms because the existing meters were original as installed and were approximately 25-27 years old. In keeping with the company's recent meter change-out program and complying with the DES, PUC, & meter manufacturer's rules and recommendations of replacing meters every 10 years, Lancaster Farms was the first system selected to begin the meter change out program.

1-2 (b) & (c) During the PUC audit of last rate case (DW 08-065) the Company was asked by the PUC Audit Staff what was the Company's policy regarding capitalizing assets. The Company responded that it generally capitalizes items with a total cost greater than \$1,000 and a useful life greater than 1 year. An exception to this would be customer meters which have a cost of approximately \$364. The Audit Staff suggested

that the Company be consistent in its policy. Therefore all the items shown in Staff 1-2 were capitalized because each item was greater than \$1,000 and had a useful life of at least 1 year. Regarding the description of these items as "Repairs": the description should more properly be "Repair\Replacement".

**DW 10-111**  
**HAMPSTEAD AREA WATER COMPANY, INC.**  
**PETITION FOR APPROVAL OF FINANCING FOR**  
**2009 AND 2010 CAPITAL ADDITIONS**  
**ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10**  
**Staff 1-3**

**Date of Response: 05-05-10**  
**Witness: Robert Levine**

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Reference Exhibit 2: The monthly installment relative to the 2009 Capital Additions Note is indicated as \$774.87. However, the amortization schedule for this loan indicates that the monthly installment is \$784.64. Please explain and / or provide an amended Exhibit 2.

**Answer:**

See attached revised Notes, also correcting the interest to the correct rate of 5.50%.

**DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10  
Staff 1-4**

**Date of Response: 05-05-10  
Witness: John Sullivan**

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Reference Exhibit 3: Does the Company anticipate any retirements of existing plant relative to the 2010 Capital Additions? If yes, please provide the relevant details regarding these anticipated retirements.

**Answer:**

The Company added JE#11 on SPS-4 to reflect the anticipated 2010 retirements. See attached.

**DW 10-111**  
**HAMPSTEAD AREA WATER COMPANY, INC.**  
**PETITION FOR APPROVAL OF FINANCING FOR**  
**2009 AND 2010 CAPITAL ADDITIONS**  
**ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10**

**Date of Response: 05-05-10**

**Staff 1-5**

**Witness: Charles Lanza**

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Reference Exhibit 5; Page 3: With regard to the 2010 Capital Additions, Mr. St. Cyr states, "A number of the projects, i.e., the replacement meters, the replacement well and the water loss program, are DES recommended." Please provide the documentation received from NH DES which recommends the undertaking of these projects.

**Answer:**

The Company has numerous documents that either directly or indirectly recommend HAWC to undertake the various projects. Additionally, In regards to the replacement meters, please reference AWWA rules, PUC rules, Meter manufacturer recommendations, Also please note the approved conservation plan for the Atkinson & Hampstead Systems submitted to DES which requires HAWC to change 10% or approximately 220 meters per year. In regards to the replacement well, DES approved HAWC to move forward with the deepening of the well. The water program is another component of the approved conservation plan and was required by DES. See attached.

**DW 10-111**  
**HAMPSTEAD AREA WATER COMPANY, INC.**  
**PETITION FOR APPROVAL OF FINANCING FOR**  
**2009 AND 2010 CAPITAL ADDITIONS**  
**ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10**

**Date of Response: 05-05-10**

**Staff 1-6**

**Witness: Stephen P. St. Cyr**

Reference Exhibit 5; Schedule SPS-4; Journal Entry 2: It appears that the amount indicated for this journal entry (\$66,459) when combined with the amount indicated as already recorded by the Company relative to the 2009 Capital Additions (\$47,406) totals only \$113,865 which is \$200 less than the amount of the 2009 Capital Additions indicated throughout the filing (\$114,065). Please explain and/or provide amended schedules.

**Answer:**

See attached revised SPS-4.

DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1

---

**Date request received: 04-26-10**

**Date of Response: 05-05-10**

**Staff 1-7**

**Witness: Stephen P. St. Cyr**

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Reference Exhibit 5; Schedule SPS-4; Journal Entry 5: Should not an entire year of depreciation expense (\$5,779) be recorded relative to the 2009 Capital Additions since the pro-forma year represents, in effect, the second year that these assets are in service? Please explain.

**Answer:**

As noted, a half year depreciation on the 2009 additions to plant is reflected in the 2009 depreciation expense and the 12/31/09 accumulated depreciation. As such, journal entry 5 is adding the other half year depreciation, which would then represent “an entire year of depreciation expense (\$5,557) ... relative to the 2009 Capital Additions ...”

**DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1**

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**Date request received: 04-26-10**

**Date of Response: 05-05-10**

**Staff 1-8**

**Witness: Stephen P. St. Cyr**

Reference Exhibit 5; Schedule SPS-4; Journal Entry 8: Should not Account # 181,  
Unamortized Debt Discount & Expense, be credited \$250 instead of Account # 186,  
Miscellaneous Deferred Debits? Please explain.

**Answer:**

Yes. See attached revised SPS-4.

**DW 10-111  
HAMPSTEAD AREA WATER COMPANY, INC.  
PETITION FOR APPROVAL OF FINANCING FOR  
2009 AND 2010 CAPITAL ADDITIONS  
ANSWERS TO STAFF DATA REQUESTS – SET 1**

**Date request received: 04-26-10  
Staff 1-9**

**Date of Response: 05-05-10  
Witness: John Sullivan**

Reference Exhibit 5; Schedule SPS-6: Please explain the basis for the determination of the service lives indicated for each of the following proposed 2010 Capital Additions:

<u>Description</u>	<u>Account</u>	<u>Amount</u>	<u>Service Life</u>
Test/Replace 14 Well Meters	311	\$ 8,400	10 years
Replace 2 6' Greensand Filters	320	36,000	10 years
New F-150 Pick-up Truck	341	32,000	5 years

**Answer:**

The service lives for the 14 well meters and the new pick up truck were based on Company policy as used and approved in previous petitions with the PUC. Regarding the Greensand Filters – The Company inadvertently used a 10 year life. This needs to be changed to a 28 year life. As such, the Company adjusted the depreciation rate and expense on SPS-6. See attached.

**DW 10-111**  
**HAMPSTEAD AREA WATER COMPANY, INC.**  
**PETITION FOR APPROVAL OF FINANCING FOR**  
**2009 AND 2010 CAPITAL ADDITIONS**  
**ANSWERS TO STAFF DATA REQUESTS – SET 1**

**Date request received: 04-26-10**  
**Staff 1-10**

**Date of Response: 05-05-10**  
**Witness: Stephen P. St. Cyr**

Reference Exhibit 5; Schedule SPS-7; Property Taxes:

- a) Please explain how the assessed property value of \$439,229 was derived.
- b) If the assessed property value of \$439,229 includes the value of both personal as well as real property, please explain the Company's reasoning for this.
- c) Please explain how the local property tax rate of \$15 was derived.

**Answer:**

- a) In light of the response to Staff 1-9, whereby the Company has extended the life of the Greensand Filter from 10 years to 28 years, the assessed property value should be \$439,229 (\$451,465 - \$12,236).
- b) The assessed property value includes office equipment (\$1,420) and transportation equipment (\$32,000), which the State generally excludes from its assessed value. As such, the Company has reduced the assessed property value and the related state and local property taxes.
- c) The local property taxes from 11 towns served range from \$13.13 to \$21.23. For purposes of the proforma financial statements, the Company used \$15.00.

5/5/2010

# HAMPSTEAD AREA WATER COMPANY

## 2009 Additions

Staff 1-1  
Related Asset Retired

Sheet #	Account	Date	Amount	Description	Date	Description	Original Cost
WR 21-27	304	4/30/09	2,092.92	Lighting Fixtures	1992	Lighting Fixtures	500.00
	<b>Structures</b>		<b>2,092.92</b>				
WR 9-13	307	6/12/09	2,197.00	Pipe in well			
VG 8	307	12/18/09	1,014.05	Repair well			
VG 8	307	12/31/09	1,287.04	Repair well			
	<b>Wells</b>		<b>4,498.09</b>				
WR 36-40	311	1/30/09	1,755.69	Neptune meter	4/88	Neptune meter	537.30
RR	311	4/9/09	874.14	Pump	b 1992	Pump	200.00
CP	311	4/10/09	2,838.91	Labor to install pump	c 1998	Pump	500.00
CP	311	4/10/09	643.30	Pump	c		
RR	311	4/24/09	1,139.63	Labor to install pump	b		
WR 36-40	311	5/31/09	3,945.31	Pump	a 1989	Pump	1,000.00
OH	311	6/17/09	1,582.10	Booster pump	2000	Booster pump	750.00
WR 36-40	311	9/25/09	2,312.81	Pump	a		
AP	311	10/27/09	1,507.50	Drive	8/25/09	Drive	1,300.00
LF	311	11/4/09	706.17	Pump end & motor	d 1984	Pump	250.00
LF	311	11/30/09	678.80	Labor to install pump	d		
	<b>Pumping Equipment</b>		<b>17,984.36</b>				
WR 36-40	331	2/27/09	1,805.38	Repair main			
HAMP 7	331	5/29/09	3,472.67	Repair main			
HAMP 1-6	331	5/31/09	1,664.99	As-built drawings			
HAMP 15	331	7/31/09	1,479.40	As-built drawings			
HAMP 7	331	11/30/09	1,061.88	Repair main			
HAMP 1-6	331	12/31/09	4,721.57	Irongate mains			
BM	331	12/31/09	1,442.28	Repair main			
	<b>Mains</b>		<b>15,648.17</b>				
WR 9-13	333	3/31/09	3,474.12	Repair service line			
HAMP 7	333	5/1/09	1,454.57	New service			
BM	333	5/29/09	1,563.33	Repair service line			
LF	333	5/29/09	1,126.95	Repair lawn around repairs			
HAMP 7	333	6/5/09	1,072.56	New service			
HAMP 7	333	6/19/09	1,225.14	New service			
WR 9-13	333	8/21/09	1,155.43	Repair service line			
WR 9-13	333	10/30/09	1,729.61	Repair service line			
HAMP 7	333	10/30/09	2,003.49	Repair curb box			
KF	333	10/30/09	1,277.04	Repair curb box			
HAMP 7	333	11/30/09	1,024.23	Repair service line			
	<b>Services</b>		<b>17,106.47</b>				
AH	334	6/30/09	364.00	New customer meter			
WR-UNK	334	7/31/09	364.00	Meter			
HAMP 7	334	12/31/09	364.00	Customer meters			
HAMP-UNK	334	var.	3,276.00	Customer meters			
HAMP 1-6	334	var.	3,640.00	Customer meters			
HAMP 33-34	334	var.	728.00	Customer meters			
CH	334	var.	728.00	Customer meters			
LF	334	var.	18,327.12	84 customer meters	e 1984	84 customer meters	4,463.00
LF	334	var.	21,335.20	Install 84 meters	e		
VV	334	var.	6,188.00	Customer meters			
	<b>Customer Meters</b>		<b>55,314.32</b>				
Veh & Oth	340	6/5/09	1,420.00	Folding machine			
	<b>Office Equipment</b>		<b>1,420.00</b>				
	<b>TOTALS</b>		<b>114,064.33</b>				

**EXHIBIT 2  
REVISED**

**PROMISSORY NOTE  
2009 Capital Additions**

Initial Interest Rate 5.50%  
Principle Balance: \$114,065.00  
Date: July 1, 2010  
Term: Twenty (20) years

Hampstead Area Water Company, Inc. (HAWC) promises to pay to Lewis Builders Development, Inc., (LBDI), the sum of One Hundred Twelve Thousand Six Hundred Forty Four and 33/100<sup>th</sup> Dollars (\$114,065.00) (Principal), plus interest calculated from the date of this note at the rate of prime plus Two and 25/100<sup>th</sup> (2.25%) percent, interest to be adjusted on the third anniversary of the signing of this note, and payable as follows:

In Two Hundred and Forty (240) monthly installments of \$784.64 commencing on July 1, 2010 and every month thereafter, to be paid on the 1<sup>st</sup> day of each month until the balance is paid in full.

Hampstead Area Water Company, Inc. may prepay this note at any time.

HAMPSTEAD AREA WATER  
COMPANY, INC.

\_\_\_\_\_  
Witness:

By: \_\_\_\_\_  
Christine Lewis Morse, Its Vice  
President, duly authorized.

ACKNOWLEDGED AND ACCEPTED  
LEWIS BUILDERS DEVELOPMENT, INC.,

BY \_\_\_\_\_  
Christine Lewis Morse, its President duly authorized

**EXHIBIT 4  
REVISED**

**PROMISSORY NOTE  
2010 Capital Additions**

Initial Interest Rate 5.50%  
Principle Balance: \$337,400.00  
Date: July 1, 2010  
Term: Twenty (20) years

Hampstead Area Water Company, Inc. (HAWC) promises to pay to Lewis Builders Development, Inc., (LBDI), the sum of Three Hundred Thirty Seven Thousand Four Hundred and 00/100<sup>th</sup> Dollars (\$337,400.00) (Principal), plus interest calculated from the date of this note at the rate of prime plus Two and 25/100<sup>th</sup> (2.25%) percent, interest to be adjusted on the third anniversary of the signing of this note, and payable as follows:

In Two Hundred and Forty (240) monthly installments of \$2,320.93 commencing on July 1, 2010 and every month thereafter, to be paid on the 1<sup>st</sup> day of each month until the balance is paid in full.

Hampstead Area Water Company, Inc. may prepay this note at any time.

HAMPSTEAD AREA WATER  
COMPANY, INC.

\_\_\_\_\_  
Witness:

By: \_\_\_\_\_  
Christine Lewis Morse, Its Vice  
President, duly authorized.

ACKNOWLEDGED AND ACCEPTED  
LEWIS BUILDERS DEVELOPMENT, INC.,

BY \_\_\_\_\_  
Christine Lewis Morse, its President duly authorized

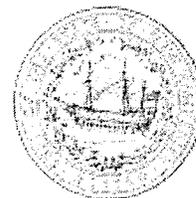
**Hampstead Area Water Company**  
**Journal Entries**

**SPS-4**  
**Revised 5/5/10**

1	Dr.	181	Unamortized Debt Expense	5,000	5,000
	Cr.	131	Cash		
	To record estimated debt expense associated with financing 2009 & 2010 additions to plant				
2	Dr.	131	Cash	66,459	66,459
	Cr.	224	Other Long Term Debt		
	To record receipt of cash and related liability for 2009 additions to plant. Note: \$47,606 of the liability related to the 2009 additions is already reflected on 12/31/09 B/S.				
3	Dr.	131	Cash	337,400	337,400
	Cr.	224	Other Long Term Debt		
	To record receipt of cash and related liability for the 2010 additions to plant.				
4	Dr.	101	Plant in Service	337,400	337,400
	Cr.	131	Cash		
	To record the 2010 plant in service Note: The 2009 additions to plant are already reflected on 12/31/09 B/S.				
5	Dr.	403	Depreciation Expense	2,890	2,890
	Cr.	108	Accumulated Depreciation		
	To record additional half year depreciation expense on 2009 additions to plant Note: A half year depreciation on 2009 additions to plant is already reflected on the 12/31/09 B/S.				
6	Dr.	403	Depreciation Expense	9,346	9,346
	Cr.	108	Accumulated Depreciation		
	To record half year depreciation expense on 2010 additions to plant				
7	Dr.	224	Other Long Term Debt	12,755	
	Dr.	427	Interest Expense	24,512	37,267
	Cr.	131	Cash		
	To record 1st year principal and interest payments on N/P for 2009 & 2010 additions				
8	Dr.	428	Amortization of Debt Expense	250	250
	Cr.	181	Unamortized Debt Expense		
	To record annual amortization of debt expense				
9	Dr.	131	Cash	57,578	57,578
	Cr.	461	Metered Water Revenues		
	To record additional annual revenue				
10	Dr.	408	State Utility Property Taxes	2,678	
	Dr.	408	Local Property Taxes	6,087	
	Dr.	409.11	State Business Enterprise Taxes	184	8,949
	Cr.	131	Cash		
	To record additional state and local property taxes and state business enterprise tax				
11	Dr.	108	Accumulated Depreciation	18,963	18,963
	Cr.	101	Plant in Service		
	To record 2010 retirements				



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Thomas S. Burack, Commissioner

June 5, 2008

John Brooks  
 Emery & Garrett Groundwater, Inc.  
 56 Main Street, PO Box 1578  
 Meredith, New Hampshire 03253

**Subject: Atkinson, Walnut Ridge Water System; EPA ID: 0112080  
 Water Conservation Plan**

Dear Mr. Brooks:

The New Hampshire Department of Environmental Services (Department) is in receipt of a water conservation plan dated May 8, 2008 submitted by Emery & Garrett Groundwater, Inc. (EGGI) on behalf of Hampstead Area Water Company (HAWC). The plan was submitted to fulfill the requirements of Env-Ws 390, *Water Conservation Rules*. Public notification was completed on May 12, 2008 with the 21 day period for comment expiring on June 2, 2008. The Department did not receive any comments on the proposed plan.

The purpose of this letter is to approve the May 8, 2008 water conservation plan as proposed. Every three years from the date of this letter HAWC shall supply the Department with a report and supporting data documenting compliance with the approved plan.

If you have any questions about this approval letter or any other water conservation issues feel free to call me at **271-6685** or email me at [dbennett@des.state.nh.us](mailto:dbennett@des.state.nh.us).

Sincerely,

Derek S. Bennett  
 Water Conservation  
 Drinking Water and Groundwater Bureau

**Ec:** Stephen Roy, Drinking Water and Groundwater Bureau, NHDES  
 Christine Bowman, Drinking Water and Groundwater Bureau, NHDES  
 Charlie Lanza, Hampstead Area Water Company Inc.

**Cc:** Board of Selectmen, Town of Atkinson  
 Jonathan Sistare, Town of Salem  
 Bud Terrile, Wright Farm Condominium Association  
 Frank Leary, Water Wheel Estates Unit Owners Association  
 Eugene Schneider, The Commons of Atkinson  
 John Shuman, Merrimack Valley Jewish Federation  
 John Shandorf, Merrimack Valley YMCA  
 Rockingham Planning Commission

DES Web Site: [www.des.nh.gov](http://www.des.nh.gov)

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095  
 Telephone: (603) 271-2513 Fax: (603) 271-5171 TDD Access: Relay NH 1-800-735-2964

3/15/2010

**HAMPSTEAD AREA WATER COMPANY, INC. (HAWC)**  
**Unaccounted-For Water Response Plan**  
**In Accordance with**  
**Water Conservation Rules**  
**Env-Wq 2101**

### **Section 1 - Water Company Profile**

The Walnut Ridge Water System was interconnected with the Hampstead Area Water System in November of 2009 and this plan will reflect the interconnected systems as one system going forward unless otherwise specified. The combined Hampstead & Atkinson Area Water System currently serves 2,208 connections or a population of approximately 5,520 people. All connections are metered. The existing system is served through a combination of 30 existing wells and 17 existing pumping and treatment stations. There is approximately 1,186,000 gallons of storage of which 500,000 is elevated. In 2009 the combined system average daily demand was 396,802 gallons per day (GPD). The highest monthly average pumpage in 2009 occurred in August and was 463,506 GPD. The unaccounted-for water percentage of water that was pumped in 2009 was 24.2% in the Hampstead Core System and 23.9% in the Walnut Ridge System. Over the last three years the Hampstead Core has averaged 24% and the Walnut Ridge System has averaged 27% unaccounted-for water. The past three years were chosen because filter backwash had been calculated by either meter deduction where possible and estimation elsewhere. Estimation is based on the flow rate through each filter multiplied by duration of flushing. This data is then incorporated into our water audit. Prior year's data did not take this into account.

HAWC has set a goal of reducing unaccounted-for water to 15% or less and maintaining compliance with Env-Wq-2101. Reduction in losses will extend the availability of the existing water supply and infrastructure, resulting in reduced capital and operating costs.

### **Section 2 – Source Meter Installation and Maintenance**

Source meters are installed, and will be repaired or replaced per manufacturers recommendations. There is limited documentation of exactly what meters have previously been repaired or replaced and going forward source meter repairs and replacements will be tracked in **Attachment A**.

See **Attachment A** for a list of all source meters located in the Hampstead & Atkinson Area Water System. This spreadsheet will be used to maintain the source meters service history and to comply with the “Manual of Water Supply Practices, Water Meters- Selection, Installation, and Maintenance,” know as Document AWWA M6, American Water Works Association, 1999.

### **Section 3 – Service Meter Installation & Maintenance**

3/15/2010

HAWC requires a meter at all services and there are no known services without a meter. The vast majority of the system is comprised of 1" and smaller residential meters. Service meters are tested upon customer request. In the spring of 2009 HAWC implemented a plan of replacing approximately 220 meters per year. This number will keep meters on a 10 year maintenance plan and will be updated as necessary to maintain a 10 year maintenance plan.

When meters are replaced there are a series of steps taken to improve overall efficiency. First the customer shut off is located and exercised to ensure proper operation. If it does not operate properly it is repaired or replaced. The line from the shut off to the building is then pressure tested prior to the meter replacement to check for any apparent leaks on this portion of the line. The meter is then replaced, and backflow preventer and or pressure reducers are also inspected.

Due to the high amount of unaccounted-for water at the Brickett's Mill System, HAWC has begun meter replacements at the former Community Water System which is now part of the Hampstead & Atkinson Area Water System. This work is expected to be complete in March of 2010. The next areas of the system to have meters replaced are listed below. These areas have been chosen due to age, frequency of leaks, and the largest amount of unaccounted-for water.

1. Squire Ridge Area in Hampstead
2. Emerson Trailer Park in Hampstead
3. Walnut Ridge Area in Atkinson

All work performed on service meters is tracked in our CUSI customer database and easily accessible in a report form. Data that is tracked includes:

- meter sizes
- meter installation date
- meter model
- backflow prevention size
- backflow installation date

#### **Section 4 – Meter Reading**

In June of 2009 HAWC implemented monthly billing. Previous billing was quarterly. Each service meter is read monthly and source meters are read at a minimum of twice monthly when operators perform their regular station inspections.

#### **Section 5 – Unaccounted-for Water**

See **Attachment B** for the unaccounted-for water during the previous three years.

#### **Section 6 – Water Audit**

3/15/2010

See **Attachment C** for a 2009 water audit of the Hampstead Area Water System and a 2009 water audit of the Walnut Ridge Water System. As of January 1, 2010 the water audits will be combined to reflect the interconnected systems.

In addition to the yearly audit HAWC performs a monthly audit to review the amount of unaccounted-for water.

### **Section 7 – Leak Detection**

There are approximately 57 miles of distribution piping in the Hampstead & Atkinson system. The leak detection plan is going to entail various methods of determining problem areas in the system. The first line of detection is performed by water company operators and meter readers that are trained to visually inspect for leaks as they make their rounds.

HAWC has recently received quotes from companies to provide leak detection services for the entire Hampstead & Atkinson System. The entire system will be surveyed in 2010 and leak repairs will be prioritized based on the largest leaks first.

All leak repairs are tracked through our CUSI work order system. The information tracked includes the location, date, materials used for repair, and estimated leak amount reported in gallons per minute.

### **Section 8 – Pressure Reduction**

Currently HAWC requires pressure reduction for any services greater than 80 psi. Pressure Reduction for individual services is accomplished during the initial stages of account creation, during the meter change out program, or during a response to a customer call. The current work order system tracks when and where devices are installed or repaired. This report will be provided in the yearly compliance form. Distribution pressure reduction is in place throughout the system and maintains pressures below 100 PSI.

### **Implementation**

A Public Utilities Commission approval will be necessary to fully implement this plan. HAWC will be working in the coming months to secure funding and obtain PUC approval.

### **Reporting**

HAWC will provide a progress report as required by NHDES.

## HAMPSTEAD AREA WATER CO., INC.

### HAMPSTEAD & ATKINSON CORE SYSTEM PUMPING & TREATMENT STATION METERS

#### ATTACHMENT A

Station	Town	EPA ID	Meter Make	Meter Type	Size	Measurement	Intermediaete			Weighted Average	Next Scheduled Calibration Due Date
							Date Last Replaced / Installed	Last Calibration Date	Low Flow Accuracy		
	Hampstead	1031010	Neptune T-10	Pos. Displacement	1 1/2"	Gallons	2005	Install Date			12/2011
	Hampstead	1031010	Neptune T-10	Pos. Displacement	1 1/2"	Gallons	2005	Install Date			12/2011
	Hampstead	1031010	ABB C700	Pos. Displacement	1"	Gallons	2000	Install Date			12/2010
	Hampstead	1031010	ABB C700	Pos. Displacement	1"	Gallons	2000	Install Date			12/2010
	Hampstead	1031010	ABB C700	Pos. Displacement	1"	Gallons	2000	Install Date			12/2010
	Atkinson	0112080	Neptune	Turbine	2"	Gallons	89-93	Install Date			12/2010
	Atkinson	0112080	ABB C700	Pos. Displacement	1 1/2"	Gallons	2001	Install Date			12/2011
	Atkinson	0112080	ABB C700	Pos. Displacement	1 1/2"	Gallons	2001	Install Date			12/2011
	Hampstead	1031010		Pos. Displacement	1 1/2"	Gallons	2009	Install Date			12/2011
	Hampstead	1031010	Sea-Metric	Paddle Wheel	1 1/2"	Gallons	2004	Install Date			12/2011
	Hampstead	1031010	Neptune	Pos. Displacement	1 1/2"	Gallons	2006	Install Date			12/2011
	Atkinson	0112080	Neptune T-10	Pos. Displacement	1"	Gallons	2005	Install Date			12/2011
	Hampstead	1031010	SeaMetrics	Paddle Wheel		Gallons	1987	Install Date			12/2010
	Atkinson	0112080	Schlumberger	Pos. Displacement	1 1/2"	Cubic Feet	1999	Install Date			12/2010
	Atkinson	0112080		Pos. Displacement	1 1/2"	Gallons	1999	Install Date			12/2010
	Hampstead	OFFLINE		Pos. Displacement	1 1/2"	Gallons	2003	Install Date			12/2011
	Atkinson	0112080	ABB C700	Pos. Displacement	1 1/2"	Gallons	2000	Install Date			12/2010
	Hampstead	1031010	cl	Pos. Displacement	1"	Gallons	1989	Install Date			12/2010
	Hampstead	1031010	Neptune	Turbine	3"	Gallons	Unknown	Install Date			12/2010
10	Atkinson	0112080	Neptune 4136	Turbine	3"	Gallons	1993	Install Date			12/2010
	Hampstead	1031010	Neptune T-10	Pos. Displacement	2"	Cubic Feet	86-88	Install Date			12/2010
	Hampstead	OFFLINE					86-88	Install Date			12/2010
	Hampstead	1031010	Neptune T-10	Pos. Displacement	1 1/2"	Gallons	86-88	Install Date			12/2010

Station	Town	EPA ID	Meter Make	Meter Type	Size	Measurement	Intermediaete			Weighted Average	Next Scheduled Calibration Due Date
							Date Last Replaced	Last Calibration Date	Low Flow Accuracy		
	Hampstead	1031010	Neptune	Turbine	1"	Gallons	2005	Install Date			12/2011
	Atkinson	0112080	Neptune	Turbine	3"	Gallons	2009	Install Date			12/2011
	Atkinson	0112080	Neptune	Turbine	2"	Gallons	2001	Install Date			12/2010

Hampstead	1031010	Neptune	Turbine	2"	Gallons	2009	Install Date	12/2011
Hampstead	1031010	Neptune	Turbine	2"	Gallons	2004	Install Date	12/2010
Atkinson	0112080	Neptune	Turbine	2"	Gallons	2005	Install Date	12/2010
Atkinson	0112080	Neptune	Turbine	3"	Gallons	2009	Install Date	12/2011
Atkinson	0112080		Turbine	2"	Gallons	2000	Install Date	12/2010
Hampstead	1031010		Turbine	3"	Gallons	2008	Install Date	12/2011

3/15/2010

**HAMPSTEAD AREA WATER CO., INC.**  
**UNACCOUNTED FOR WATER SUMMARY (GALLONS)**  
**ATTACHMENT C**

Page 1 of 1

	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>Comments</u>
<b>Hampstead Core:</b>				
Produced	96,663,294	91,208,442	92,206,801	
Backwash	3,208,000	2,719,960	5,612,600	
Sold	<u>70,055,862</u>	<u>63,637,020</u>	<u>66,898,860</u>	
Loss	<u>(23,399,432)</u>	<u>(24,851,462)</u>	<u>(19,695,341)</u>	
%	-24.2%	-27.2%	-21.4%	
<b>Walnut Ridge:</b>				
Produced	103,598,619	102,306,734	111,262,644	
Backwash	4,091,330	6,318,700	6,997,200	
Sold	<u>74,776,942</u>	<u>69,204,761</u>	<u>68,686,865</u>	
Loss	<u>(24,730,347)</u>	<u>(26,783,273)</u>	<u>(35,578,579)</u>	
%	-23.9%	-26.2%	-32.0%	
<b>COMBINED TOTALS:</b>				
Produced	200,261,913	193,515,176	203,469,445	
Backwash	7,299,330	9,038,660	12,609,800	
Sold	<u>144,832,804</u>	<u>132,841,781</u>	<u>135,585,725</u>	
Loss	<u>(48,129,779)</u>	<u>(51,634,735)</u>	<u>(55,273,920)</u>	
%	-24.0%	-26.7%	-27.2%	

PLEASE NOTE: The production numbers shown above are calculated to coincide with the quarterly billing dates. Therefore the production numbers will not agree with the production numbers shown on the PUC Annual Report which are calculated based on calendar months. Starting June of 09 all meters are read monthly.

# AWWA WLCC Water Audit Software: Reporting Worksheet

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WASv3.0

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Water Audit Report for: **Hampstead Area Water System**  
 Reporting Year: **2009**

Please enter data in the white cells below. Where possible, metered values should be used; if metered values are unavailable please estimate a value. Indicate this by selecting a choice from the gray box to the left, where M = measured (or accurately known value) and E = estimated.

All volumes to be entered as: **MILLION GALLONS (US) PER YEAR**

## WATER SUPPLIED

Volume from own sources:	<input type="checkbox"/> M	<input type="text" value="96.663"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment:	<input type="checkbox"/> M	<input type="text"/>	MG/Yr
Water imported:	<input type="checkbox"/> M	<input type="text"/>	MG/Yr
Water exported:	<input type="checkbox"/> M	<input type="text"/>	MG/Yr
<b>WATER SUPPLIED:</b>		<b>96.663</b>	<b>MG/Yr</b>

## AUTHORIZED CONSUMPTION

Billed metered:	<input type="checkbox"/> M	<input type="text" value="70.056"/>	MG/Yr
Billed unmetered:	<input type="checkbox"/> E	<input type="text"/>	MG/Yr
Unbilled metered:	<input type="checkbox"/> M	<input type="text" value="3.208"/>	MG/Yr
Unbilled unmetered:	<input type="checkbox"/> E	<input type="text" value="0.000"/>	MG/Yr
<b>AUTHORIZED CONSUMPTION:</b>		<b>73.264</b>	<b>MG/Yr</b>

Click here:  for help using option buttons below

Pcmt:  Value:

Use buttons to select percentage OR value

Pcmt:  Value:

WATER LOSSES (Water Supplied - Authorized Consumption)  MG/Yr

## Apparent Losses

Unauthorized consumption:	<input type="checkbox"/> M	<input type="text" value="0.000"/>	MG/Yr
Customer metering inaccuracies:	<input type="checkbox"/> M	<input type="text" value="0.000"/>	MG/Yr
Systematic data handling errors:	<input type="checkbox"/> M	<input type="text" value="0.000"/>	MG/Yr
Apparent Losses:		<input type="text" value="0.000"/>	MG/Yr

## Real Losses

Real Losses = (Water Losses - Apparent Losses):  MG/Yr

**WATER LOSSES:**  MG/Yr

## NON-REVENUE WATER

NON-REVENUE WATER:  MG/Yr

## SYSTEM DATA

Length of mains:	<input type="checkbox"/> M	<input type="text" value="27.4"/>	miles
Number of active AND inactive service connections:	<input type="checkbox"/> M	<input type="text" value="1,122"/>	
Connection density:	<input type="checkbox"/> M	<input type="text" value="41"/>	conn./mile main
Average length of customer service line:	<input type="checkbox"/> M	<input type="text" value="50.0"/>	ft
Average operating pressure:	<input type="checkbox"/> M	<input type="text" value="55.0"/>	psi

(pipe length between curbstop and customer meter or property boundary)

## COST DATA

Total annual cost of operating water system:	<input type="checkbox"/> M	<input type="text"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="checkbox"/> M	<input type="text"/>	\$/Million gallons
Variable production cost (applied to Real Losses):	<input type="checkbox"/> M	<input type="text"/>	\$/Million gallons

**DATA REVIEW - Please review the following information and make changes above if necessary:**

- Input values should be indicated as either measured or estimated. You have entered:
  - 3 as measured values
  - 1 as estimated values
  - 0 as default values
  - 14 without specifying measured, estimated or default
- Water Supplied Data: No problems identified
- Unbilled unmetered consumption: No problems identified
- Unauthorized consumption: No problems identified
- It is important to accurately measure the master meter - you have entered the measurement type as: measured
- Cost Data: None to evaluate.

## PERFORMANCE INDICATORS

### Financial Indicators

Non-revenue water as percent by volume:	<input type="text" value="27.5%"/>
Non-revenue water as percent by cost:	<input type="text"/>
Annual cost of Apparent Losses:	<input type="text"/>
Annual cost of Real Losses:	<input type="text"/>

### Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="0.00"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="57.14"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.04"/>	gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL):

\*\*\* UARL cannot be calculated as either average pressure, number of connections or length of mains is too small. SEE USER DEFINITION \*\*\*

Infrastructure Leakage Index (ILI) (Real Losses/UARL):

\* only the most applicable of these two indicators will be calculated

**AWWA WLCC Water Audit Software: Water Balance**

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Water Audit Report For:

Report Yr:

Hampstead Area Water System

2009

Own Sources (Adjusted for known errors)  <b>96.663</b>	Water Exported <b>0.000</b>	Billed Water Exported			
	Water Supplied  <b>96.663</b>	Authorized Consumption  <b>73.264</b>	Billed Authorized Consumption  <b>70.056</b>	Billed Metered Consumption (inc. water exported)  <b>70.056</b>	Revenue Water  <b>70.056</b>
				Billed Unmetered Consumption  <b>0.000</b>	
		Water Losses  <b>23.399</b>	Unbilled Authorized Consumption  <b>3.208</b>	Unbilled Metered Consumption  <b>3.208</b>	Non-Revenue Water (NRW)  <b>26.607</b>
				Unbilled Unmetered Consumption  <b>0.000</b>	
			Apparent Losses  <b>0.000</b>	Unauthorized Consumption  <b>0.000</b>	
				Customer Metering Inaccuracies  <b>0.000</b>	
	Real Losses  <b>23.399</b>	Systematic Data Handling Errors  <b>0.000</b>			
		Leakage on Transmission and/or Distribution Mains <b>Not broken down</b>			
		Leakage and Overflows at Utility's Storage Tanks <b>Not broken down</b>			
Water Imported  <b>0.000</b>		Leakage on Service Connections <b>Not broken down</b>			

**AWWA WLC Water Audit Software: Reporting Worksheet**

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Water Audit Report for: **Walnut Ridge Water System**  
Reporting Year: **2009**

Please enter data in the white cells below. Where possible, metered values should be used; if metered values are unavailable please estimate a value. Indicate this by selecting a choice from the gray box to the left, where M = measured (or accurately known value) and E = estimated.

**All volumes to be entered as: MILLION GALLONS (US) PER YEAR**

**WATER SUPPLIED**

Volume from own sources:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="103.599"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	MG/Yr
Water imported:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	MG/Yr
Water exported:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	MG/Yr
<b>WATER SUPPLIED:</b>		<b>103.599</b>	<b>MG/Yr</b>

**AUTHORIZED CONSUMPTION**

Billed metered:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="74.777"/>	MG/Yr
Billed unmetered:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	MG/Yr
Unbilled metered:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="4.091"/>	MG/Yr
Unbilled unmetered:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="0.000"/>	MG/Yr
<b>AUTHORIZED CONSUMPTION:</b>		<b>78.868</b>	<b>MG/Yr</b>

Click here:  for help using option buttons below

Pcnt:  Value:

Use buttons to select percentage OR value

**WATER LOSSES (Water Supplied - Authorized Consumption)**

MG/Yr

**Apparent Losses**

Unauthorized consumption:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="0.000"/>	MG/Yr
Customer metering inaccuracies:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="1.610"/>	MG/Yr
Systematic data handling errors:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	MG/Yr
<b>Apparent Losses:</b>		<b>1.610</b>	<b>MG/Yr</b>

Pcnt:  Value:

**Real Losses**

Real Losses = (Water Losses - Apparent Losses):  MG/Yr

**WATER LOSSES:**  MG/Yr

**NON-REVENUE WATER**

**NON-REVENUE WATER:**  MG/Yr

**SYSTEM DATA**

Length of mains:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="29.7"/>	miles
Number of active AND inactive service connections:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="1,049"/>	
Connection density:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="35"/>	conn./mile main
Average length of customer service line:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="50.0"/>	ft
Average operating pressure:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text" value="55.0"/>	psi

(pipe length between curbstop and customer meter or property boundary)

**COST DATA**

Total annual cost of operating water system:	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	
Variable production cost (applied to Real Losses):	<input type="checkbox"/> M <input type="checkbox"/> E	<input type="text"/>	\$/Million gallons

**DATA REVIEW - Please review the following information and make changes above if necessary:**

- Input values should be indicated as either measured or estimated. You have entered:
  - 0 as measured values
  - 0 as estimated values
  - 0 as default values
  - 18 without specifying measured, estimated or default
- Water Supplied Data: No problems identified
- Unbilled unmetered consumption: No problems identified
- Unauthorized consumption: No problems identified
- It is important to accurately measure the master meter - you have entered the measurement type as: unspecified
- Cost Data: None to evaluate

**PERFORMANCE INDICATORS**

**Financial Indicators**

Non-revenue water as percent by volume:	<input type="text" value="27.84"/>
Non-revenue water as percent by cost:	<input type="text"/>
Annual cost of Apparent Losses:	<input type="text"/>
Annual cost of Real Losses:	<input type="text"/>

**Operational Efficiency Indicators**

Apparent Losses per service connection per day:	<input type="text" value="4.20"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="60.39"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.10"/>	gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL):

\*\* UARL cannot be calculated without average pressure, number of connections or length of mains is too small. SEE UARL DEFINITION \*\*

Infrastructure Leakage Index (ILI) [Real Losses/UARL]:

\* only the most applicable of these two indicators will be calculated

AWWA WLCC Water Audit Software: <u>Water Balance</u>					Water Audit Report For:		Report Yr:	
Copyright © 2006, American Water Works Association. All Rights Reserved.					WASv3.0		Walnut Ridge Water System	2009
Own Sources (Adjusted for known errors)  <b>103.599</b>	Water Exported	Billed Water Exported						
	<b>0.000</b>			Billed Metered Consumption (inc. water exported)	<b>74.777</b>	Revenue Water		
		Authorized Consumption	<b>74.777</b>	Billed Unmetered Consumption	<b>0.000</b>	<b>74.777</b>		
		<b>78.868</b>	Unbilled Authorized Consumption	Unbilled Metered Consumption	<b>4.091</b>	Non-Revenue Water (NRW)	<b>28.822</b>	
			<b>4.091</b>	Unbilled Unmetered Consumption	<b>0.000</b>			
		Water Losses	Apparent Losses	Unauthorized Consumption	<b>0.000</b>			
				Customer Metering Inaccuracies	<b>1.610</b>			
				Systematic Data Handling Errors	<b>0.000</b>			
	Water Imported	Water Supplied	Water Losses	Real Losses	Leakage on Transmission and/or Distribution Mains	<b>Not broken down</b>		
	<b>0.000</b>	<b>103.599</b>	<b>24.731</b>	<b>23.121</b>	Leakage and Overflows at Utility's Storage Tanks	<b>Not broken down</b>		
				Leakage on Service Connections	<b>Not broken down</b>			

RECEIVED MAY 12 2008

**Emery & Garrett Groundwater, Inc.****56 Main Street • P.O. Box 1578  
Meredith, New Hampshire 03253****(603) 279-4425****www.eggi.com****Fax (603) 279-8717**

May 8, 2008

Mr. Charlie Lanza  
Hampstead Area Water Co., Inc.  
54 Sawyer Avenue  
Atkinson, NH 03811

Subject: **Revised** Water Conservation Plan for Hampstead Area Water Company,  
Atkinson, New Hampshire

Dear Charlie:

Applicants applying for approval of new drinking water sources for Community Water Systems and applicants for Large Withdrawal Permits are subject to the requirements of Env-Ws 390, *Water Conservation Rules*. As part of the application process we must complete a Water Conservation Plan for the new water sources and submit it for review by the New Hampshire Department of Environmental Services (NHDES). We must also perform the following Public Notification tasks.

- Provide copies of a summary of Env-Ws 390 and the proposed Water Conservation Plan for the water system to the governing board of the municipality in which the water system is located and the Regional Planning Commission established for the area where the water system is located.
- Request that the governing board of each municipality review the Water Conservation Plan for consistency with Env-Ws 390 and amend the local site planning requirements to promote water conservation landscaping practices within the service area of the new water system.
- Request that the Regional Planning Commission review the Water Conservation Plan for consistency with Env-Ws 390 and promote water conservation landscaping and other conserving water use practices among its member towns.

We are requesting that you review the enclosed materials, comment on the Water Conservation Plan, and promote water conservation practices within your jurisdictional area. Please note that the accompanying Water Conservation Plan is a revision of the Hampstead Area Water Company Water Conservation Plan that you previously received.

You have twenty-one (21) days to review and provide comments to NHDES on the Water Conservation Plan. This 21-day period commences upon the receipt date of certified mailing of this correspondence. Please communicate your comments in writing to NHDES at your earliest convenience and address all comments to: Derek Bennett, NHDES-DWGB, P. O. Box 95, Concord, NH 03302

In addition, this Water Conservation Plan has been developed for a large community water system, the preliminary well siting application is on file and available for review at NHDES during normal business hours. Please contact the above NHDES staff at 603-271-6685 or NHDES' Public Information Center (PIC) at 603-271-8808 or <http://www.des.state.nh.us/PIC>. Thank you for your time and cooperation.

Sincerely,



John Brooks, Project Manager



## Water Conservation Rules (Env-Ws 390)

Applicants applying for permits to develop new sources of water need to be aware that they are subject to new water conservation requirements required by RSA 485.61 which became law in July 2002. The law requires that the Department of Environmental Services (Department) adopt and administer water conservation rules for applicants developing the following type of new water sources:

1. New sources of groundwater for community water systems subject to RSA 485:3;
2. New sources of groundwater for bottled and bulk water operations subject to RSA 485:3;
3. New sources of groundwater that exceed 57,600 gallons over any 24-hour period subject to RSA 485-C; and
4. New sources of surface water associated with projects that require a water quality certification pursuant to Section 401 of the Federal Clean Water Act.

The Department met with an advisory committee consisting of representatives of municipalities, community water systems, environmental organizations, and business and industry to develop the water conservation rules. The rules were formally adopted by the Department in May 2005.

A general summary of the requirements of the water conservation rules is provided below.

### **Requirements for All Large Community Water Systems and All New Small Community Water Systems Developing New Sources of Water**

1. Install and maintain meters for all water withdrawals and service connections.
2. Implement a water audit, leak detection and leak repair program in accordance with the "Manual of Water Supply Practices, Water Audits and Leak Detection", document identification number AWWA M36, American Water Works Association, 1999.
3. When applicable, development and implementation of response plans to reduce unaccounted for water to less than 15%.
4. Implement a rate structure that encourages efficient water use.
5. Implement a water conservation educational outreach initiative.

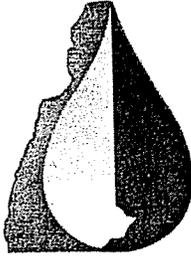
**Requirements for Existing Small Community Water Systems  
Developing New Sources of Water**

1. Either: a) Install source and service connection meters and implement a water audit, leak detection and leak repair program in accordance with the "Manual of Water Supply Practices, Water Audits and Leak Detection", document identification number AWWA M36, American Water Works Association, 1999; or b) Complete a system-wide leak detection once every two years.
2. Repair all leaks within 60 days of identification.
3. Implement a water conservation educational outreach initiative.

**Requirements for Applicants Developing New Sources of Water for Industrial,  
Commercial, or Institutional Water Uses**

1. Install water meters for all water sources.
2. Retrofit or replace single pass water-cooling systems when feasible based upon an economic analysis that includes a four-year payback period.
3. Install controls to stop the overflow or discharge of water to waste when feasible based upon an economic analysis that includes a four-year payback period.
4. Identify water conservation best management practices or best available technologies that may be applicable to the types of water-using processes at the subject facility, and implement these measures when feasible based upon an economic analysis that includes a four-year payback period.
5. For all new lawn areas, install six (6) inches of loam and devices to shut-off automatic irrigation systems when not needed.

For more information about the water conservation rules, contact Brandon Kernen at 271-0660 or [bkernen@des.state.nh.us](mailto:bkernen@des.state.nh.us).



# **HAMPSTEAD AREA**

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**WATER COMPANY, INC**

**WATER CONSERVATION PLAN  
FOR THE ATKINSON CORE  
HAMPSTEAD AREA WATER COMPANY, INC.**

**IN ACCORANCE WITH  
WATER CONSERVATION RULES  
ENV-WS 390**

**Water System PWS ID #: 0112080**

**Superintendent of Water:**  
Hampstead Area Water Company  
Mr. Rich Bibeau  
54 Sawyer Avenue  
Atkinson, NH 03811

Phone: 603-362-4299  
Email: [charlie@hampsteadwater.com](mailto:charlie@hampsteadwater.com)

**Introduction:**

The following document outlines the Hampstead Area Water Conservation Compliance Report in accordance to the requirements of Env-Ws 390, Water Conservation Rules. The portions of the Env-Ws 390 regulation that are applicable to the water system's are found mainly within section Env-Ws 390.05, Requirements For Existing Large Community Water Systems.

The Hampstead Area Water Company, Inc. is comprised of two existing large community water systems, one of which is in the process of constructing and permitting new water supply wells (Named 4E, FS1, MP2, SR3, and SR4) located in Atkinson, NH. This Conservation Plan is being submitted to the New Hampshire Department of Environmental Services (NHDES), as part of a Preliminary Hydrogeologic report that was prepared as part of the large community well siting and large groundwater water withdrawal requirements of regulations Env-Dw 302 and Env-Ws 388.

Preliminary Hydrogeologic reports prepared under either of these regulations sets must be submitted with a separate report (as prescribed in Env-Ws 390.10) on the applicant's status with respect to Water Conservation Rules. The Hampstead Area Water Conservation Rules Compliance Report follows. Note that the regulatory requirements in the following plan are italicized.

Part Env-Ws 390 WATER CONSERVATION RULES

Statutory Authority: RSA 485:61

Env-Ws 390.01 Purpose and Scope. The purpose of these rules is to establish water conservation standards as required by RSA 485:61.

Env-Ws 390.05 Requirements for Existing Large Community Water Systems.

(a) An existing large community water system shall implement the measures described in this section.

(b) Each large community water system shall install water meters within 3 years of obtaining approval for a new source of water that is subject to RSA 485:3 for all of the following:

(1) Public sector water users except firefighting;

Meters have already been installed on all Public Sector Water Users.

(2) Private water users; and

Meters have already been installed on all Private Water Users.

(3) All sources of water.

Meters are installed on the existing 14 bedrock water supply wells, and will be installed on the five new bedrock water supplies currently being permitted.

(c) The water system shall size the water meters required by (b), above, in accordance with the specifications of the manufacturer.

All water meters have been sized in accordance with the specifications of the manufacturer.

(d) In selecting, installing, and maintaining water meters, the water system shall comply with procedures and protocols described in "Manual of Water Supply Practices, Water Meters-Selection, Installation, Testing, and Maintenance," document identification number AWWA M6, American Water Works Association, 1999.

The Hampstead Area Water Company, Inc. water system will comply with procedures and protocols described in "Manual of Water Supply Practices, Water Meters-Selection, Installation, Testing, and Maintenance,"

document identification number AWWA M6, American Water Works Association, 1999.

*(e) The water system shall read the water meters required by (b)(1) and (2), above, at least once every 90 days.*

Hampstead Area Water Company, Inc. water system personnel will read the all meters installed on connections (water users) at least once every 90-days.

*(f) The water system shall read the water meters required by (b)(3), above, at least once every 30 days.*

The Hampstead Area Water Company water system personnel will read the all meters installed on water sources at least once every 30-days.

*(g) The water system shall implement a water audit and leak detection program in accordance with "Manual of Water Supply Practices, Water Audits and Leak Detection" document identification number AWWA M36, American Water Works Association, 1999, within one year of obtaining approval for a new source of water.*

The Hampstead Area Water Company, Inc. shall implement a water audit and leak detection program in accordance with "Manual of Water Supply Practices, Water Audits and Leak Detection" document identification number AWWA M36, American Water Works Association, 1999. This will be implemented within one year of obtaining approval for a new source of water.

*(h) The water system shall repair all leaks identified by the activities required by (g) within 60 days of discovery unless a waiver is obtained in accordance with Env-Ws 390.09.*

All leaks identified during the water audit and leak detection program will be repaired within 60 days of discovery, unless a waiver is obtained in accordance with Env-Ws 390.09.

*(i) The water system shall estimate the volume and percentage of unaccounted-for water in the water system once every year using protocols and procedures described in "Manual of Water Supply Practices, Water Audits and Leak Detection" document identification number AWWA M36, American Water Works Association, 1999.*

Hampstead Area Water Company, Inc. system personnel will conduct an annual estimate of the unaccounted-for water in the water system using protocols and procedures described in "Manual of Water Supply Practices,

Water Audits and Leak Detection" document identification number AWWA M36, American Water Works Association, 1999. Any backwash water incorporated into these calculations will only be used when the figures can be determined through deduction of metered raw water versus metered distributed water.

*(j) The water system shall prepare and submit a response plan to the department within 60 days if the percentage of unaccounted-for water in the water system calculated pursuant to (i), above, exceeds 15% of the total volume of water introduced to the water system.*

A response plan will be prepared and submitted by Hampstead Area Water Company, Inc. water system personnel if the annual estimate of unaccounted-for water exceeds 15%.

*(k) The response plan prepared in accordance with (j), above, shall identify how the water system intends to reduce the percentage of unaccounted-for water to below 15% within 2 years, except for leaks that have been identified which must be repaired in accordance with paragraph (h).*

The response plan will include how to reduce the percentage of unaccounted-for water to below 15% within 2 years.

*(l) The department shall approve the response plan within 90 days if it contains recommended actions that comply with the requirements specified in (k), above.*

No information required for this item.

*(m) The water system shall implement the response plan in accordance with the approved schedule upon receiving approval from the department.*

The Hampstead Area Water Company, Inc. will implement the response plan upon approval by the NHDES.

*(n) The water system shall implement pressure reduction within one year of obtaining approval of a new source of water when:*

*(1) Technically feasible;*

*(2) Consistent with water system industry standards and regulations;  
and*

*(3) Consistent with other public health and safety considerations.*

The water system personnel will implement pressure reduction within one year of obtaining approval of a new source of water when it is technically

feasible, consistent with water system industry standards and regulations, and consistent with other public health and safety considerations. Currently HAWC requires pressure reduction for any services greater than 80 psi. HAWC procedures will not allow service to be turned on until the PRV has been inspected. To date the Atkinson / Walnut Ridge Water System has three PRV's installed throughout the distribution system and approximately 50 service connections outfitted with PRV's

*(o) The water system shall adopt a rate structure that promotes water conservation within 5 years of obtaining approval for a new source of water, as described below:*

*(1) The rate structure shall be based on:*

*a. A unit price of water; and*

*b. The amount of water used by each connection to the water system; and*

*(2) The unit price of water for residential customers shall:*

*a. Remain the same; or*

*b. Increase with the volume of water consumed.*

The Hampstead Area Water Company, Inc. water system uses a rate structure that is based on a connection basis. The Hampstead Area Water Company, Inc. has a base charge of \$100 per year and uses a rate structure of \$ 3.71 per 100 cubic feet of water use.

*(p) The water system shall complete a water conservation educational outreach initiative using materials prepared by the department as follows:*

*(1) The water system shall implement the applicable public notification and outreach requirements to municipal governments within its service area in accordance with Env-Ws 390.11; and*

*(2) The water system shall implement an educational outreach initiative for its customers to promote water conservation immediately upon obtaining approval for the new source.*

The Hampstead Area Water Company, Inc. currently applies a seasonal water ban allowing outdoor watering only on even and odd days based on their address. Hampstead Area Water uses a website to provide conservation information to customers and visitors of the website. The website is as follows: [www.hampsteadwater.com](http://www.hampsteadwater.com).

Every year Hampstead Area Water Company gives all their customers a Consumer Confidence Report. This report is generated by Charlie Lanza. With this report there is a water conservation section we have created that gives tips and suggestions to effectively promote water conservation. We also comply with Env-Ws 378.18 in sending out the Well Head Protection Mailings. These mailings include all of the DES required educational outreach materials.

Upon approval of the new sources Hampstead Area Water Company, Inc will comply with the educational outreach initiative for the new permitted sources.

*(q) Activities completed in accordance with (b) through (p), above, shall be completed by water system personnel under the supervision of a certified operator pursuant to Env-Ws 367.*

Activities outlined in this Conservation Plan will be performed by water system personnel under the supervision of a certified operator.

*Env-Ws 390.11 Public Notification and Involvement.*

*(a) Within 7 days of submitting the report required by Env-Ws 390.10, the water user shall provide a copy of the application and report via certified mail to:*

*(1) The governing board of:*

*a. The municipality in which a proposed new source subject to Env-Ws 390.02 is located;*

*b. All municipalities that receive water from the water system; and*

*c. All wholesale customers of the water system; and*

*(2) The regional planning commission established in accordance RSA 36:46 for the location of a proposed new source.*

Emery & Garrett Groundwater, Inc. will submit the Hampstead Area Water Company, Inc. Env-Ws Water Conservation Plan to the NHDES with a Preliminary Hydrogeologic Report and to the Town of Atkinson Town Clerk. There are no other municipalities or wholesale customers serviced by the Hampstead Area Water Company, Inc. water system.

*(b) The water user shall provide the governing boards described in (a)(1), above, a summary of the requirements of Env-Ws 390, which will be prepared by the department.*

The accompanying NHDES summary of Env-Ws 390 regulations will be submitted to the NHDES and Town of Atkinson Town Clerk along with the Hampstead Area Water Company, Inc. Env-Ws 390 Water Conservation Plan

*(c) The water user shall request that the governing boards described in (a)(1), above, amend the site planning requirements to:*

*(1) Reflect the requirements of Env-Ws 390 when applicable; and*

*(2) Promote water conservation landscaping for new projects.*

*(d) Entities notified pursuant to (a), above, may provide the department with written comments regarding the application within 21 days of receiving the document from the water user.*

*Env-Ws 390.13 On-Going Compliance with Water Conservation Rules.*

*(a) The water user shall provide the following information on a form supplied by the department once every 3 years from the date of approval issued in accordance with Env-Ws 390.12:*

*(1) Name, mailing address, and daytime telephone number of the water user;*

*(2) Name, mailing address, and daytime telephone number and, if available, fax number and e-mail address of the individual responsible for maintaining compliance with Env-Ws 390 on behalf of the water user; and*

*(3) An explanation of how compliance with the requirements of Env-Ws 390.04 through Env-Ws 390.06 is being achieved.*

*(b) The department shall verify compliance with the requirements of Env-Ws 390 when conducting sanitary surveys of the water systems.*

*Env-Ws 390.02 Applicability.*

*(a) Pursuant to RSA 485:61, II, these rules shall apply to applicants for permits and applications for water withdrawal subject to the provisions of RSA 485:3, RSA 485:48, RSA 485-C:21, and section 401 of the federal Clean Water Act, including:*

- (1) New sources of groundwater for community water systems;*
- (2) New sources of groundwater for bottled and bulk water operations;*
- (3) New sources of groundwater that exceed 57,600 gallons over any 24-hour period; and*
- (4) New surface water sources of water supply associated with projects that require a water quality certification pursuant to Section 401 of the federal Clean Water Act.*

*(b) Pursuant to RSA 485:61, II, these rules shall apply to consecutive water systems receiving water from wholesale water systems subject to the requirements in (a), above.*

*(c) These rules shall not apply to consecutive water systems described in (b), above, if the consecutive water system is no longer adding additional connections to the water system.*

*(d) These rules shall not apply to new sources of water developed after the effective date of these rules that are replacements for existing sources of water, provided:*

- (1) The replacement source withdraws either less than or the same amount of water the existing source has historically been demonstrated to withdraw; and*
- (2) The existing source being replaced is abandoned in accordance with the requirements of We 100-1000.*

*Env-Ws 390.03 Definitions.*

*(a) "Agriculture water user" means all entities using water for operations at a farm as defined by RSA 21:34-a.*

*(b) "Automatic irrigation system" means an interconnected network of pipes, pumps, valves, and emitters designed to provide water to growing plant material, that is operated by a remote control valve controlled by a mechanical or electronic clock programmed to operate at specified times.*

(c) "Bottled water" means water that is placed in a sealed container or otherwise packaged and offered for sale for human consumption or other consumer uses.

(d) "Bulk water" means water intended for potable uses which is transported in containers greater than 10 gallons for the purpose of treatment, packaging or human consumption.

(e) "Community water system" means "community water system" as defined in RSA 485:1-a, I, namely "a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents."

(f) "Consecutive water system" means a public water system that buys or otherwise receives some or all of its finished water from one or more wholesale systems for at least 60 days per year.

(g) "Groundwater" means "groundwater" as defined in RSA 485:C:2, VIII, namely "subsurface water that occurs beneath the water table in soil and geologic formations."

(h) "Industrial, Commercial, and Institutional" (ICI) water users means all water users that are not:

(1) Serviced by a community water system; or

(2) An agriculture water user.

(i) "Large community water system" means a public water system serving a population that exceeds 1,000 persons at least 8 months in a calendar year.

(j) "Large groundwater withdrawal" means any seasonal or year-long withdrawal from a wellhead installed after July 1998, not associated with a temporary, short-term use such as contaminated site management or construction de-watering, where the maximum 24-hour withdrawal is 57,600 gallons or more.

(k) "Loam" means a loose friable topsoil that combines relatively equal parts of sand, clay, and silt and that is generally free from stones, lumps, stumps, roots, weeds, or similar objects larger than 2 inches.

(l) "Public water system" means "public water system" as defined in RSA 485:1-a, XV.

(m) "Small community water system" means a public water system that is not a large community water system.

(n) "Surface water" means "surface waters of the state" as defined in RSA:485-A:2, XIV.

(o) "Unaccounted-for water" means water for which a specific use cannot be determined due to accounting procedure errors, data processing errors, meter inaccuracies, authorized water use that does not pass through meters, leaks, seepage, overflow, evaporation, theft, unauthorized water use, or malfunctioning distribution controls.

(p) "Water conservation" means "water conservation" as defined in RSA 485:1-a, XIX namely, "any beneficial reduction in water losses, waste, or use."

(q) "Wellhead" means the conveyance or conveyances through which, and location where, groundwater reaches the land surface such as the well casing, well field collector, or spring collection box.

(r) "Wholesale system" means a public water system that treats source water and then sells or otherwise delivers finished water to another public water system.

Env-Ws 390.09 Waivers.

(a) The rules contained in this part are intended to apply to a variety of conditions and circumstances. It is recognized that strict compliance with all rules prescribed herein might not fit every conceivable situation. Thus, persons subject to these rules may request a waiver of specific rules outlined in this part in accordance with this section.

(b) All requests for waivers shall be submitted in writing to the department and shall include the following information:

(1) The name, mailing address, and location of the water system requesting the waiver;

(2) The name, daytime telephone number and, if available, fax number and e-mail address of the individual at the water system who is knowledgeable about the request;

(3) A description of the facility or site to which the waiver request relates, including the population served by the water system;

(4) A reference to the specific section of the rules from which a waiver is being sought;

(5) A full explanation of why a waiver is necessary, including the hardship that will be suffered if a waiver is not granted;

*(6) A full explanation with supporting data of the alternative(s), if any, proposed to be implemented or used in lieu of the section's requirements; and*

*(7) A full explanation of how the proposed alternative(s), if any, is consistent with the intent of RSA 485:61.*

*(c) The department shall approve a request for a waiver upon finding that:*

*(1) The requirement for which a waiver is requested is not a statutory requirement; and*

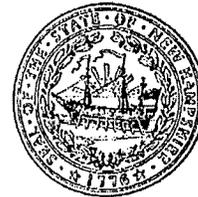
*(2) The health and safety of the population served by the water system will not be compromised if the waiver is granted.*

*(d) No waiver shall be granted which, in the judgment of the department, contravenes the intent of RSA 485:61 or these rules.*

*(e) The department shall issue a written response to a request for a waiver within 45 days of receipt of the request. If the department denies the request, the reasons(s) for the denial shall be clearly stated in the written response.*



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Thomas S. Burack, Commissioner

December 18, 2009

John Brooks  
 Emery & Garrett Groundwater, Inc.  
 56 Main Street  
 P.O. Box 1578  
 Meredith, NH 03253

**RE: Large Well Siting Approval/Large Groundwater Withdrawal Permit LGWP-2009-0002  
 Walnut Ridge/Bryant Woods Water System, Hampstead Area Water Company, EPA ID 0112080  
 Wells HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4  
 Atkinson, New Hampshire**

Dear Mr. Brooks:

The New Hampshire Department of Environmental Services (NHDES) has conditionally issued to Hampstead Area Water Company (HAWC) the following: 1) an approval of four new large community production wells (wells HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4) in accordance with New Hampshire Administrative Rules Env-Dw 302, *Large Production Wells for Community Water Systems*; 2) a large groundwater withdrawal permit for three wells (wells HWC-FS1, FS-4E, and HWC-SR3) in accordance with RSA 485-C:21, *Approval for Large Groundwater Withdrawals* and New Hampshire Administrative Rules Env-Ws 388, *Major Groundwater Withdrawal*; and 3) an approval of HWC-SR4 as a mechanical backup well to source EPA-010 in accordance with Env-302.29. The approval and permit are based on information prepared for HAWC by Emery & Garrett Groundwater, Inc. (EGGI).

HAWC is seeking approval of four new large community bedrock production wells, designated HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4, at production rates of 56,160 gallons per day (gpd) [39 gallons per minute (gpm)], 57,600 gpd (40 gpm), 136,800 gpd (95 gpm), and 56,160 gpd (39 gpm), respectively. HWC-FS1 and FS-4E are located in southwestern Atkinson west of Fieldstone Lane in the proposed Fieldstone well field approximately 300 feet north of the Salem-Atkinson town line. HWC-SR3 and HWC-SR4 are located in central Atkinson between West Side Road and NH Route 121 in the existing Settlers Ridge well field approximately 600 feet northwest of Pope Road. The purpose of developing the new community production wells is to: 1) address chronic water shortages experienced by the water system over the last 5+/- years; 2) offset recorded losses in yield from the system's other groundwater sources; 3) provide source redundancy for production wells that currently serve the water system; and 4) accommodate potential increases in water demand based on historic water use trends and projected future growth in areas served by the water system.

#### **CONDITIONAL APPROVAL**

This decision to conditionally approve HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4 is based on information contained in the following documents:

1. Preliminary application report titled "Preliminary Hydrogeologic Investigation, Hampstead Area Water Company, Inc., Walnut Ridge Water System, Groundwater Development at the Settlers

DES Web Site: [www.des.nh.gov](http://www.des.nh.gov)

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095  
 Telephone: (603) 271-2513 Fax: (603) 271-5171 TDD Access: Relay NH 1-800-735-2964

- Ridge, Midpoint, and Fieldstone Well Fields” (Preliminary Application), prepared for HAWC by EGGI, dated March 24, 2008.
2. Preliminary application report addendum titled “Preliminary Hydrogeologic Investigation, Addendum, Hampstead Area Water Company, Inc., Walnut Ridge Water System, Groundwater Development at the Settlers Ridge, Midpoint, and Fieldstone Well Fields” (Preliminary Application Addendum), prepared for HAWC by EGGI, dated July 30, 2008. The report contains the response to NHDES’ letter containing Preliminary Application review comments dated July 8, 2008.
  3. Letter to Christine Bowman of NHDES from John Brooks of EGGI, dated October 1, 2008. The letter requested approval to modify the pumping test and water quality sampling programs of HWC-FS1 and FS-4E from that proposed in the Preliminary Application.
  4. Letter to Christine Bowman of NHDES from John Brooks of EGGI, dated October 28, 2008. The letter requested approval to modify the pumping test program of HWC-SR3 and HWC-SR4 from that proposed in the Preliminary Application and amended in the Preliminary Application Addendum.
  5. Final report titled “Final Well Siting Report, Hampstead Area Water Company, Walnut Ridge Water System, Groundwater Development at the Fieldstone and Settlers Ridge Well Fields, Volumes I and II” (Final Report), prepared for HAWC by EGGI, dated March 13, 2009.
  6. Final report addendum titled “Response to NHDES Comments (June 29, 2009), Final Well Siting Report, Hampstead Area Water Company, Walnut Ridge Water System, Groundwater Development at the Fieldstone and Settlers Ridge Well Fields” (Final Report Addendum), prepared for HAWC by EGGI, dated August 18, 2009. The report contains the response to NHDES’ letter containing Final Report review comments dated June 29, 2009.
  7. Letter to Christine Bowman of NHDES from Charles Lanza of HAWC, dated November 4, 2009. The letter contains the response to NHDES’ letter containing Final Report Addendum review comments dated October 29, 2009 and includes the amended versions of HAWC’s Source Replacement Plan and Emergency Well Services Contract.

The following requirements are associated with the approval of HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4 for use as large production wells for a community water system and **must be complied with as a condition of approval:**

- 1) HAWC must maintain a wellhead protection program for the Wellhead Protection Areas (WHPA) consisting of: 1) updating the inventories required by Env-Dw 302.09 and 302.19 at intervals no greater than three years as required by Env-Dw 302.21(a)(1) starting 90 days from the date of this letter; 2) completing written notification requirements to the owner of each known and potential contamination source listed in the inventories at intervals no greater than three years as required by Env-Dw 302.21(a)(2) starting 90 days from the connection of HWC-FS1, FS-4E, HWC-SR3, or HWC-SR4 to the water system; and 3) submit a request to conduct site visits to survey all potential contamination sources (except for pesticide application and agricultural operations) located within the WHPAs to ascertain compliance with best management practices for preventing groundwater contamination at intervals no greater than three years as required by Env-Dw 302.21(b), starting within one year of the date of this letter. Written notification shall include

a copy of Env-Wq 401, *Best Management Practices for Groundwater Protection*, Drinking Water and Groundwater Bureau Fact Sheet WD-DWGB-22-4 Best Management Practices (BMPs) for Groundwater Protection, and BMP Flyer for Backyard Mechanics and Hobbyists. These three documents are available on the NHDES website at <http://des.nh.gov/organization/divisions/water/dwgb/dwspp/bmps/index.htm>.

- 2) NHDES approved a waiver of the requirements of Env-Dw 302.06(e) and (f) for the portion of the sanitary protective area (SPA) of HWC-FS1 that overlaps the golf course fairway, in a letter to EGGI dated October 29, 2009. This waiver was approved based on the requirement that activities in this area will include only those related to typical golf course maintenance including occasional mowing with a tractor, and will not include the application of fertilizers, pesticides, or herbicides, or other activities that could pose a contamination risk to the groundwater.
- 3) NHDES approved a waiver of the requirements of Env-Dw 302.06(d) for the portion of property Tax Map 12, Lot 8-1 (the Town Forest property) that is within the SPAs of HWC-SR3 and HWC-SR4, in a letter to EGGI dated October 29, 2009. This waiver was approved based on the nature of the funding program through which the land was acquired and designated as Town Forest and the consequent restrictions on the use of the property established through the associated Project Agreement (copy included in the Final Report Addendum). The waiver was approved conditional upon the current undeveloped status of the portion of the property within the SPAs being maintained, which will be a checklist item during future sanitary surveys of the water system.
- 4) HAWC must implement and adhere to the conditions of Large Groundwater Withdrawal Permit No. LGWP-2009-0002, which is attached to this document.
- 5) HAWC must implement the approved Water Conservation Plan, dated May 8, 2008, in accordance with Env-Wq 2101 (formerly Env-Ws 390) and NHDES' approval dated June 5, 2008. Additionally, **within 60 days of the date of this letter**, HAWC must submit a response plan, in accordance with Env-Wq 2101.05(j), outlining how the water system intends to reduce unaccounted-for water to below 15% within two years. The results of a water audit conducted following protocols and procedures described in the AWWA M36 manual (Third Edition) titled "Water Audits and Loss Control Programs" should accompany the response plan and be used to substantiate the intended actions of the water system.
- 6) Withdrawals from HWC-FS1, FS-4E, HWC-SR3, HWC-SR4, and EPA 10 must be metered at all times. All meters must be selected, installed, tested, and maintained in accordance with the AWWA M6 manual as referenced in Env-Wq 2101. HAWC must provide NHDES with a certificate of calibration and performance specifications for each meter. HAWC must document and maintain records of all meter maintenance and calibration activities and submit this information to NHDES in the annual report required by condition No. 3 of the attached large groundwater withdrawal permit. HAWC must read source water meters to adequately report the following volumes to the reporting program referenced in condition No. 6 of this approval:
  - a) The 24-hour peak day volume withdrawn from each source during each month; and
  - b) The cumulative total volume withdrawn from each source during each month.

- 7) HAWC must register its new sources of water with the NHDES Water Use Registration and Reporting Program and maintain the water use reporting requirements established by RSA 488 and this approval.
- 8) In accordance with Env-Dw 717.07(a), *Groundwater Monitoring and Treatment*, HAWC must collect raw water samples from each source approved by this letter and have the samples analyzed for *E. coli* using a method that provides enumeration. Sampling of raw water collected from each source shall be conducted for **6 consecutive months**, with the first month's sample taken **within 30 days prior** to placing the source in service and providing water to the public. **All raw water samples must be taken before any treatment.** Results shall be reported to NHDES as part of the GWR-Investigative Monitoring required to demonstrate that the source water is free from fecal contamination and that 4-log treatment is not required. A special analysis request form for these samples is available linked to the water system's Master Sampling Schedule, which is available through the Public Water System Query on NHDES' One Stop Data and Information website at [http://www2.des.state.nh.us/OneStop/Public\\_Water\\_Systems\\_Query.aspx](http://www2.des.state.nh.us/OneStop/Public_Water_Systems_Query.aspx).
- 9) Approval for each source approved by this letter shall lapse four years from the date of this letter if the well is not connected to the water system within that time, in accordance with Env-Dw 302.24(e), unless an extension is granted by NHDES. If approval lapses, HAWC must satisfy the requirements of Env-Dw 302.24(f) to regain approval.

With reference to the proposed monitoring program for the Fieldstone well field proposed in the Final Report on page 38, NHDES concurs that the monitoring program shall include the monitoring of water levels in the proposed production wells FS-4E and HWC-FS1, and monitoring well FS-6P.

#### SOURCE SPECIFICATIONS

Table 1, below, summarizes specifications for HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4. The Permitted Production Volume is the maximum volume of groundwater allowed by NHDES to be pumped from a water supply production well in any 24-hour period. The Sanitary Protective Area is a circle, centered on each well, with the radius listed in Table 1. The location of HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4 and the WHPAs delineated for the wells are illustrated on the attached map titled "Figure 28 – Potential Impact Area and Proposed WHPAs with Potential Contaminant Threats and Public Water Supplies, Hampstead Area Water Company, Atkinson, New Hampshire" included in the Final Report.

**Table 1**

Source Name	Well Status	Permitted Production Volume	Sanitary Protective Area Radius	Wellhead Protection Area	Source Description
HWC-FS1	New	56,160 gallons per 24-hour period <sup>1</sup>	200 feet	As shown on Figure 28	Approximately 480 feet west of Fieldstone Lane
FS-4E	New	57,600 gallons per 24-hour period <sup>1</sup>	250 feet	As shown on Figure 28	Approximately 360 feet west of Fieldstone Lane
HWC-SR3	New	136,800 gallons per 24-hour period	350 feet	As shown on Figure 28	Approximately 1,200 feet east-northeast of Old Village Road pump house
HWC-SR4	New [back-up well to Source ID 010 (a.k.a. EPA 10 or BRW 10)]	56,160 gallons per 24-hour period <sup>2</sup>	200 feet	As shown on Figure 28	Approximately 1,000 feet northeast of Old Village Road pump house

<sup>1</sup> *The Permitted Production Volume is the maximum volume of groundwater that may be pumped from the specified well in any 24-hour period, when the well is operated independently. If HWC-FS1 and FS-4E are both operated during the same 24-hour period, the combined maximum volume of groundwater that may be pumped from the wells shall be limited to 57,600 gallons per 24-hour period.*

<sup>2</sup> *The Permitted Production Volume is the maximum volume of groundwater that may be pumped from the specified well in any 24-hour period, when the well is operated independently. If EPA 10 and HWC-SR4 are both operated during the same 24-hour period, the combined maximum volume of groundwater that may be pumped from the wells shall be limited to 56,160 gallons per 24-hour period.*

## CHEMICAL MONITORING PROGRAM

A water quality sampling program was conducted as part of the well siting approval of HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4.

### Wells HWC-FS1 and FS-4E

A total of four water quality samples were collected from HWC-FS1: three during the well's pumping test program over the period September 16 through 23, 2009 and one on October 14, 2008 near the end of the combined pumping test of HWC-FS1 and FS-4E. Results of the water quality sampling program indicate that each parameter, with the exception of arsenic, iron, manganese, and pH, was below the applicable Maximum Contaminant Level (MCL) or Secondary Maximum Contaminant Level (SMCL).

The MCL for arsenic is 0.010 milligrams per liter (mg/l); testing results show concentrations of arsenic in water derived from HWC-FS1 in the range of 0.018 to 0.036 mg/l, which exceeds the MCL. The SMCL for iron is 0.30 mg/l; testing results show concentrations of iron in water derived from HWC-FS1 in the range of 0.40 to 7.00 mg/l, which exceeds the SMCL. The SMCL for manganese is 0.05 mg/l; testing results show concentrations of manganese in water derived from HWC-FS1 in the range of 0.12 to 0.20 mg/l, which exceeds the SMCL. The SMCL range for pH is 6.5 to 8.5; testing results show that the water derived from HWC-FS1 is slightly acidic and has a pH in the range of 5.7 to 6.4, which is less than the lower limit of the SMCL range.

A total of three water quality samples were collected from FS-4E during the well's pumping test program over the period October 6 through 14, 2008. Results of the water quality sampling program indicate that each parameter, with the exception of pH was below the applicable MCL or SMCL. Testing results show that the water derived from FS-4E is slightly acidic and has a pH in the range of 5.8 to 6.5, which is less than (or near) the lower limit of the SMCL range.

In addition, results of the water quality sampling program also indicate that the concentration of radon is elevated in water derived from HWC-FS1 and FS-4E. Three water samples were collected from HWC-FS1 and two water samples were collected from FS-4E and analyzed for radon. In the samples collected from HWC-FS1, radon was detected at concentrations equal to 10,903 picocuries per liter (pCi/L), 12,500 pCi/L, and 16,000 pCi/L. In the samples collected from FS-4E, radon was detected at concentrations equal to 85,296 pCi/L and 101,600 pCi/L. Although there is currently no state- or federally-enforced drinking water standard for radon, NHDES strongly encourages HAWC to implement measures to reduce the concentration of radon in the water supply.

### Wells HWC-SR3 and HWC-SR4

A total of three water quality samples were collected from HWC-SR3 and HWC-SR4 during the wells' pumping test program over the period November 6 through 14, 2008. Results of the water quality sampling program indicate that each parameter, with the exception of iron, manganese, and pH, was below the applicable MCL or SMCL.

Testing results show concentrations of iron in water derived from HWC-SR3 and HWC-SR4 in the range of 1.70 to 3.70 mg/l and 0.59 to 0.89 mg/l, respectively, which exceeds the SMCL. Testing results show concentrations of manganese in water derived from HWC-SR3 and HWC-SR4 in the range of 0.17 to 0.24 mg/l and 0.10 to 0.13 mg/l, respectively, which exceeds the SMCL. Testing

results show that the water derived from HWC-SR3 may be slightly acidic and has a pH in the range of 6.3 to 7.0.

You must notify NHDES when any of the wells listed in Table 1 above becomes active by contacting Linda Thompson of the Drinking Water and Groundwater Bureau at (603) 271-3544 or [linda.thompson@des.nh.gov](mailto:linda.thompson@des.nh.gov). Once you notify NHDES that the well is active, Chemical Monitoring staff will contact you with an updated Master Sampling schedule. You may need to add a sampling tap to each of the wells, if taps are not already installed, and you must contact staff so that the schedule will accurately reflect the correct sampling locations. If you have any questions about the Chemical Monitoring requirements, contact Tricia Madore at (603) 271-3907 or at [tricia.madore@des.nh.gov](mailto:tricia.madore@des.nh.gov). Please note that NHDES may initiate enforcement action if the system fails to implement a chemical monitoring program when the well becomes active.

### CONNECTION REQUIREMENTS

Please note that the connection of the wells to the water system and treatment facilities must comply with the requirements of New Hampshire Administrative Rules Env-Ws 374, *Design Standards For Large Public Water Systems*. Prior to connecting the wells to the water system, provide a schematic depicting the chemical monitoring program sampling locations and any required treatment system, including the storage location of chemicals, chemical feed equipment, motor controls, and instrumentation. Please forward this information and any questions you may have regarding connecting the wells to the water system to the attention of Rick Skarinka at NHDES at (603) 271-2948 or [richard.skarinka@des.nh.gov](mailto:richard.skarinka@des.nh.gov).

### EMERGENCY PLAN

HAWC shall update its emergency plan for the water system in accordance with New Hampshire Administrative Rules Env-Dw 302.26 and Env-Ws 360.15. This plan shall continue to be updated and submitted to NHDES once every 6 years and shall be reviewed annually by the system and updated as needed. NHDES' records indicate that HAWC is due to submit an updated Emergency Plan by March 2015. Additionally, the plan will be a checklist item during each sanitary survey of the water system and lack of one will be a survey deficiency. Guidance documents and other emergency planning information are available on the NHDES website at <http://des.nh.gov/organization/divisions/water/dwgb/index.htm> [see 'Programs']. You may contact Johnna McKenna at (603) 271-7017 or [johnna.mckenna@des.nh.gov](mailto:johnna.mckenna@des.nh.gov) for more information or assistance in completing emergency planning for the water system.

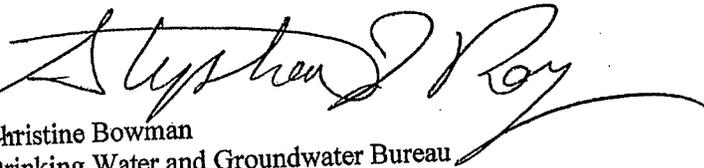
### ELECTRONIC DATA REPORTING PROGRAM

Please note that water level data collected as a condition of the attached large groundwater withdrawal permit, as specified in section No. 4 titled "Monitoring and Reporting Requirements," shall be submitted annually to NHDES in an electronic format. The requirements and specifications of the electronic data reporting program are summarized in the attached letter and associated guidelines document.

If you have any questions about this approval or the attached permit or any other groundwater permitting issues, please contact me at (603) 271-8866 or [christine.bowman@des.nh.gov](mailto:christine.bowman@des.nh.gov) or Stephen Roy at (603) 271-3918 or [stephen.roy@des.nh.gov](mailto:stephen.roy@des.nh.gov).

John Brooks, EGGI  
Large Well Siting Approval/Large Groundwater Withdrawal Permit LGWP-2009-0002  
Walnut Ridge/Bryant Woods Water System, EPA ID 0112080  
Wells HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4

Sincerely,



*Stephen J. Roy*  
Christine Bowman  
Drinking Water and Groundwater Bureau

Attachments: Large Groundwater Withdrawal Permit No. LGWP-2009-0002  
Project Narrative  
Decision Statement

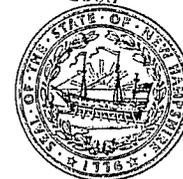
Enclosures: Figure 28, Potential Impact Area and Proposed WHPAs with Potential Contaminant Threats and  
Public Water Supplies, Hampstead Area Water Company, Atkinson, New Hampshire  
Electronic Data Reporting Program Letter and Guidelines Document

cc: Charles Lanza, HAWC  
Daniel Tinkham, EGGI (email)  
Board of Selectmen, Town of Atkinson  
Board of Selectmen, Town of Salem  
Water Wheel Estates Unit Owners Association  
Wright Farm Condominium Association  
The Commons of Atkinson, c/o Royal Management Company  
Merrimack Valley Jewish Federation (Camp Hadar)  
Merrimack Valley YMCA (Camp Otter)  
Cliff Sinnott, Rockingham Planning Commission (w/ Enclosure)  
Stephen Roy, NHDES (email)  
Derek Bennett, NHDES (email)  
Brandon Kernen, NHDES (email)  
Richard Skarinka, NHDES (email)  
Johnna McKenna, NHDES (email) (w/ Enclosure)  
Linda Thompson, NHDES (email)  
Selina Makofsky, NHDES (email)  
Donna Jones, NHDES (email)  
Debra McDonnell, NHDES (email)  
George Hastings, NHDES (email) (w/ Enclosure)  
Jennifer Thompson, NHDES (email) (w/ Enclosure)

RECEIVED NOV 30 2009



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Thomas S. Burack, Commissioner

November 24, 2009

Charles Lanza  
 Hampstead Area Water Company  
 54 Sawyer Avenue  
 Atkinson, New Hampshire 03811

**Subject: CWS HAMPSTEAD: Hampstead Area WC-Village Green; 1031010-002  
 Deepen BRW 1; NHDES # 999298**

Dear Mr. Lanza:

The purpose of this letter is to conditionally approve your November 2009 request to deepen the subject well in an attempt to regain lost well capacity and improve water quality due to a faulty casing. This decision is based on a review of materials submitted to meet the requirements of New Hampshire Administrative Rule Env-Dw 301.25, *Small Production Wells for Community Water Systems*. The following tasks shall be performed before final approval of the deepening will be granted.

- A pumping test of at least 24-hours duration shall be performed where water level measurements shall be recorded every five minutes for the first hour of testing and once an hour thereafter. In addition, water levels in the deepened well shall be recorded for the 24 hour period prior to commencing the test, and during the recovery period after testing ends.
- The discharge line shall be equipped with an inline cumulative water meter and meter readings shall be recorded prior to starting the test, once an hour thereafter, and at the end of the test.
- If possible, monitor water levels in BRW 3 for 24 hours prior to commencing the testing, during the pumping test, and during the recovery period of the test. A continuous logging pressure transducer would be beneficial for this water level recording.
- Pumped water must be discharged at a sufficient distance from the production well to not influence the hydraulics of the well. Outside the sanitary protective area and near the outlet to the abutting wetland is recommended.
- If the well is not currently equipped with a still tube, one shall be permanently installed in the well at the time of the pumping test.
- Water quality samples shall be drawn during the last hour of pumping and analyzed for all current drinking water standards.
- The results of the pumping test and water quality analysis shall be presented to NHDES in the form of a final report.
- The new well casing must be installed in accordance with Water Well Board Rule 602.06(k) which requires the void area outside the casing be filled with acceptable grouting material.

DES Web site: [www.des.nh.gov](http://www.des.nh.gov)

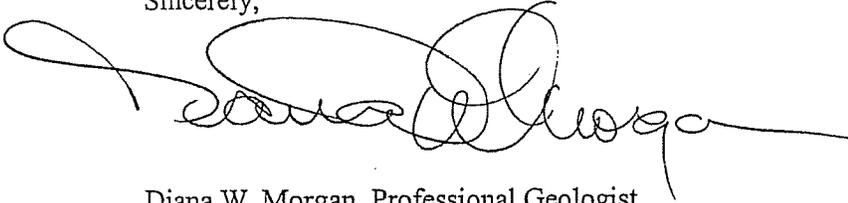
P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

Telephone: (603) 271-2513 • Fax: (603) 271-5171 • TDD Access: Relay NH 1-800-735-2964

Charles Lanza  
HAWC/Hampstead  
November 24, 2009  
Page 2 of 2

Please contact me at least 10 business days before the start of the pumping test so that I may attend the testing. If you have any questions about this letter or any other well siting issues feel free to call me at 271-2947 or email me at [Diana.Morgan@des.nh.gov](mailto:Diana.Morgan@des.nh.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Diana W. Morgan". The signature is fluid and cursive, with a long horizontal line extending to the right.

Diana W. Morgan, Professional Geologist  
Drinking Water & Groundwater Bureau

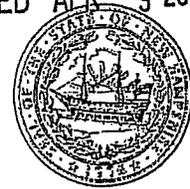
Cc: Jim Gill, Mary Clairmont, NHDES



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**

Thomas S. Burack, Commissioner

Staff 1-5(6)  
RECEIVED APR - 9 2010



April 7, 2010

Charlie Lanza  
Hampstead Area Water Company  
54 Sawyer Avenue  
Atkinson, NH 03811

**Subject: Atkinson, NH: Walnut Ridge/Bryant Woods Water System (EPAID: 0112080)**  
**Hampstead, NH: Hampstead Area Water Company (EPAID: 1031010)**

Dear Mr. Lanza,

The New Hampshire Department of Environmental Services ("Department") has completed its review of a response plan submitted by Hampstead Area Water Company ("HAWC") outlining the steps HAWC will implement to reduce the level of unaccounted for water at the Walnut Ridge and Hampstead Area Core systems to below 15% within two years. The response plan was submitted in accordance with Env-Wq 2101.05 (j) *Water Conservation Rules*, and condition 5 of the well siting approval issued December 18, 2009 for wells HWC-FS1, FS-4E, HWC-SR3, and HWC-SR4.

The purpose of this letter is to approve the March 15<sup>th</sup>, 2010 response plan. Within one year of the date of this letter, provide the Department with a progress report on each of the sections outlined in the plan. The report should include a revised estimate of unaccounted for water as defined by Env-Wq 2101.03 (o), and a breakdown of water losses following the methodology described by the American Water Works Association / International Water Association.

If you have any questions about this letter or water conservation in general, please contact me at 603-271-6685 or email me at [derek.bennett@des.nh.gov](mailto:derek.bennett@des.nh.gov).

Sincerely,

Derek S. Bennett  
Water Conservation  
Drinking Water and Groundwater Bureau

Cc: Board of Selectmen, Town of Atkinson  
Board of Selectmen, Town of Hampstead  
Doug Brogan, NHPUC

Ec: Christine Bowman, NHDES  
Stephen Roy, NHDES

**F-1 BALANCE SHEET**  
**Assets and Other Debits**

Line No. (a)	Account Title (Number) (b)	Current Year End Balance (c)	Adjustments (d)	Adjusted Year End Balance (e)
<b>UTILITY PLANT</b>				
1	Utility Plant (101-106)	\$ 12,674,268	\$ 318,437	\$ 12,992,705
2	Less: Accumulated Depr. and Amort. (108-110)	3,149,891	\$ (6,727)	3,143,164
3	Net Plant	\$ 9,524,377	\$ 325,164	\$ 9,849,541
4	Utility Plant Acquisition Adj. (Net) (114-115)			
5	Total Net Utility Plant	\$ 9,524,377	\$ 325,164	\$ 9,849,541
<b>OTHER PROPERTY AND INVESTMENTS</b>				
6	Nonutility Property (121)			
7	Less: Accumulated Depr. and Amort. (122)			
8	Net Nonutility Property			
9	Investment in Associated Companies (123)			
11	Utility Investments (124)			
12	Other Investments			
13	Special Funds(126-128)			
14	Total Other Property & Investments			
<b>CURRENT AND ACCRUED ASSETS</b>				
16	Cash (131)	\$ 29,584	\$ 72,821	\$ 102,405
17	Special Deposits (132)			
18	Other Special Deposits (133)			
19	Working Funds (134)			
20	Temporary Cash Investments (135)			
21	Accounts and Notes Receivable-Net (141-144)	435,845		435,845
22	Accounts Receivable from Assoc. Co. (145)			
23	Notes Receivable from Assoc. Co. (146)			
24	Materials and Supplies (151-153)			
25	Stores Expense (161)			15,102
26	Prepayments-Other (162)	15,102		26,056
27	Prepaid Taxes (163)	26,056		
28	Interest and Dividends Receivable (171)			
29	Rents Receivable (172)			107,704
30	Accrued Utility Revenues (173)	107,704		
31	Misc. Current and Accrued Assets (174)			
32	Total Current and Accrued Assets	\$ 614,291	\$ 72,821	\$ 687,112
<b>DEFERRED DEBITS</b>				
32	Unamortized Debt Discount & Expense (181)	\$ 70,834	\$ 4,750	\$ 75,584
33	Extraordinary Property Losses (182)			
34	Prelim. Survey & Investigation Charges (183)			
35	Clearing Accounts (184)			
36	Temporary Facilities (185)			127,412
37	Miscellaneous Deferred Debits (186)	127,412		
38	Research & Development Expenditures (187)			
39	Accumulated Deferred Income Taxes (190)	23,641		23,641
40	Total Deferred Debits	\$ 221,887	\$ 4,750	\$ 226,637
<b>TOTAL ASSETS AND OTHER DEBITS</b>				
		\$ 10,360,555	\$ 402,735	\$ 10,763,290

**F-1 BALANCE SHEET**  
**Equity Capital and Liabilities**

Line No. (a)	Account Title (Number) (b)	Current Year End Balance (c)	Adjustments (d)	Adjusted Year End Balance (e)
<b>EQUITY CAPITAL</b>				
1	Common Stock Issued (201)	\$ 16,767		\$ 16,767
2	Preferred Stock Issued (204)			
3	Capital Stock Subscribed (202,205)			
4	Stock Liability for Conversion (203, 206)			
5	Premium on Capital Stock (207)			
6	Installments Received On Capital Stock (208)			
7	Other Paid-In Capital (209,211)	2,104,354		2,104,354
8	Discount on Capital Stock (212)			
9	Capital Stock Expense(213)	(1,428,401)	11,631	(1,416,770)
10	Retained Earnings (214-215)			
11	Reacquired Capital Stock (216)			
12	Total Equity Capital	\$ 692,720	\$ 11,631	\$ 704,351
<b>LONG TERM DEBT</b>				
13	Bonds (221)			
14	Reacquired Bonds (222)			
15	Advances from Associated Companies (223)			
16	Other Long-Term Debt (224)	\$ 4,646,181	\$ 391,104	\$ 5,037,285
17	Total Long-Term Debt	\$ 4,646,181	\$ 391,104	\$ 5,037,285
<b>CURRENT AND ACCRUED LIABILITIES</b>				
18	Accounts Payable (231)	\$ 18,131		\$ 18,131
19	Notes Payable (232)			
20	Accounts Payable to Associated Co. (233)	14,961		14,961
21	Notes Payable to Associated Co. (234)			
22	Customer Deposits (235)			
23	Accrued Taxes (236)			
24	Accrued Interest (237)			
25	Accrued Dividends (238)			
26	Matured Long-Term Debt (239)			
27	Matured Interest (240)			
28	Misc. Current and Accrued Liabilities (241)	21,159		21,159
29	Total Current and Accrued Liabilities	\$ 54,251	\$ -	\$ 54,251
<b>DEFERRED CREDITS</b>				
30	Unamortized Premium on Debt (251)			
31	Advances for Construction (252)			
32	Other Deferred Credits (253)			
33	Accumulated Deferred Investment Tax Credits (255)			
34	<b>Accumulated Deferred Income Taxes:</b>			
35	Accelerated Amortization (281)			
36	Liberalized Depreciation (282)	1,684		1,684
37	Other (283)			
38	Total Deferred Credits	\$ 1,684		\$ 1,684
<b>OPERATING RESERVES</b>				
39	Property Insurance Reserve (261)			
40	Injuries and Damages Reserve (262)			
41	Pensions and Benefits Reserves (263)			
42	Miscellaneous Operating Reserves (265)			
43	Total Operating Reserves	\$ -	\$ -	\$ -
<b>CONTRIBUTIONS IN AID OF CONSTRUCTION</b>				
44	Contributions In Aid of Construction (271)	\$ 6,969,799		\$ 6,969,799
45	Accumulated Amortization of C.I.A.C. (272)	2,004,080		2,004,080
46	Total Net C.I.A.C.	\$ 4,965,719	\$ -	\$ 4,965,719
46	<b>TOTAL EQUITY CAPITAL AND LIABILITIES</b>	\$ 10,360,555	\$ 402,735	\$ 10,763,290

## F-2 STATEMENT OF INCOME

Line No. (a)	Account Title (Number) (b)	Current Year End Balance (c)	Adjustments (d)	Adjusted Year End Balance (e)
	<b>UTILITY OPERATING INCOME</b>			
1	Operating Revenues(400)	\$ 1,327,921	\$ 57,578	\$ 1,385,499
2	Operating Expenses:			
3	Operating and Maintenance Expense (401)	845,169		845,169
4	Depreciation Expense (403)	359,624	12,236	371,860
5	Amortization of Contribution in Aid of Construction (405)	(179,196)		(179,196)
6	Amortization of Utility Plant Acquisition Adjustment (406)			
7	Amortization Expense-Other (407)	3,812		3,812
8	Taxes Other Than Income (408.1-408.13)	140,642	8,765	149,407
9	Income Taxes (409.1, 410.1, 411.1, 412.1)	5,530	184	5,714
10	<b>Total Operating Expenses</b>	\$ 1,175,581	\$ 21,185	\$ 1,196,766
11	Net Operating Income (Loss)	\$ 152,340	\$ 36,393	\$ 188,733
12	Income From Utility Plant Leased to Others (413)			
13	Gains(Losses) From Disposition of Utility Property (414)			
14	<b>Net Water Utility Operating Income</b>	\$ 152,340	\$ 36,393	\$ 188,733
	<b>OTHER INCOME AND DEDUCTIONS</b>			
15	Revenues From Merchandising, Jobbing and Contract Work (415)			
16	Costs and Expenses of Merchandising, Jobbing and Contract Work (416)			
17	Equity in Earnings of Subsidiary Companies (418)			
18	Interest and Dividend Income (419)			
19	Allow. for funds Used During Construction (420)			
20	Nonutility Income (421)			
21	Gains (Losses) Form Disposition Nonutility Property (422)			
22	Miscellaneous Nonutility Expenses (426)			
23	<b>Total Other Income and Deductions</b>	\$ -	\$ -	\$ -
	<b>TAXES APPLICABLE TO OTHER INCOME</b>			
24	Taxes Other Than Income (408.2)			
25	Income Taxes (409.2, 410.2, 411.2, 412.2, 412.3)			
26	<b>Total Taxes Applicable To Other Income</b>			
	<b>INTEREST EXPENSE</b>			
27	Interest Expense (427)	\$ 151,204	\$ 24,512	\$ 175,716
28	Amortization of Debt Discount & Expense (428)	1,549	250	1,799
29	Amortization of Premium on Debt (429)			
30	<b>Total Interest Expense</b>	\$ 152,753	\$ 24,762	\$ 177,515
31	<b>Income Before Extraordinary items</b>	\$ (413)	\$ 11,631	\$ 11,218
	<b>EXTRAORDINARY ITEMS</b>			
32	Extraordinary Income (433)			
33	Extraordinary Deductions (434)			
34	Income Taxes, Extraordinary Items (409.3)			
35	<b>Net Extraordinary Items</b>			
	<b>NET INCOME (LOSS)</b>	\$ (413)	\$ 11,631	\$ 11,218

**F-1 BALANCE SHEET**  
**Capital Structure**

Line No. (a)	Account Title (Number) (b)	Current Year End Balance (c)	Adjustments (d)	Adjusted Year End Balance (e)
	<b>EQUITY CAPITAL</b>			
1	Common Stock Issued (201)	\$ 16,767		\$ 16,767
2	Other Paid-In Capital (209,211)	2,104,354	-	2,104,354
3	Retained Earnings (214-215)	(1,428,401)	11,631	(1,416,770)
4	Total Equity Capital	\$ 692,720	\$ 11,631	\$ 704,351
	<b>LONG TERM DEBT</b>			
5	Other Long-Term Debt (224)	\$ 4,646,181	\$ 391,104	\$ 5,037,285
6	Total Long-Term Debt	\$ 4,646,181	\$ 391,104	\$ 5,037,285
7	Total Capital Structure	\$ 5,338,901	\$ 402,735	\$ 5,741,636

Line No. (a)	Account Title (Number) (b)	Current Year End Balance (c)	Adjustments (d)	Adjusted Year End Balance (e)
	<b>EQUITY CAPITAL</b>			
1	Common Stock Issued (201)	0.31%	0.00%	0.29%
2	Other Paid-In Capital (209,211)	39.42%	0.00%	36.65%
3	Retained Earnings (214-215)	-26.75%	2.89%	-24.68%
4	Total Equity Capital	12.97%	2.89%	12.27%
	<b>LONG TERM DEBT</b>			
5	Other Long-Term Debt (224)	87.03%	97.11%	87.73%
6	Total Long-Term Debt	87.03%	97.11%	87.73%
7	Total Capital Structure	100.00%	100.00%	100.00%

**Hampstead Area Water Company  
Journal Entries**

**SPS-4  
Revised 5/5/10**

1	Dr.	181	Unamortized Debt Expense	5,000	
	Cr.	131	Cash		5,000
	To record estimated debt expense associated with financing 2009 & 2010 additions to plant				
2	Dr.	131	Cash	66,459	
	Cr.	224	Other Long Term Debt		66,459
	To record receipt of cash and related liability for 2009 additions to plant. Note: \$47,606 of the liability related to the 2009 additions is already reflected on 12/31/09 B/S.				
3	Dr.	131	Cash	337,400	
	Cr.	224	Other Long Term Debt		337,400
	To record receipt of cash and related liability for the 2010 additions to plant.				
4	Dr.	101	Plant in Service	337,400	
	Cr.	131	Cash		337,400
	To record the 2010 plant in service Note: The 2009 additions to plant are already reflected on 12/31/09 B/S.				
5	Dr.	403	Depreciation Expense	2,890	
	Cr.	108	Accumulated Depreciation		2,890
	To record additional half year depreciation expense on 2009 additions to plant Note: A half year depreciation on 2009 additions to plant is already reflected on the 12/31/09 B/S.				
6	Dr.	403	Depreciation Expense	9,346	
	Cr.	108	Accumulated Depreciation		9,346
	To record half year depreciation expense on 2010 additions to plant				
7	Dr.	224	Other Long Term Debt	12,755	
	Dr.	427	Interest Expense	24,512	
	Cr.	131	Cash		37,267
	To record 1st year principal and interest payments on N/P for 2009 & 2010 additions				
8	Dr.	428	Amortization of Debt Expense	250	
	Cr.	181	Unamortized Debt Expense		250
	To record annual amortization of debt expense				
9	Dr.	131	Cash	57,578	
	Cr.	461	Metered Water Revenues		57,578
	To record additional annual revenue				
10	Dr.	408	State Utility Property Taxes	2,678	
	Dr.	408	Local Property Taxes	6,087	
	Dr.	409.11	State Business Enterprise Taxes	184	
	Cr.	131	Cash		8,949
	To record additional state and local property taxes and state business enterprise tax				
11	Dr.	108	Accumulated Depreciation	18,963	
	Cr.	101	Plant in Service		18,963
	To record 2010 retirements				

Hampstead Area Water Company  
 2009 Projected Plant and Depreciation

SPS-5

<u>Item Description</u>	<u>Plant Acct #</u>	<u>Total Amount</u>	<u>Depr. Rate</u>	<u>Annual Depr Exp</u>	<u>Accum Depr</u>
Structures & Improvements	304	\$2,093	2.00%	\$42	\$21
Well Improvements	307	4,498	3.30%	148	74
Pumping Equipment	311	17,985	10.00%	1,799	899
Main Replacements	331	15,648	2.00%	313	156
Service Replacements	333	17,106	2.50%	428	214
Meters	334	55,315	5.00%	2,766	1,383
Office Equipment	340	1,420	20.00%	284	142
Total Proposed Financing		<u>\$114,065</u>		<u>\$5,779</u>	<u>\$2,890</u>

Hampstead Area Water Company  
 2010 Projected Plant and Depreciation

SPS-6  
 Revised 5/5/10

<u>Item Description</u>	<u>Plant Acct #</u>	<u>Total Amount</u>	<u>Depr. Rate</u>	<u>Annual Depr Exp</u>	<u>Accum Depr</u>
Miscellaneous Structures	304	\$2,000	2.00%	\$40	\$20
Village Green Well	307	25,000	3.30%	825	413
Miscellaneous Well Improvements	307	5,000	3.30%	165	83
Battery backup for tank scada	311	2,500	10.00%	250	125
Test/Replace 14 well meters	311	8,400	10.00%	840	420
Miscellaneous Pumping Equipment	311	20,000	10.00%	2,000	1,000
Replace (2) 6' Greensand Filters - Village Green	320	36,000	3.60%	1,296	648
Lancaster Farm - uranium treatment	320	50,000	3.60%	1,800	900
Camelot Court filter	320	3,500	3.60%	126	63
Mains on Route 121	331	10,000	2.00%	200	100
Fix leaks found during leak detection	331	50,000	2.00%	1,000	500
Miscellaneous Main replacements	331	15,000	2.00%	300	150
Miscellaneous Service replacements	333	18,000	2.50%	450	225
Replace 200 meters per year	334	50,400	5.00%	2,520	1,260
Brickett's Mill Meter Replacement	334	9,600	5.00%	480	240
New F-150 pick up truck	341	32,000	20.00%	6,400	3,200
Total Proposed Financing		<u>\$337,400</u>		<u>\$18,692</u>	<u>\$9,346</u>

**Hampstead Area Water Company  
2009 / 2010 Additions to Plant Financing**

**SPS-7  
Revised 5/5/10**

Calculation of Revenue Requirement		Estimated <u>2009/2010</u>
Addition to Rate Base:		
Plant Additions		\$114,065
2009 Additions		<u>337,400</u>
2010 Additions		\$451,465
Total Addition to Plant		<u>12,236</u>
Less: Accumulated Depreciation		\$439,229
Net Plant		
Add: Cash Working Capital		\$439,229
Total Additions to Rate Base		<u>5.50%</u>
Rate of Return		\$24,158
Additional Net Operating Income Required		
Add: Operating and Maintenance Expenses		24,471
Depreciation Expense		
Assessed Property Value	\$439,229	
Less: Office Equipment	(1,420)	
Less: Transportation Equipment	<u>(32,000)</u>	
Total Assessed Property Value	<u>\$405,809</u>	
State Property Taxes (\$6.60 / \$1,000)		2,678
Local Property Taxes (\$15.00 / 1,000)		6,087
Business Enterprise Taxes (\$24,512 x \$0.0075)		<u>184</u>
Total Additional Revenue Required		<u>\$57,578</u>

**Hampstead Area Water Company  
Source and Use of Funds**

**SPS-8**

Source of Funds

2009/2010

Lewis Builders Development, Inc.  
Total Source of Funds

\$ 451,465  
\$ 451,465

Use of Funds

2009 Additions to Plant  
2010 Additions to Palnt  
Total Use of Funds

\$ 114,065  
337,400  
\$ 451,465

**Hampstead Area Water Company  
Estimated Cost of Financing**

**SPS-9**

2009 / 2010 Additions to Plant Financing

St. Cyr & Associates

\$2,000

Lewis Builders Development

3,000

Total Estimated Financing Costs

\$5,000