



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner



June 30, 2016

Francis McCarthy
Kasher Corporation
P.O. Box 626
Billerica, MA 01821

transmitted via email to mccarthyfm@comcast.net

**Subject: Small Well Siting Approval
CWS SANDOWN: The Townhouses at Wells Village; PWS ID: New System
Proposed BRWs 1 & 2; NHDES #160003
Sandown, New Hampshire**

Dear Mr. McCarthy:

The purpose of this letter is to reinstate the conditional approval previously issued by NHDES (on September 29, 2006) for two new bedrock wells for the proposed Townhouses at Wells Village project in Sandown. This decision was based on a review of the May 9, 2016 Final Report submitted to meet the requirements of New Hampshire Administrative Rule Env-Dw 305, *Small Production Wells for Small Community Water Systems*. This approval is subject to the following conditions:

1) Conditions

- a. NHDES notes that the preliminary report submitted did not propose, or expressly include, in the source capacity calculation any volume of water for irrigation use at the subject water system (i.e. discretionary use); however, the pumping test rate and the permitted production volume (PPV) approved herein (i.e. 53,452 gpd) exceeds the minimum required design source capacity for domestic use only (i.e., 37,500 gpd). Therefore, NHDES acknowledges that the difference is water that is 'available' for use by the system for other purposes such as irrigation. However, if in-ground irrigation systems are allowed and installed in the development, and connected to the to-be-constructed water system, NHDES strongly encourages the system owner (and future owner) to put in place a program to control and limit irrigation use and closely track production volumes and water levels in their wells to ensure that excessive discretionary water use at the system does not permanently impair the long-term capacity of its water supply wells.
- b. When control of the well sites and their Sanitary Protective Areas (SPA) and the public water distribution system is transferred to Hampstead Area Water Co., Inc., a copy of the executed deed/easement, recorded with the Rockingham County Registry of Deeds, shall be submitted to NHDES to my attention via email to christine.bowman@des.nh.gov.
- c. The water system must implement the approved Water Conservation Plan, signed January 22, 2016, in accordance with Env-Wq 2101, *Water Conservation* and NHDES' approval dated February 12, 2016.
- d. Approval for BRWs 1 and 2 shall lapse four years from the date of this letter if the wells are not connected to the water system within that time. If approval lapses, the approval shall not be subject to subsequent reinstatement, per Env-Dw 305.30(f), and the applicant will need to reapply for approval as specified in Env-Dw 305 for a new well.

2) Water Quality

- a. Manganese was detected in groundwater withdrawn from BRW 2 at a concentration above the secondary drinking water standard. Treatment to remove or lower the concentration of this parameter must meet the small community water system design standards. See **DESIGN REVIEW REQUIREMENTS** below.
- b. Toluene was detected in groundwater withdrawn from BRW 1 at a concentration below the drinking water standard. Although this compound is probably a relic of materials used in setup for the pumping test, the water system must submit water quality sample results that indicate this parameter is absent from the well water. This condition may be met by the first quarter chemical monitoring submission for the new well.
- c. Within 60 days of the date of this letter, please authorize Nelson Analytical Lab the laboratory that performed the pumping test water quality analyses for BRWs 1 and 2, to provide me with a digital version of the water quality analysis results via email to christine.bowman@des.nh.gov. The data should be formatted using NHDES' Environmental Monitoring Database (EMD) "Activity Data Upload Template for Consultants and Labs" so that NHDES can submit the results to the database.

A copy of this letter should be kept on file with the water system's records for future reference and as an aid to meeting NHDES' source water protection requirements.

Source Specifications:

Well Number	Well Status	Permitted Production Volume/Yield	Sanitary Protective Area Radius	Wellhead Protection Area Radius	Source Description
BRW 1	New Well on New System	26,208 gallons	200 feet	3,600 feet	BRW 1, 315' N of PH
BRW 2	New Well on New System	27,244 gallons	200 feet	3,600 feet	BRW 2, 445' N of PH

The previous table outlines the specifications for the new wells. The Permitted Production Volume (PPV) is the maximum volume that may be pumped from the wells in any 24-hour period. The PPVs for BRWs 1 and 2 are as shown above.

The sanitary protective area (SPA) for each new well is a circle, centered on the well, with the radius listed above. The SPAs shall remain in a natural state and under the water system's control at all times, in accordance with Env-Dw 305.10.

The Wellhead Protection Area (WHPA) for each new well is a circle, centered on the well, with the radius listed above. This is the area within which educational materials must be periodically distributed as part of the water system's Wellhead Protection Program (WHPP), in accordance with Env-Dw 305.24 and Env-Dw 305.31. Educational materials must be distributed within 90 days of system start up and then at least every three years thereafter.

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Pumping Test Water Quality Analysis-Laboratory Sample ID Numbers:

BRW 1 – 3603-00821

BRW2 – 3603-00820

DESIGN REVIEW REQUIREMENTS

Please note that this approval does not allow for construction of the public water distribution system. Prior to constructing the system, the applicant must meet the requirements of New Hampshire Administrative Rule Env-Dw 405, *Design Standards for Small Community Water Systems*. To request final approval, provide a schematic of appropriate detail to facilitate review of design requirements. Plans should include piping, sampling tap locations, storage tanks, pressure tanks and any treatment to be installed. Please submit this information and address any questions you may have regarding the design of, and connection of the wells to, the water system to the attention of Thomas Willis of the Drinking Water and Groundwater Bureau at (603) 271-2953 or thomas.willis@des.nh.gov.

The water system must notify NHDES when the water system/wells become active. Once the water system/wells become active and have received a PWS identification number, Chemical Monitoring staff will contact the water system with a Master Sampling schedule. If you have any questions about the chemical monitoring requirements, contact Tricia Madore at (603) 271-3907 or tricia.madore@des.nh.gov. Please note that NHDES may initiate enforcement action if the system fails to implement a chemical monitoring program that includes the new wells.

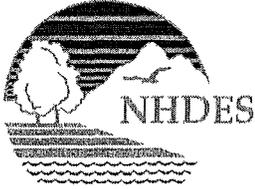
If you have any questions about this letter or any other community well siting issues please contact me at (603) 271-8866 or christine.bowman@des.nh.gov.

Sincerely,



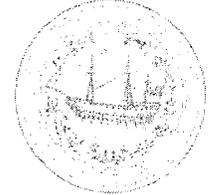
Christine Bowman, P.G.
Hydrogeologist
Drinking Water and Groundwater Bureau

cc: Planning Board, Town of Sandown (email)
Charles Lanza, HAWSCO (email)
Stephen Roy, Stacey Herbold, Kelsey Vaughn, Thomas Willis; NHDES (email)



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner



September 28, 2016

Mr. Fran McCarthy
Kasher Corporation
PO Box 626
Billerica, MA 01821
mccarthyfm@comcast.net

via e-mail

CONDITIONAL FINAL APPROVAL

Re: DR 160003 – New Community Water System for Town Houses at Wells Village
Tax Map 13, Lot 1 in Sandown, New Hampshire

Dear Mr. McCarthy:

The New Hampshire Department of Environmental Services, Drinking Water and Groundwater Bureau (NHDES) hereby grants Conditional Final Approval for the above-referenced water system. This approval allows for the construction of the new water system subject to compliance with Env-Dw 405, *Design Standards for Small Community Water Systems*, and **expires within 4 years of the date of this letter** if at least 50% of the water system construction has not been completed. This approval does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required.

This approval is based on submittals received on January 11, 2016, August 25, 2016, and subsequent submittals from your engineer Bruce Lewis, of Lewis Engineering, PLLC and proposed system operator, Charles Lanza of Hampstead Area Water Company, which define the new water system as follows:

1. Well location/description: 001 Bedrock Well BRW1, 315 feet north of pump house and 002 Bedrock Well BRW2, 445 feet north of pump house.
2. The purpose of the water system is to serve a new 50-unit residential development, for individuals aged 55 and up.
3. The **design flow is 18,750 gpd**.
4. The minimum required **Sanitary Protective Area (SPA) radius is 200 feet** from each wellhead.
5. Site Plans: Wells Village Estates Open Space Development, prepared by James M. Lavelle, LLS, dated March 14, 2016
6. Final Business Plan: Covered under Hampstead Area Water Company's business plan per New Hampshire Public Utility Commission Requirements.
7. Emergency Plan: To be integrated into the General Emergency Plan of Hampstead Area Water Company (see condition 16 below).
8. Water Quality analysis: Nelson Analytical Laboratories Sample Numbers: 3603-00821 (Well BRW1 and 3603-00820 (Well BRW2). All primary contaminants met the Safe Drinking Water Act standards therefore no treatment is currently required.
9. Water treatment is approved for:
 - Iron and Manganese by means of Cation Exchange
 - Radon by means of aeration
 - Disinfection by Sodium Hypochlorite
10. Groundwater Discharge Registration for the water treatment backwash dated December 29,

DES Web Site: 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

- 2006 and renewed on September 27, 2016, for the following residuals: iron and manganese
- 2000 gallons backwash per vessel, approximately once per week
 - Final disposal to onsite drainage ditch.

Conditions of Approval:

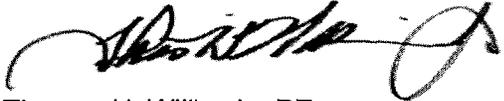
1. The system construction shall conform to **Env-Dw 405 Design Standards for Small Community Water Systems**.
2. The **well casing shall project** at least 18-inches above finished grade.
3. The water system shall have a **discrete source sampling tap and source water meter** for each individual RAW well source. Water meter readings shall be recorded weekly after system startup.
4. **Mid and post treatment sampling taps** shall be installed after each treatment unit as well as post blending and storage, for system evaluation sampling and monitoring.
5. All non-potable/fire suppression water lines shall be labeled permanently, visibly, and clearly as **NON-POTABLE** and isolated from the water system by an approved **Backflow Prevention Device**.
6. The minimum sanitary protective area (SPA), based on the approved permitted production volume of 53,452 gallons per day, has a radius of 200 feet from the wellhead and shall be maintained FREE of fuels, pesticides, and other potential contamination sources.
7. The conditions contained in Small Well Siting Approval dated June 30, 2016, shall be adhered to.
8. Any inactive or abandoned water supply sources on the property must be physically separated from the water piping system by removing a minimum 12-inch section of pipe. Isolation by valving off and/or electrical disconnection is not acceptable. Any abandoned wells on the property must be backfilled and sealed in accordance with We-604 within 6 months of this approval to prevent groundwater contamination. All sources not abandoned, or otherwise still physically connected to the water supply system, are required to be sampled and monitored.
9. The proposed atmospheric storage tank shall be equipped with a lockable, capped filler pipe to accommodate emergency bulk water delivery by a tanker truck.
10. Meters shall be AWWA certified and installed on all sources, as well as on all water using processes prior to distribution or on the distribution line, after water using processes. Meters shall be installed in accordance with the manufacturer's installation instructions. The plan calls for a 4-inch turbine style meter in which the normal operating range is between 10 to 1200 gallons per minute. To capture flows below 10 gallons per minute that are likely to occur during the overnight hours, **a combination meter or small bypass meter shall be installed**.
11. In the system's Water Conservation Plan approved on February 12, 2016, **meters shall be installed** on all service connections in accordance with manufacturer's instructions, as well as affixed with an outside read pad or radio read.
12. **Upon completion of the project, the Owner shall contact this office** at (603) 271-2513 or dwgbinfo@des.nh.gov to schedule a system final inspection and start of water compliance sampling. Following the system inspection, water system sampling shall be performed per the Master Sampling Schedule as posted at www.des.nh.gov OneStop Database.
13. A **NH Certified Operator Grade 1A** or higher shall be designated and reported to this office and shall be present on the date of the water system final inspection.
14. Also note that Env-Dw 602 Capacity Development rules, now require recording and submittal

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- of the Subdivision Deed Covenants listing all restrictions on water uses (such as fire flow and in-ground irrigation) prior to system startup, as part of the water system "Final Business Plan": Please submit **a sample of the deed covenants** that will be instituted as part of this development. This shall be received prior to scheduling the final water system inspection.
15. Following the system inspection, water system sampling shall be performed per the Master Sampling Schedule as posted at www.des.nh.gov **OneStop Database**.
 16. The Hampstead Area Water Company general **Emergency Plan** shall be amended as necessary to include the addition of this water system. Please submit any relevant changes to the emergency plan covering this water system.
 17. The **Operation and Maintenance Manual** and **Final Record Drawings** shall be made available onsite. Record drawings shall conform to **Env-Dw 405.33 System Construction**.

If you have any questions, I can be reached at (603) 271-2953 or via e-mail at Thomas.Willis@des.nh.gov.

Best regards:



Thomas H. Willis, Jr., PE
Drinking Water and Groundwater Bureau
Small Systems Engineering and Design Review

- ec. Bruce Lewis, Lewis Engineering, PLLC, Agent, lewis.h2o@comcast.net
Charles Lanza, Hampstead Area Water Company, charlie@hampsteadwater.com
Mary Clairmont, DWGB Surveyor, mary.clairmont@des.nh.gov
Mitch Locker, P.G., DWGB Groundwater Discharge, mitch.locker@des.nh.gov
Stacey Herbold, DWGB Water Use Registration and Reporting, stacey.herbold@des.nh.gov
Christine Bowman, DWGB, Source Water, christine.bowman@des.nh.gov