



**Stratham Planning Board
AGENDA
June 1, 2022
Stratham Municipal Center
Hutton Room
Time: 7:00 PM**

The public may also access this meeting at the date and time above using this conference call information. Please dial **1-800-764-1559** and input **4438** when prompted for a user pin/code. Please follow the Chair's instructions delivered at the meeting in order to register comments during the public meeting.

If at any time during the meeting you have difficulty hearing the proceedings, please e-mail mconnors@strathamnh.gov.

1. Call to Order/Roll Call

2. Approval of Minutes:

- a. May 18, 2022 Minutes

3. Public Meeting:

- a. Discussion of potential implementation of source water protection strategies
- b. Update on, and discussion of, InvestNH Housing Grant program
- c. Miscellaneous Community Planning Issues

4. Adjournment

Full text of the agenda and related information can be found on file with the Stratham Planning Department and posted on the Town website at <https://www.strathamnh.gov/planning-board>. All interested persons may be heard. Persons needing special accommodations and/or those interested in viewing the application materials should contact the Stratham Planning Department at (603) 772-7391 ext. 180.



Stratham Planning Board Meeting Minutes
May 18, 2022
Stratham Municipal Center
Time: 7:00 pm

Member Present: David Canada, Vice Chair, acting as Chair in the absence of Tom House
Mike Houghton, Selectmen's Representative
John Kunowski, Alternate Member

Members Absent: Thomas House, Chair
Pamela Hollasch, Regular Member

Staff Present: Mark Connors, Town Planner

1. Call to Order/Roll Call

Mr. Canada announced that he would be chairing the meeting in the absence of Mr. House. Mr. Canada called the meeting to order and introduced Mr. Kunowski as a new alternate member of the Planning Board and took roll call. He appointed Mr. Kunowski as a voting member for the meeting.

2. Approval of Minutes

a. March 16, 2022

The approval of minutes was put off until the June 20th meeting since several members were missing from the meeting.

3. Public Meeting:

- a. Stratham Retail Management, LLC (Owner) - Request for approval of a 60-day extension to a site plan approval granted on January 19, 2022 for a 10,260 square-foot medical office building at 23 Portsmouth Avenue (Tax Map 4, Lot 13), Zoned Gateway Commercial. Applicant's representative is Stonefield Engineering & Design, LLC, 92 Park Avenue, Rutherford, NJ 07070. Stratham Retail Management LLC.**

Mr. Canada asked Mr. Connors to briefly describe the request. Mr. Connors said that the applicant is requesting a 60 day extension to approval of a site plan. Approval was granted of the site plan on January 19th, 2022 for a 10,260 sq. ft. medical office building located at 23 Portsmouth Avenue. Mr, Connors explained that this was the dermatology clinic which the board approved in January and they are working to satisfy their conditions. Mr. Connors explained that the part of the delay is because NH DOT has not yet granted a driveway permit, so they are

42 requesting a 60 day extension which would give until July 19th to satisfy all conditions and get
43 the plans finalized and signed by the Board. Mr. Connors did not have any objections to their
44 extension request as they are actively working to finish requirements and start construction. Mr.
45 Houghton asked if there was an existing driveway and what the issues were. Mr. Connors
46 responded that there was a driveway many years ago and but it is not currently in an accessible
47 condition. Because of the new use, the DOT would require a new driveway permit and there are
48 a number of engineering issues DOT asks the applicant to address. Mr. Connors said he is
49 included in the e-mails between the applicant and NHDOT and that the applicant recently
50 responded to all of the DOT comments, so he believes the permit should be issued relatively
51 shortly.

52
53 **Mr. Houghton moved that the Planning Board grant a 60-day time extension to the site**
54 **plan approval granted for 23 Portsmouth Avenue for a 10,260 square-foot medical office**
55 **building. The applicant must satisfy all precedent conditions and obtain plan signature by**
56 **July 19, 2022. The motion was seconded by Mr. Canada. All were in favor and the motion**
57 **was approved.**

- 58
59 **b.** Discussion with Rockingham Planning Commission regarding potential implementation of
60 source water protection strategies

61
62 Jennifer Rowland, Land Use Program Manager at the Rockingham Planning Commission handed
63 out maps and explained the update to the aquifer protection district which was discussed in April
64 and the changes made based on conversations about Stratham being interested in expanding their
65 aquifer protection district. Currently Stratham protects its stratified drift aquifer district and all
66 the requirements that are bound by the boundary. Ms. Rowland explained that Stratham currently
67 does not include wellhead protection areas of all the public water supply wells as part of the
68 Aquifer District. She asked if the Board would consider changes to Stratham's prohibited uses,
69 conditional use permit, adding more definition to Stratham's permitted uses and capturing
70 increased performance standard uses for how uses can be developed on sites. Referring to the
71 edits made to the Ordinance text, she noted some additions that were added, including adding a
72 definition for a junkyard. She cited the RSA on page 9 for definition of junkyard. Explaining that
73 Stratham has always prohibited junkyards in the Aquifer Protection District and if the district
74 were to expand the aquifer district, those prohibited uses would go with the expansion and
75 anything that already exists would be allowed to continue as existing non-conforming uses. If
76 expansion were to happen the biggest impact are automotive related (gas stations and auto
77 servicing). Ms. Rowland showed a map of the current aquifer protection district that coincides
78 with the current stratified drift aquifer and a second map showing how the district would expand
79 if it were enlarged to include wellhead protection areas, which are not currently protected under
80 the Ordinance. She pointed out the prohibited uses change explaining that expansion would
81 change areas up and down 33 and 108, noting that these would become part of Stratham's aquifer
82 district. Ms. Rowland noted that this is a fairly complex topic with a lot of terminology.

83
84 The next discussion point (page 6, line 179) was in regards to maximum site coverage. Stratham
85 currently limits maximum site coverage for impervious surface to 20% for any building lot under
86 the Aquifer Protection District. There is no distinction based on use. It applies to commercial and

87 residential uses. Ms. Rowland’s suggestion was to add criteria by which someone can exceed
88 that 20%. She mentioned that other towns are expanding their areas to include protection of the
89 well head protection areas. A question was asked as to the amount of land in Stratham this would
90 entail. Ms. Rowland mentioned it was over half and Mr. Connors estimated it would be about 60-
91 65 percent of the Town’s land area. Ms. Rowland explained that expanding the boundaries and
92 enhancing performance standards were a good way of being proactive.

93
94 Mr. Connors noted that there is a small Board tonight and it might be better to discuss this with
95 the larger Board before we give additional direction to Ms. Rowland. Mr. Connors noted that
96 there are alternative mechanisms the Board could pursue to protect water quality including
97 revisions to our Stormwater Requirements. We currently allow applicants to request waiving the
98 standards if the amount of disturbance is less than one acre. But there are quite a few projects
99 that fall in that threshold. For example the entire parcel for the medical office building at 23
100 Portsmouth Avenue is only 1.1 acre. We could tighten up those requirements so it is harder to
101 have them waived. The Board discussed alternatives to the proposed changes to the Aquifer
102 Protection District. Mr. Connors will put it on the agenda for the next Planning Board meeting.

- 103
104 c. Appointment of a planning board designee for the Rt. 33 Advisory Heritage Committee.

105
106 **Mr. Houghton nominated Tom House to serve as the Planning Board representative to the**
107 **Route 33 Heritage Advisory Committee. Mr. Canada seconded the motion. All voter in**
108 **favor and the motion was approved.**

- 109
110 d. Update on the New Hampshire Housing Appeals Board

111
112 Mark Connors noted that the Board had previously requested more information related to
113 Housing Appeals Board decisions. Mr. Connors had done some additional research regarding the
114 reasons cited for overturning Planning Board decisions. Mr. Connors provided an overview of
115 the six decisions reached by the Board relating to Planning Board decisions. The Board discussed
116 the Shattuck case against Francestown, which was overturned because the Board determined the
117 Planning Board relied on considerations that were subjective and undefined in the Ordinance. In
118 that case, rural character was a prominent discussion point for denying the application. Mr.
119 Houghton asked if the lesson was that the Town should better define terms in the Ordinance
120 including rural character. Mr. Connors said yes, the Appeals Board is clearly looking for defining
121 language that is specific and not overly subjective.

- 122
123 a. Miscellaneous Community Planning Issues

124
125 Mr. Connors updated the board the Stoneybrook project south of Route 101. Mr. Connors met
126 with the developers, the Exeter Town Manager and Exeter DPW staff regarding the developer’s
127 request to hook into the Exeter Water and Sewer system. The Exeter Town Manger set up a
128 meeting for them to appear before the Exeter Select Board to discuss the request on June 13,
129 2022. It appears the applicant is willing to provide at least 20 percent of the units as dedicated
130 workforce housing units.

132 Mr. Connors will wait to give a brief update on the pending Aberdeen appeal at the next meeting.
133 He reminded the Board that the Age Friendly Community Forum will take place on Wednesday,
134 May 25th with two sessions including a morning and evening session. Mr. Connors asked Board
135 members to attend if possible and to encourage others to.

136 **4. Adjournment:**

137
138 Mr. Houghton made a motion to adjourn at 8:09 pm. Mr. Canada seconded the motion. All voted in
139 favor and the motion was approved.
140

DRAFT



TOWN OF STRATHAM

Incorporated 1716

10 Bunker Hill Avenue · Stratham, NH 03885

Town Clerk/Tax Collector 603-772-4741

Select Board/Administration/Assessing 603-772-7391

Code Enforcement/Building Inspections/Planning 603-772-7391

Fax (All Offices) 603-775-0517

TO: Planning Board Members
FROM: Mark Connors, Town Planner
FOR: June 1, 2022
RE: **Stratham Aquifer Protection Ordinance & Drinking Water Protection Review & Recommendations to Enhance Protections**

Over its last two meetings, the Planning Board has met with the RPC Planning Manager Jenn Rowland to discuss potential amendments to Stratham's zoning and land use regulations to better protect for source water quality. That discussion has focused on the Town's Aquifer Protection District and if it should be expanded to include wellhead protection areas. The Discussion has evolved to provide for a Conditional Use Permit program to allow uses/proposals that do not meet the requirements.

Staff has some reservations with this proposal because it would expand the district to include most of the Town's land area (approximately two-thirds of Stratham's total land area) and nearly 100 percent of the Town's commercial and industrial areas. Additionally, unlike the Town's zoning districts, the boundaries of the Aquifer and Wellhead Protection areas are not intuitive and for many properties, the only way to measure them would require a property survey. Finally, it would make many properties non-conforming with the Ordinance which could affect the commercial values of the properties. If the Board is supportive of the proposed overhaul, staff would recommend that the Board allow for deviations from the Ordinance through the Conditional Use Permit process.

There are a number of alternative mechanisms the Planning Board could consider to better protect source water quality. I will go over these with the Planning Board at the meeting on June 1, but potential options include:

- A tightening of the allowance for waivers from the Town's recently updated Stormwater Regulations. The Ordinance allows for waivers from the requirements if the amount of disturbance is under 40,000 square-feet. This allows for all one-lot subdivisions to request waivers from the requirements as well as many commercial projects. For example, the entire land area of the parcel the medical office building being constructed on Portsmouth Avenue is only 1.1 acre. The Board could reduce the threshold to request waivers to land disturbances of no more than 10,000 square-feet which would allow for waivers for small additions and more minor projects but not significant redevelopments.

- The Town should require maintenance of stormwater treatment facilities for commercial properties and larger residential projects. Currently the Town requires that these systems are installed per plan, but there is no real mechanism to require that the facilities are adequately maintained and kept in good working order. The 23 Portsmouth Avenue project is unique in that it is the first project, as required by the Planning Board conditions of approval, to maintain the systems and submit inspection reports to the Town on an annual basis.
- The Town could require property owners test their well water before constructing larger additions, significantly expanding impervious surface cover, or before replacing and or upgrading septic systems. The Town would not regulate the results of these tests but simply require them so that property owners are aware of any potential issues.
- Finally, the Town could upgrade its Townwide water quality and stormwater requirements. Staff thinks this is preferable to the approach proposed by the RPC which would affect most but not all of the properties in Stratham. This would also be more transparent so that all landowners are aware of the requirements incumbent upon them.

STRATHAM

ASSESSMENTS & RECOMMENDATIONS SUMMARY REPORT

Overview

Rockingham Planning Commission (RPC) evaluated the vulnerabilities to all public water systems within the region as part of the Regional Drinking Water Assessment and Education Project funded by NH Department of Environmental Services (NHDES) Drinking Water Source Protection Program. The project objective was to review existing local protections in the region and assess gaps in those protections for current and future water supplies. A series of workshops in October 2019 reviewed vulnerabilities at a regional scale and provided overview of the protections municipalities can undertake. This report contains the following information:

- Summary of key findings for the RPC region and how a municipality compares to the region.
- A listing of recommendations to increase protection of drinking water for the municipality to consider, including potential funding sources and resource links.
- Public water system vulnerability assessment.
- Maps showing the location of groundwater and surface waters, areas covered by municipal protections, and the location of public water supplies including waterlines and wellhead protection areas as defined by the NHDES.

All project materials are available at: www.therpc.org/drinkingwater

Findings

	RPC Region	Municipality
Percentage of population serviced by a community Public Water System (PWS).	69% serviced by PWS	31% serviced by PWS
Private well testing requirement?	19% require testing at real estate transfer.	No
Municipal groundwater protection zoning ordinance?	74% have a groundwater protection ordinance.	Yes
Septic setback requirement to wetlands/surface water?	100% require septic systems be at least 50 feet from waterbodies, average is 75 feet.	50 feet
Prohibition of land uses that pose a high risk to groundwater?	85% prohibit high risk land uses.	Yes
Does the municipality have a best management practices (BMP) inspection program for potential contamination sources (PCS)?	26% require inspections at the municipal level.	No
Have stormwater regulations compliant with federal stormwater permit (MS4 Permit) been adopted?	Of the 16 towns subject to the MS4 Permit, 6 have not adopted all required stormwater regulations.	Partial

Percentage if land in conservation.	14.3%	16.1%
Percentage of impervious surface coverage.	9.2%	8.6%

Recommendations

1. Consider amendments to groundwater protection ordinance. The [NHDES Groundwater Model Ordinance](#) can be adopted in whole or part and includes many of the recommendations included below.
2. Amend current groundwater protection ordinance protection to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This allows protection of current and future public water system without the need to amend zoning or zoning maps. Also, ensure that the description for the location of the study identifying the aquifers is correct. For the RPC region these are:
 - Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins - US Geological Survey Open-File Report 92-95, "Geohydrologic and Ground-Water-Quality Data for Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins, Southeastern New Hampshire."
 - Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins - US Geological Survey Water-Resources Investigations Report 91-4025, "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins, Southeastern New Hampshire."
3. Consider adopting an inspection program for all potential contamination sources (PCSs) and enforce state groundwater best management practices. See [NHDES Fact Sheet Best Management Practices for Groundwater Protection](#).
4. Increase the minimum private well radius to 100 feet or more. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be done under site plan and subdivision regulations.
5. Consider applying to NHDES for a [groundwater reclassification](#). This mechanism allows a municipality to enforce state groundwater best management rules and conduct inspections on potential contamination sources.

Funding sources for technical assistance for all the above:

- [NHDES Local Source Water Protection Grant](#)
 - RPC Coastal Program and Targeted Block Technical Grants
6. Limit impervious surfaces and ensure proper stormwater management and treatment. (Over 90% of surface water pollution in the region is caused by stormwater runoff.) This can be done by adopting the [NH Southeast Watershed Alliance Model Stormwater](#), which in many cases is also require for compliance for the federal MS4 Stormwater Permit.
 7. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality.
 8. Adopt health ordinance to require water testing for all prior issuing occupancy permit for all new structures relying on onsite private wells. Alternatively, municipalities can require water testing for all real estate transactions; this would include older homes and businesses, not just new

structures. Both ordinance approaches are allowed under RSA 31:39 and RSA147 that authorize to municipalities to have regulations related to public health. See [NHDES model ordinance](#) for further options.

9. Promote private well testing by supplying testing kits and information about testing at town events. The [Be Well Informed guide](#) can be used to help homeowners interpret results.

10. Municipalities can adopt water restrictions regulations to limit or prohibit outdoor water use during periods of drought. Example [regulation and steps for adoption](#).

11. Promote land conservation near drinking water supply sources to ensure long-term protection.

Funding sources for assistance:

- [NHDES Water Supply Land Protection Grants](#)
- [NHDES Aquatic Resource Mitigation Grants](#)
- [NH Drinking Water & Groundwater Trust Fund – Source Water Protection Grant](#)
- [Natural Resource Conservation Service Grants](#) (various grants)

12. Increase protections along surface waters or conduct water quality planning

Funding sources for assistance:

- [NHDES Watershed Assistance Grants and Water Quality Planning Grants](#)
- [NHDES Coastal Program Grants](#)

PUBLIC WATER SYSTEM VULNERABILITY ASSESSMENT

Rockingham Planning Commission (RPC) evaluated the vulnerabilities to all public water systems within the region as part of the *Regional Drinking Water Assessment and Education Project* funded by NH Department of Environmental Services (NHDES) Drinking Water Source Protection Program. Criteria used as part of this assessment included several used by [NHDES Source Assessment Reports](#) produced between 2000 and 2003, but using current data sources. Additional data included evaluation of impervious land coverage and protected land coverage within wellhead protection areas (WHPA) as parameters that can indicate how susceptible a water system is to contamination.

Notes and Abbreviations

Public Water System Information - Source: NH Department of Environmental Services OneStop – 2017

HAC = hydrologic area of concern for a surface water source. For small or undeveloped watersheds, the HAC includes the entire watershed. For all other surface sources, the HAC includes only a portion of the watershed close to the water system intake.

WHPA = wellhead protection area for a groundwater source. For community and non-transient systems, the WHPA is the area from which water is expected to flow to the well under extremely dry conditions. For transient systems, the WHPA is the area within 500 ft of the well.

EPA ID: Each public water system is identified by a 7-digit federal ID number.

Source number: Each source for a public water system is further identified by a 3-digit number.

Source description: An abbreviated description of the source from NHDES's database. (Some common abbreviations: BRW=bedrock well; GPW=gravel-pack well; GRW=gravel well; DUG=dug well; PTW=point well; SPR=spring; ART=artesian well; INF=infiltration well.)

Source type: G=groundwater (well or spring); S=surface water (lakes, reservoirs, ponds, rivers); E = water purchased from another system (Purchased sources are not assessed directly, but the original sources used by the seller are assessed).

System Type:

Community Water System (C) is a public water system which has a potential to serve at least 15 residential service connections on a year-round basis or serves at least 25 residents on a year-round basis. Most municipal and private water systems qualify as community water systems.

Transient, Non-Community System (N) is a public water system that is not a community water system and serves at least 25 persons at least 60 days out of the year, yet by its characteristics, does not meet the definition of a non-transient non-community water system. Restaurants and parks can qualify as transient, non-community water systems.

Non-Transient, Non-Community System (P) is a public water system that is not a community water system and regularly serves at least 25 of the same persons at least six months out of the year. Schools, camps and large businesses can qualify as non-transient, non-community water systems.

Susceptibility Ranking Criteria

KCSs: Known contamination sources in the vicinity of the source. This includes any site known to DES where contaminants are known or very likely to have been released to the ground, and where remediation is not complete. L = none present in the WHPA (for groundwater sources) or in the HAC (for surface water sources). M (for community and non-transient systems) = one or more KCSs in the WHPA or HAC but not within 1,000 ft of the well or intake. There is no M ranking for transient systems. H = one or more KCSs within the WHPA or HAC within 1,000 ft of the well or intake. – *Source: NH Department of Environmental Services OneStop 2019*

PCSs: Potential contamination sources in the vicinity of the source. This includes any site known to DES where contaminants are known or very likely to be used in significant quantities, but where there are no known releases to the ground. L (for community and non-transient systems) = no PCSs within 1,000 ft of the well in the WHPA (for groundwater sources) or none present in the HAC (for surface water sources). L (for transient systems) = none present in the WHPA. M (for groundwater sources serving community and non-transient systems) = 10 or fewer PCSs within 1,000 ft of the well in the WHPA. M (for surface water sources) = one or more PCSs in the HAC but not within 1,000 ft of the intake. There is no M ranking for transient systems. H (for groundwater sources serving community and non-transient systems) = more than 10 PCSs within 1,000 ft of the well in the WHPA. H (for transient sources) = one or more PCSs in the WHPA. H (for surface water sources) = one or more within 1,000 ft of the intake in the HAC. *Source: NH Department of Environmental Services OneStop 2019*

Highways/Railroads Proximity: The presence of numbered state highways or active railroads in the vicinity of the source. L = none present in the WHPA or HAC. M (for community and non-transient groundwater sources) = one or more in the WHPA but not within 1,000 ft of the well. M (for surface sources) = one or more in the HAC but not within 300 ft of the source water. There is no M ranking for transient systems. H (for transient sources) = one or more in the WHPA. H (for community and non-transient groundwater sources) = one or more in the WHPA within 1,000 ft of the well. H (for surface sources) = one or more in the HAC within 300 ft of the source water. *Source: NH Department of Transportation 2018*

Urban Land Cover: The percentage of urban land cover in the vicinity of the source, based primarily on satellite images. This criterion does not apply to sources serving transient systems. L = less than 10% of the WHPA or HAC is urban, and less than 10% of the WHPA within 1,000 ft of the well is urban. M (for community and non-transient groundwater sources) = less than 10% of WHPA is urban but 10% or more of the WHPA within 1,000 ft of the well is urban. M (for surface sources) = between 10% and 20% of HAC is urban. H (for community and non-transient groundwater sources) = 10% or more of WHPA is urban. H (for surface sources) = 20% or more of HAC is urban. *Source: Rockingham Planning Commission Regional Land Use, 2015.*

Agricultural Land Cover: The percentage of agricultural land cover in the vicinity of the source (in the WHPA or within 300 ft of surface water in the HAC), based on satellite images. This criterion does not apply to sources serving transient systems. L = no agricultural land. M = less than 10% agriculture land. H = 10% or more agriculture land.

Impervious Land Cover: The percentage of land cover within a WHPA where precipitation is not able to infiltrate into the ground. Impervious surfaces may consist of roadways, rooftops, parking lots, and compacted gravel. The higher the impervious land cover percentage the more susceptible the source is to contamination from runoff and there is decreased ability for precipitation to absorb into the ground. *Source: Rockingham Planning Commission Regional Land Use, 2015.*

Conservation and Public Land Cover: The percentage of land cover with development restrictions either through deed restrictions or conservation easement within the WHPA. The higher the conservation or public land cover percentage there is decreased risk for potential contamination on a source from land development. *Source: UNH Complex Systems, GRANIT 2015.*

N/A: Not applicable: the source was not evaluated for this parameter.

Public Water System Vulnerability

Public Water System Information							Susceptibility Rankings Criteria						
EPA ID	Source Number	Water System Name	System Type	Source Type	Source Description	Rank for KCS	Rank for PCS	Highways/ Railroads Proximity	Rank Urban Land Cover	Rank Agricultural Cover	Impervious Land Cover % in WHPA	Conservation and Public Land Cover % in WHPA	
2232080	1	PHEASANT RUN CONDOS	C	G	BRW	H	L	N/A	M	H	10.9	0.0	
2232080	2		C	G	BRW	H	L	N/A	M	H	11.2	0.0	
2232150	1	ABERDEEN/W EST	C	G	BRW	H	L	L	M	H	8.5	11.0	
2232150	2		C	G	BRW	H	L	L	M	H	8.5	11.7	
2232110	1	TURNBERRY	C	G	BRW	H	L	L	M	H	7.6	30.3	
2232110	2		C	G	BRW	H	L	L	M	H	6.5	26.0	
2232170	1	LAMINGTON HILL	C	G	BRW	L	L	L	M	H	10.1	0.0	
2232170	2		C	G	BRW	L	L	L	M	H	10.0	0.0	
2232050	3	STRATHAM GREEN CONDOS	C	G	BRW	H	M	N/A	L	H	9.0	15.7	
2232090	1	STRATHAM WOODS	C	G	BRW	L	L	L	M	H	9.9	7.1	
2232090	2		C	G	BRW	L	L	L	M	H	9.9	7.6	
2232190	2	VINEYARDS	C	G	BRW	H	M	N/A	L	H	13.1	29.7	
2232190	1		C	G	BRW	H	M	N/A	L	H	13.1	29.8	
2232070	101	MONTROSE CONDOS	C	G	BRW	H	L	L	L	H	11.9	0.3	

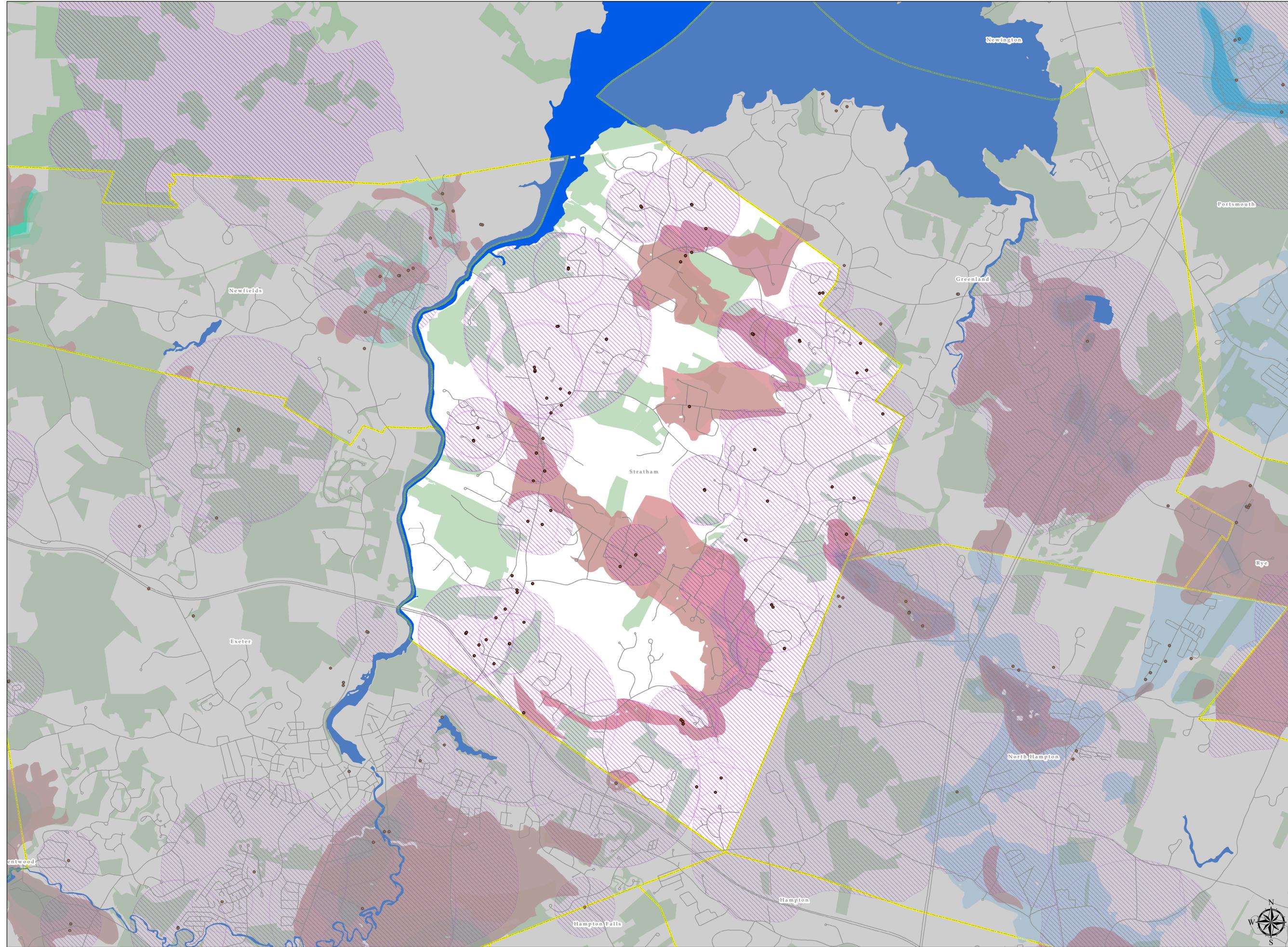
2232070	102		C	G	BRW	H	L	L	L	H	11.9	0.3
2232020	3	THORNHILL CONDOS	C	G	BRW	M	L	L	L	H	6.3	5.3
2232020	1		C	G	BRW	M	L	L	L	H	6.7	5.1
2232040	2	PENINSULA AT WINDING BROOK	C	G	BRW	L	L	L	L	H	12.3	0.0
2232040	1		C	G	BRW	L	L	L	L	H	12.2	0.0
2232140	2	JEWETT HILL	C	G	BRW	L	L	N/A	M	H	10.4	0.1
2232140	1		C	G	BRW	L	L	N/A	M	H	10.4	0.1
2232130	2	MUIRFIELD CLUSTER	C	G	BRW	L	L	L	M	H	6.4	10.3
2232060	1	BALMORAL CONDOS	C	G	BRW	M	L	L	M	H	4.7	10.7
2232030	2	SALT RIVER CONDOS	C	G	BRW	L	L	L	L	H	12.8	5.6
2232030	1		C	G	BRW	L	L	L	L	H	12.8	5.8
2232010	1	GLENGARRY CONDOS	C	G	BRW	H	L	N/A	L	H	13.2	2.0
2232130	1	MUIRFIELD CLUSTER	C	G	BRW	L	L	L	M	H	6.4	10.3
2232200	2	CHISHOLM FARM	C	G	BRW	M	M	N/A	M	H	8.0	24.1
2232200	1		C	G	BRW	M	M	N/A	M	H	8.0	24.3
2232160	2	BURNHAVEN	C	G	BRW	H	L	L	M	H	6.5	12.8
2232160	1		C	G	BRW	H	L	L	M	H	6.5	12.7
2232050	2	STRATHAM GREEN CONDOS	C	G	BRW	H	M	N/A	L	H	10.2	13.5
2232050	1		C	G	BRW	H	M	N/A	L	H	9.9	14.2

2235020	1	STRATHAM MUNICIPAL CENTER	N	G	BRW	L	L	N/A	N/A	L	0.0	0.0
2238070	1	STRATHAM IRVING/STRATHAM HTS	N	G	BRW	L	H	N/A	N/A	L	0.0	0.0
2238090	1	STRATHAM IRVING/PORT SMOOTH AVE	N	G	BRW	L	H	N/A	N/A	L	0.0	0.0
2237030	1	GOLF CLUB OF NE/CLUBHOUSE	N	G	BRW	L	L	N/A	N/A	L	0.0	0.0
2238030	1	SWEET DREAMS BAKERY	N	G	BRW	L	L	N/A	N/A	L	0.0	0.0
2239040	1	AUTOFAIR NISSAN	N	G	BRW	L	H	N/A	N/A	L	0.0	0.0
2237010	1	STRATHAM HILL PARK	N	G	BRW	L	L	N/A	N/A	L	0.0	0.0
2237010	2		N	G	BRW	L	L	N/A	N/A	L	0.0	0.0
2239050	1	EXETER SUBARU	N	G	BRW	L	H	N/A	N/A	L	0.0	0.0
2235010	1	ACORN SCH	P	G	BRW	L	M	L	M	H	9.4	0.0
2236010	1	KINGS HIGHWAY PLAZA	P	G	BRW	H	M	N/A	L	H	28.7	25.3
2236120	1	MILLBROOK OFFICE PARK	P	G	BRW	M	L	N/A	L	H	15.7	0.0
2236090	2	RCN CONDOS	P	G	BRW	H	M	N/A	L	H	32.1	23.4
2236150	1	BMW OF STRATHAM	P	G	BRW	H	L	N/A	L	H	22.4	13.8

2236170	1	LINDT AND SPRUNGLI USA/BLDG D	P	G	BRW	M	L	L	L	H	24.3	1.9
2236180	1	LINDT AND SPRUNGLI USA/BLDG E	P	G	BRW	L	L	L	L	H	25.3	27.2
2238060	1	STRATHAM PLZ/MARKET BASKET	P	G	BRW	H	M	N/A	L	H	32.7	25.2
2236040	1	BELL AND FLYNN	P	G	BRW	H	L	L	L	H	10.7	0.4
2239010	1	STRATHAM COMMUNITY CHURCH	P	G	BRW	H	L	N/A	L	H	16.3	0.0
2235060	1	CORNERSTONE SCHOOL	P	G	BRW	H	L	L	M	H	6.8	5.9
2236140	2	STRATHAM CROSSING 7621	P	G	BRW	H	M	N/A	L	H	19.5	33.8
2236140	1		P	G	BRW	H	M	N/A	L	H	19.7	33.9
2235050	1	STRATHAM MEMORIAL SCH	P	G	BRW	L	L	L	L	H	8.6	22.9
2235050	2		P	G	BRW	L	L	L	L	H	8.4	24.0
2236050	1	STRATHAM PLAZA	P	G	BRW	H	L	N/A	L	H	24.2	3.4
2236070	2	NP STRATHAM	P	G	BRW	H	M	N/A	L	H	30.2	40.6
2236070	1		P	G	BRW	H	M	N/A	L	H	30.1	40.7
2236100	1	PIPERS LANDING	P	G	BRW	H	M	N/A	L	H	17.1	1.4
2236190	1	149/151 PORTSMOUTH AVE	P	G	BRW	L	M	N/A	M	L	0.0	0.0

2236130	2	STRATHAM CENTRAL CONDOS	P	G	BRW	L	M	N/A	M	L	0.0	0.0
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Stratham

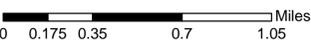
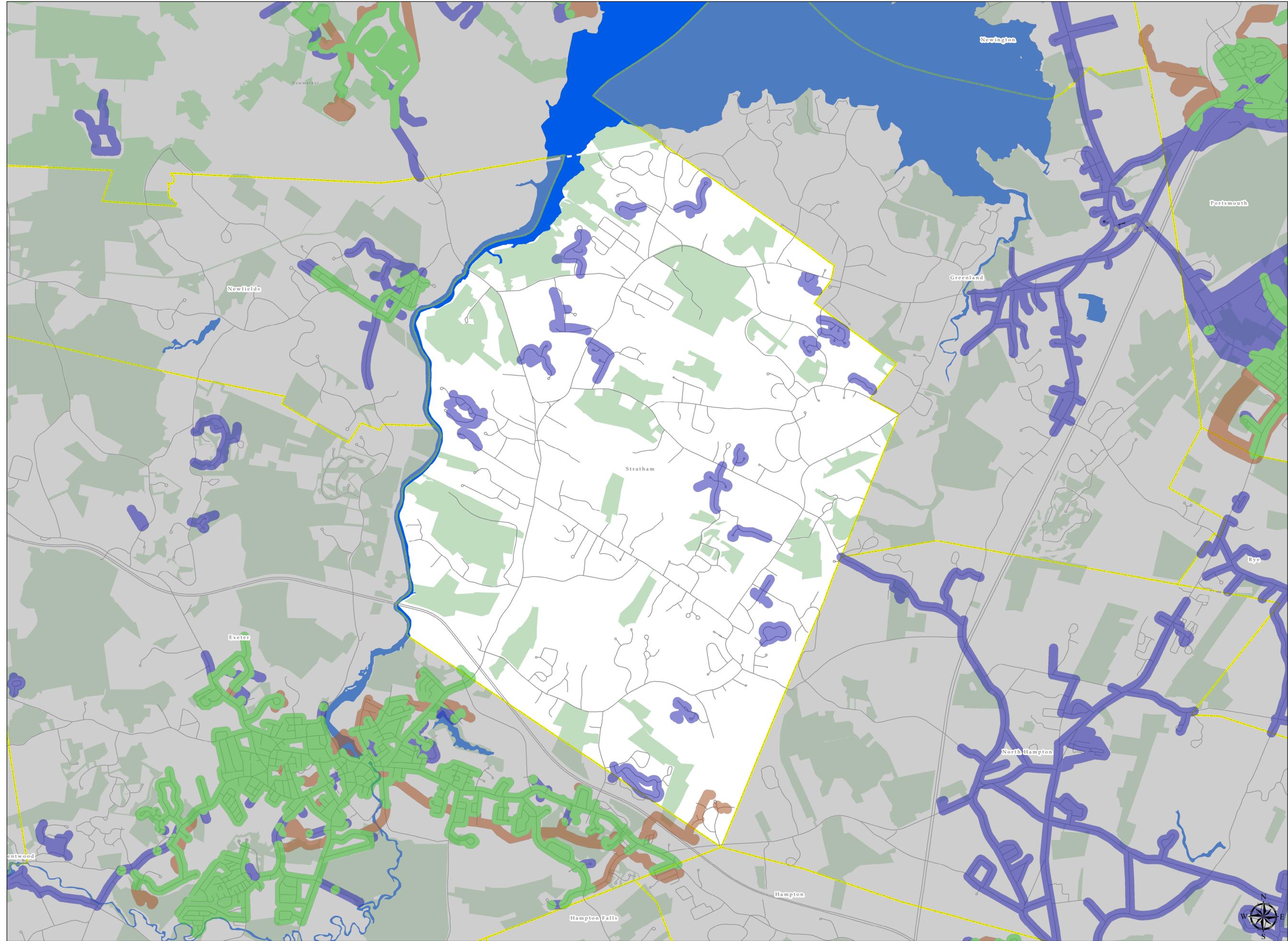


- Public Supply Wells (2017)
- Roads
- Waterbodies
- Wellhead Protection Areas
- Zoning or Code Protected Areas
- Conservation / Public Lands
- Stratified-Drift Aquifers in the Exeter**
- Transmissivity**
- Less than 500
- 500 to 1000
- 1000 to 2000
- 2000 to 3000
- Greater than 3000
- Stratified-Drift Aquifers Merrimack**
- Transmissivity**
- Less than 1000
- 1000 to 2000
- 2000 to 4000
- Greater than 4000
- RPC Towns
- New Hampshire Communities



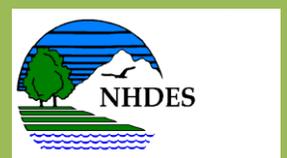
- Water and Sewer Lines**
- Both Water and Sewer Lines
 - Sewer Lines
 - Water Lines
 - Roads
 - Waterbodies
 - Conservation / Public Lands
 - RPC Towns
 - New Hampshire Communities

This dataset includes water and sewer line distribution areas for public drinking water systems with at least 15 service connections used by year round residents or regularly serve at least 25 year round residents. The datasets are based on marked up drawings provided by the survey team. In most cases the lines are interpolated by comparing the markings to aerial and vector basemap data. Once the lines are digitized (heads up method) a 200 ft buffer is applied. The location of the resulting polygon is approximate.



February 2015

Guidance to Refine the Potable Water Definition in New Hampshire Municipal Building Codes



Developed through a collaborative effort of the New Hampshire Building Officials Association, NH Health Officers Association, NH Planners Association, and NH Department of Environmental Services.

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New Hampshire
Department of Environmental Services

**Guidance to Refine the
Potable Water Definition in
New Hampshire Municipal Building Codes**

Prepared by
Drinking Water and Groundwater Bureau

February 2015

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Purpose and Introduction

This document provides guidance to municipalities that wish to incorporate a refined definition of “potable water” into their building codes. It is a response to inquiries from municipal officials who want to better protect the health of residents who use private wells. This document was developed by the New Hampshire Building Officials Association, New Hampshire Health Officers Association, New Hampshire Planners Association and New Hampshire Department of Environmental Services.

New Hampshire State Building Code requires that every structure equipped with plumbing fixtures and used for human occupancy be provided with a *potable water supply*. The Building Code defines potable water as “*water free from impurities in amounts sufficient to cause disease and harmful physiological effects.*” Interpreting and administering this definition has been difficult for local officials as it does not clearly state which impurities should be considered, nor the amounts in drinking water that cause human health impacts.

To assist local officials responsible for administering this portion of the building code, this document suggests a minimum list of contaminants and corresponding contaminant limits that can be used to refine the potable water definition. When incorporated into a local building code along with a requirement for water testing, *the refined definition of potable water will in some cases require treatment in order to achieve compliance* necessary for local approvals, such as issuance of an occupancy permit.

Beyond the minimum list of contaminants suggested in this document, a number of other contaminants that could cause disease and harmful health effects are often present in well water in New Hampshire. Therefore, *local conditions may warrant water testing and treatment for additional contaminants not on the minimum list*. Language presented in this document provides for municipalities to add contaminants to the minimum list.

Section 1: The Need for Testing of Private Wells

Nearly half of New Hampshire’s residents rely on private wells as their primary source of drinking water at home.¹ When building or buying a home served by a private well, homeowners often assume that the water supply is free of contaminants and safe to drink. However, the occurrence of contaminants at harmful levels in well water in New Hampshire is quite common, and many of those contaminants are colorless and have no detectable taste or odor. Unlike public water systems that must regularly test drinking water for up to 90 contaminants and meet stringent water quality standards under the Federal and State Safe Drinking Water Acts, *private wells in New Hampshire have no state or federal requirements to test for or remove contaminants, even when present at unhealthy levels.*

Under state and federal regulations for public water systems, over 90 drinking water contaminants are regulated in order to protect public health or address “aesthetic” (e.g., odor or taste) problems. There are no similar state or federal regulations for private wells.

Human exposure to some contaminants, such as certain strains of *E.coli* bacteria or high levels of nitrate, can result in immediate illness, such as gastroenteritis. Other contaminants, such as arsenic and radon, when consumed in drinking water over a long period of time, increase the risks for developing certain forms of cancer, cardiovascular diseases and neurological disorders.

For example, studies have found a correlation between private well use in New England and deaths due to bladder cancer,² and have estimated that hundreds of cases of cancer over the lifetimes of the current population in New Hampshire may be preventable by testing for and treatment of arsenic in private well water.³ Children whose primary source of drinking water is a private well may be at particular risk. In 2009 the American Academy of Pediatrics (AAP) released a policy statement outlining health risks to children posed by contaminants found in groundwater.⁴ The AAP policy recommends that pediatricians ask parents whether they have recently tested their well water and that states adopt laws to require testing of well water during real estate transfers. Ensuring that all residents have access to safe drinking water is an important public health goal.

Approximately 20 percent of private wells in New Hampshire have unhealthy levels of arsenic in drinking water. Arsenic exposure above the drinking water standard is a known risk factor for bladder cancer, as well as a variety of other serious chronic diseases.

¹ NHDES’s most recent estimate is 46% of N.H. residents in 2010.

² J.D. Ayotte, D. Baris, K.P. Cantor, J. Colt, G.P. Robinson, J.H. Lubin, M. R. Karagas, R.N. Hoover, J. F. Fraumeni, and D.T. Silverman (2006). *Bladder cancer mortality and private well use in New England: an ecological study. J Epidemiol Community Health*, 60:168–172

³ M. Borsuk, L. Rardin, M. Paul, and T. Hampton (2014). *Arsenic in Private Wells in NH*. Thayer School of Engineering at Dartmouth

⁴ American Academy of Pediatrics, Committee on Environmental Health and Committee on Infectious Diseases (2009). “Drinking Water From Private Wells and Risks to Children,” *Pediatrics* 123 (2009): 1599-1605. <http://pediatrics.aappublications.org/cgi/content/full/123/6/1599>

Certain contaminants found in New Hampshire’s groundwater occur naturally due to geologic or soil conditions, while others are associated with human activities. For example, New Hampshire was once known as the “Arsenic State,” with more than 300 operating arsenic mines during the 19th century.⁵ Arsenic is common in the bedrock aquifers that supply many of the state’s wells. In New Hampshire nearly all new private wells are drilled into bedrock formations and studies indicate that one in five bedrock wells fails the state and federal health-based standard for arsenic; the number is much higher in some areas and lower in others.⁶

While arsenic and other contaminants occur naturally in groundwater, human sources of contamination such as leaking underground fuel tanks, chemical spills, closed landfills, road salt and other land uses may also present health risks for private well users. Volatile organic compounds (VOCs) used in fuels and a variety of commercial products including industrial cleaners and solvents sometimes find their way into groundwater. In a 2005 study by the U.S. Geological Survey, the gasoline additive methyl tertiary butyl ether (MtBE) was detected in 21 percent of private wells sampled and in 40 percent of public water systems sampled across the state, even in wells located in remote areas.⁷ MtBE, which is no longer being added to gasoline in New Hampshire but continues to be found in our well water, has been determined by U.S. EPA to cause cancer when consumed in drinking water at levels above the health-based standard over a prolonged period of time.

Section 2: Municipal and State Authority Involving Potable Water in Private Wells

Municipalities currently have the authority to determine what constitutes potable water as it relates to the Building Code. The State Building Code under RSA 155-A establishes minimum building standards that apply within all municipalities in New Hampshire. The State Building Code adopts by reference the International Plumbing Code (IPC), which requires a potable water supply “*for every structure with plumbing fixtures and utilized for human occupancy...*” per Section 602.1.

“Only potable water shall be supplied to plumbing fixtures that provide water for drinking, bathing or culinary purposes...”

Section 602.02 Potable Water Required. International Plumbing Code (2009)

The IPC’s definition of potable water requires drinking water to be “*free from impurities present in amounts sufficient to cause disease...and conforming to the bacteriological and*

⁵ Carter, S. Laura, (undated), Arsenic in odd places: Researchers look into toxic metal mysteries. Dartmouth Medical School, Dartmouth Medicine: The Magazine of the Geisel School of Medicine at Dartmouth, http://dartmed.dartmouth.edu/winter00/html/vs_arsenic.shtml

⁶ J. D. Ayotte, M. Cahillane, L. Hayes, and K.W. Robinson (2012), Estimated Probability of Arsenic in Groundwater from Bedrock Aquifers in New Hampshire, 2011, USGS SIR 2012-5156.

⁷ J. D. Ayotte, B. R. Mrazik, D. M. Argue, and F. J. McGarry, Occurrence of Methyl tert-Butyl Ether (MTBE) in Public and Private Wells, Rockingham County, New Hampshire, USGS (2004)

chemical quality requirements of the Public Health Service Drinking Water Standards or the regulations of the public health authority having jurisdiction.” However, the IPC definition does not refer to specific contaminants, current drinking water quality standards, or the specific authority that should be responsible for ensuring that those standards are met. In New Hampshire, as in most states, drinking water quality standards apply only to public water systems, which must provide drinking water containing less than the *Maximum Contaminant Levels (MCLs)* for regulated contaminants.⁸ The N.H. Department of Environmental Services (NHDES) has the authority to enforce these standards to ensure public water systems provide safe water. Similar water quality standards could be applied under the IPC to private well water under local codes.

Under RSA 674:51 (Building Codes), municipalities are authorized to adopt local code requirements, provided they are at least as stringent as the State Building Code. This could be used to ensure that wells serving structures subject to the local plumbing code supply water that meets certain standards. This guide is meant to assist municipalities choosing this option. *Another option used by some municipalities is to require well testing under local health ordinances. NHDES can refer communities interested in this approach to these municipalities.*

The N.H. Water Well Board has adopted rules that establish minimum standards for well construction, siting and installation by licensed well drillers. A number of other state programs aim to prevent contamination of wells by establishing setbacks or regulating discharges to groundwater, including those that address septic systems, underground storage tanks, landfills, pesticide use, and stormwater discharges to groundwater. As stated earlier, none of these programs require well water quality testing or treatment.

Table 1 Recommended Testing for Private Wells

NHDES recommends having the following tests done every 3 to 5 years, except for bacteria and nitrate, which are recommended annually.

Standard Analysis

Arsenic	Lead
Bacteria	Manganese
Chloride	Nitrate/Nitrite
Copper	pH
Fluoride	Sodium
Hardness	Uranium*
Iron	

Radiological Analysis

Analytical Gross Alpha
Radon
Uranium*

Volatile Organic Compounds (VOCs)

*Please note: Uranium is part of both the standard and radiological analysis groups for the State of NH Lab.

⁸ Maximum Contaminant Levels (MCLs) are numeric water quality standards for contaminants regulated under the federal and NH Safe Drinking Water Act(s). See NHDES rules Env-Dw 702 through Env-706.

Water Quality Testing for Private Wells

NHDES *recommends* that all private wells users test their well water for the parameters listed in Table 1.⁹ Testing for these parameters provide a reasonable, cost-effective overview of a well’s water quality, taking into account the cost of testing, likelihood of occurrence, health risks, and aesthetics (taste, odor, staining). In addition to including common health-related contaminants, the Standard Analysis group includes parameters such as pH and hardness that might not affect health or aesthetics by themselves, but do affect the selection of appropriate treatment technologies and add very little to the cost of testing. The results of the recommended tests, together with guidance provided by NHDES fact sheets and followed by consultation with water treatment professionals, enable homeowners or builders to make informed decisions regarding treatment or other means of limiting exposure to contaminants in well water.

In terms of an absolute *minimum* list of health-related contaminants that should be tested to determine potability, *the list in Table 2 is limited to contaminants with enforceable health-based standards that apply to public water systems*, while balancing cost and the likelihood of occurrence at unsafe levels in New Hampshire well water. All of the contaminants in Table 2 are known to negatively affect human health. There are many more contaminants regulated at public water systems, with more being added routinely.

Beyond the minimum list in Table 2, *testing for other contaminants could be required by the local building code based on local groundwater conditions or general public health concerns*. For instance, most new private wells in New Hampshire are drilled into bedrock and will likely exceed the NHDES Recommended Action Level for radon (2,000 picocuries per liter), at which point a test for radon in air is recommended. Consequently, a Radiological Analysis may be warranted for bedrock wells in most places across the state. (Note: Radon gas is carcinogenic and well water is one of the pathways for radon to be present at unhealthy levels in indoor air. However, radon has not been included in Table 2 because there is no enforceable standard for radon that currently applies to public water systems.) Local officials might also want to include iron and manganese, since it is common for these contaminants to impair both the drinkability of water (due to taste)

Table 2
Minimum List of Contaminants Included in the Refined Definition of Potable Water and Applicable Drinking Water Quality Standards¹⁰

Contaminants	Standards
Arsenic	<= 0.01 mg/L
Bacteria	Absent
Copper	<= 1.3 mg/L
Fluoride	<= 4.0 mg/L
Lead	<= 0.015 mg/L
Nitrate (NO ₃ -N)	<= 10 mg/L
Nitrite (NO ₂ -N)	<= 1 mg/L
Uranium	<= 0.030 mg/L

⁹ See the NHDES private well testing flier in Attachment 2.

¹⁰ The minimum list of contaminants in Table 2 is a small subset of the contaminants for which public water systems are required to meet standards. Local programs should make information available about the health risks associated with potential groundwater contaminants. Fact sheets on each of these contaminants are available from NHDES at (603) 271-2513 and can be accessed at www.des.nh.gov (A to Z List, Fact Sheets).

and the usability of water for laundering, and their tendency to cause staining of plumbing fixtures. There are also concerns about the potential impact of high levels of manganese on cognitive development in children. However, there is no enforceable standard for iron or manganese that currently applies to public water systems. Sodium might also be considered for inclusion due to its health implications for people on sodium-restricted diets. Volatile Organic Compound (VOC) testing, although relatively expensive, may also be indicated for inclusion in more developed areas, given the prevalence of MtBE throughout the state due to releases of gasoline containing MtBE.

When weighing the need for testing for contaminants not included in the minimum list in Table 2, consider the following factors:

- Contaminants found in nearby wells.
- Presence of nearby known contamination sites (e.g., leaks from underground storage tanks).
- Location of past or present nearby land uses involving fuel storage, hazardous chemicals, solvents, de-greasers, pesticides, and fertilizers.
- Nearby groundwater or stormwater discharges from commercial land uses, including those with septic systems.

Information about local groundwater conditions may be available from NHDES. Contact (603) 271-0688 for guidance on finding information related to local groundwater conditions.



Section 3: Adopting and Administering a Potable Water Standard

Defining Potable Water in a Local Building Code

Municipalities often adopt local building codes using the State Building Code as a template with or without local modifications. Changes to a local building code require a noticed public hearing and approval by a vote by the “local legislative body” (e.g., town meeting, town or city council) per RSA 674:51,I. As noted above, municipalities that wish to adopt local water testing requirements and water quality standards for private wells may accomplish this by incorporating modified versions of two sections of the IPC into the local building code: Sub-section 602.3.3 *and* Section 202.

Establishing Testing Requirements for Private Wells

Section 602.3 (Individual Water Supply) of the IPC applies to private wells. Within that section, sub-section 602.3.3 (Water Quality) may be modified to require the submission of a report from an accredited laboratory containing water quality test results. The test results submitted by or on behalf of an applicant for a Certificate of Occupancy (CO) would then be used to determine whether the water supply meets the definition of potable water. The original IPC language follows in blue with added language *italicized* in red.

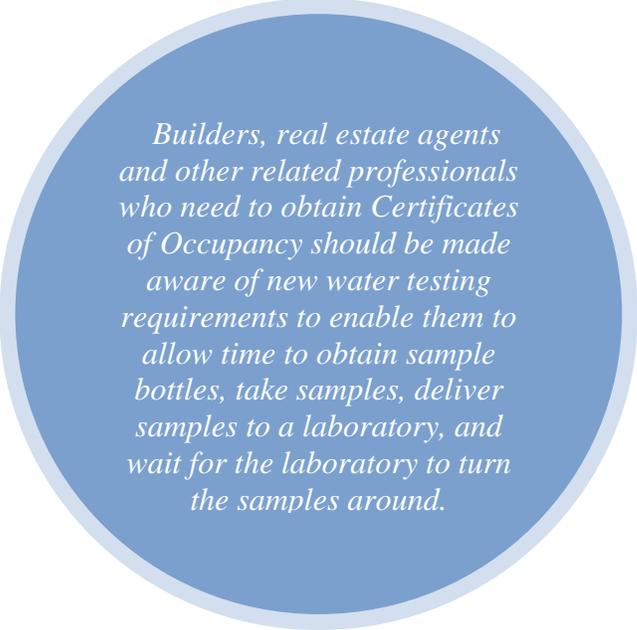
*Sub-Section 602.3.3: “Water from an individual water supply shall be approved as potable by the building code enforcement authority prior to **issuance of a certificate of occupancy. A report from a laboratory accredited under the N.H. Environmental Laboratory Accreditation Program or another state program under the National Environmental Laboratory Accreditation Program shall be submitted to the building code enforcement authority. When water treatment is necessary, treated water shall be tested for the contaminants listed within the “potable water” definition or as required by the municipal code enforcement authority.**”*



Adopting this modified version of Sub-section 602.3.3 of the International Plumbing Code (IPC) establishes a clear requirement to submit water quality test results to the municipal code enforcement authority.

Defining Potable Water Based On Well Water Testing Results

Adopting a refined definition of potable water that lists specific contaminants and the associated water quality standards will allow code enforcement or health authorities to consistently determine whether private well water meets the local definition of potable water. As noted earlier, the term “potable water” is defined in Section 202 (General Definitions) of the IPC but the definition does not refer to specific contaminants or current drinking water quality standards. The recommended refined potable water definition below establishes that some of the most common water quality standards (see Table 2) that are applied to public water systems would also be applied to private wells in a municipality. As noted above, some municipalities may wish to add other contaminants based on local groundwater water quality concerns. There are two options here: Contaminants may be added to Table 2 to require testing and compliance *town-wide*, or local officials may rely on the phrase “free from impurities present in amounts sufficient to cause disease or harmful physiological effects” to include additional parameters *on a case-by-case basis* based on information about local groundwater conditions and threats such as those listed above in the “Water Quality Testing for Private Wells” section.



Builders, real estate agents and other related professionals who need to obtain Certificates of Occupancy should be made aware of new water testing requirements to enable them to allow time to obtain sample bottles, take samples, deliver samples to a laboratory, and wait for the laboratory to turn the samples around.

The original IPC language follows in blue with added language *italicized* in red. As previously noted, parameters listed in Table 2 include only contaminants with health-based drinking water standards that apply to public water systems in New Hampshire.

Section 202 Potable Water: Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the standards established by the New Hampshire Department of Environmental Services or U.S. EPA for the contaminants listed in [Table 2].

Implementing Requirements for Water Quality Testing and Treatment

The refined potable water definition, if adopted in a local building code, will require applicants for a (CO) to have the water tested by an accredited laboratory and submit the test results to the local building official. While a local code might *require* testing only for contaminants in its “potable water” definition, local officials might wish to adopt a *recommended* set of tests along the lines of Table 1. Attachment 3 to this document is NHDES’s list of accredited labs that currently provide testing for the contaminants listed Tables 1 and 2. (The list of laboratories is updated periodically and posted on NHDES’s

private well testing webpage.¹¹) Laboratories typically group tests into packages that may or may not include all of the required or recommended contaminants; well owners should check before choosing a testing package.

Collection and delivery of water samples to a laboratory is usually the responsibility of the applicant who wishes to obtain a (CO). Laboratories typically provide both sample bottles and instructions on how to properly collect and handle water samples. Water quality test results are sent directly to the customer, who would attach the laboratory's report to the application for a (CO). Either the health officer or the building code enforcement officer would review the laboratory report to determine compliance with the water quality standards. The laboratory report will typically indicate whether the results meet state drinking water standards. If water treatment is required to remove contaminants, a second water test would be required to determine whether the treated water meets the water quality standards to be considered potable. The N.H. Department of Health and Human Services Public Health Laboratory publishes a guide entitled "Your Water Analysis" that explains what the laboratory results mean for each contaminant listed in Table 1, including their associated health or aesthetic issues and possible sources of water contamination. The publication is online at www.des.nh.gov.¹²

Test results submitted with an application for a (CO) are public information and must be made available upon request. This information may be important during subsequent real estate transfers. Although the date of the most recent water quality test must be disclosed by the seller prior to execution of a purchase and sales agreement under RSA 477:4-c (Disclosure Required; Water Supply; Sewage Disposal), the statute does not require the seller to provide water test results. However, if the test results were public information by virtue of being required for a (CO), this would make the result available to prospective buyers.

The time to collect a water sample, deliver it to a laboratory, complete water testing and receive results mailed out by the laboratory to the property owner/applicant can often range from two to four weeks. If treatment is required, expect to add an additional two to four weeks to install treatment and complete a second round of water testing. Upon adoption of a building code requiring private well water testing as a condition for a (CO), it is important to provide advance notice to the public, real estate professionals, etc. regarding the additional time that may be required to obtain the (CO).

If water treatment is necessary it should remove contaminants to levels that meet water quality standards. NHDES Factsheet *WD-DGWB-2-5, Considerations When Purchasing Water Treatment Equipment* and other, contaminant-specific fact sheets may be helpful to assist property owners considering water treatment.¹³

¹¹ Search for "NHDES private well testing."

¹² See http://des.nh.gov/organization/commissioner/lsu/documents/water_analysis.pdf.

¹³ See <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-2-5.pdf>.

Making it Work in Your Community

For communities that wish to refine the definition of “potable water” in their building codes, developing a consensus among local stakeholders about the need to have a clear local potable water standard is an important first step. Forming a local committee, conducting public education and outreach activities, and making private well test kits available will raise community awareness about the need to have a clear standard that can be applied through a building code. Be prepared to answer questions, such as those found below in Table 2.

Table 2
Frequently Asked Questions

How many households use private wells in my municipality?	The U.S. Geological Survey (USGS) has developed estimates of the population using private wells in each N.H. community in 2005. Visit http://vt.water.usgs.gov/projects/nhvtwateruse/data/NHTownSum2005.xlsx
What are the chances of being exposed to arsenic or other contaminants in N.H. through using a private well?	The USGS estimates that one in five bedrock wells in NH has arsenic above 10 ug/L, the health-based limit for public water systems, but some parts of the state are much more likely than others to have high levels. The USGS has published maps that show the estimated probabilities of finding arsenic at 1, 5 and 10 ug/L in private wells. Visit http://pubs.usgs.gov/sir/2012/5156/ . NHDES also publishes estimates of how frequently private well water will on average exceed Standard Analysis test parameters.
What is the cost to do the tests listed in Table 2?	Prices vary by lab but the total cost of the Standard Analysis in Table 1 (which includes all of the Table 2 contaminants) usually ranges from \$85 to \$125.
Where is a nearby accredited lab that can do the water tests?	NHDES publishes a list of accredited labs. See http://des.nh.gov/organization/divisions/water/dwgb/nhelap/documents/labs-private-wells.pdf or search for “NHDES private wells testing.”
What is the proper treatment to remove contaminants from private well water?	Consult NHDES fact sheets or staff, qualified treatment professionals, and online tools to determine the proper treatment technology to remove specific contaminants. ¹⁴ Water testing is necessary to determine the proper treatment; for example, water softeners do not effectively remove arsenic. Visit http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm (see section entitled Drinking Water Quality: Contaminants)
Should the “potable water” requirement be applied to building projects that do <u>not</u> involve new wells?	Applicability of the “potable water” requirement to projects that do not involve new wells is subject to the discretion of the local building official. However, well water quality can change over time. Furthermore, increased water use and increased groundwater pumping can also cause changes in water quality.

¹⁴ NHDES provides assistance to help determine the proper water treatment technology based upon well water test results. For more information about water treatment, contact (603) 271-3108.

When Adopting a Refined Potable Water Definition -- Remember to:

- *Update any local guide(s) to municipal approval processes, as well as forms (permits, checklists) to reflect newly adopted testing and treatment requirements.*
- *Identify the local official responsible for reviewing water test results and water treatment systems.*
- *Make available at municipal offices information such as NHDES's list of accredited laboratories and NHDES's flier listing recommended tests.*
- *NHDES publishes a number of fact sheets regarding the contaminants listed in Table 1 as well as other contaminants that public water systems must test for. Current versions of these fact sheets or a list with "how to obtain" information should be made available in municipal offices.*
- *Ensure test results submitted for local permit approvals are kept on file and made available upon request.*
- *Refer applicants to NELAP accredited labs for testing and to NHDES for questions regarding water treatment.*

For more information about adopting a clear potable water standard into local building regulations, contact NHDES at (603) 271-0688.



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Attachment 1
Online Resources Related To Private Wells, Public Health,
Water Quality Testing and Treatment

HEALTH INFORMATION

Drinking Water From Private Wells and Risks to Children (American Academy of Pediatrics) <http://pediatrics.aappublications.org/content/123/6/e1123.full.pdf+html>

Dartmouth College - Toxic Metals Superfund Research Program (arsenic page) <http://www.dartmouth.edu/~toxmetal/arsenic/index.html>

WATER QUALITY TESTING AND TREATMENT

WD-DWGB-2-1 Suggested Water Quality Testing for Private Wells (NHDES) <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-2-1.pdf>

WD-DWGB 3-2 Arsenic in New Hampshire Well Water (NHDES) <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-3-2.pdf>

Water Quality Testing for Private Wells in New Hampshire (NHDES) http://des.nh.gov/organization/divisions/water/dwgb/well_testing/documents/well_testing.pdf

NH DHHS Public Health Laboratories Analysis Guide for Homeowners (DHHS) http://des.nh.gov/organization/commissioner/lsu/documents/water_testing.pdf

DHHS Public Laboratories Online Order Form for Test Containers for Homeowners (DHHS) <http://www2.des.state.nh.us/DESOnestop/HOBottles.aspx>

WD-DGWB-2-5 Considerations When Purchasing Water Treatment Equipment (NHDES) <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-2-5.pdf>

Attachment 2

NHDES Private Well Testing Flier



Protect Your Family's Health

Test Your Water Today for All Common Pollutants



Why should I test my well water?

Unhealthy levels of various contaminants are common in private wells in New Hampshire. Some of these contaminants have been linked to cancer and other diseases. Most of these contaminants have no taste, smell or color. You won't know what's in your well water unless you have it tested by a laboratory. State and local laws generally do not require testing of private well water. If you have a private well, the New Hampshire Department of Environmental Services (NHDES) strongly recommends that you have your well water tested – for all of the most common pollutants – to help protect your family's health. If a test shows that your well water has contaminants in it, NHDES can help you consider water treatment choices that work best for the level of contaminants in your water.

How do pollutants get into well water?

Well water comes from rain and snow that soaks into the ground. As water seeps through the soil and rock, it can pick up pollutants and other materials that are present on or in the ground.

Some contaminants that are commonly found in well water at unsafe levels come from the rocks and soil that the water flows through. The most common in New Hampshire are bacteria, radon, arsenic, manganese, uranium and radium. For example, the U.S. Geological Survey estimates that one in five private wells in New Hampshire has more arsenic than is allowed in public water systems.

Other contaminants get into well water from human activities. Gasoline storage and spills, industrial/commercial activities, improper waste disposal and road salting can introduce toxic substances to the ground. Even typical residential activities, such as using fertilizers or pesticides too close to a well, spilling fuel and improperly disposing of household chemicals can contaminate well water.

What should I test my well water for?

The following tests identify common contaminants found in well water in New Hampshire. Many private wells have been tested according to the requirements of mortgage companies or at the recommendation of well drillers, water treatment vendors, etc., but often those tests do not include all of the common contaminants that can harm your health, especially if they were done years ago. The list recommended in this flier provides a cost-effective, reasonable overview of a well's water quality. Contact an accredited laboratory for availability and pricing. *It is not necessary to do all of these tests at one time.*

💧 Standard Analysis

This covers the most common contaminants (see the list on the next page). Some of these contaminants pose health-related concerns, while others only affect aesthetics (taste and odor).

💧 Radiological Analysis

The rocks in New Hampshire contain naturally occurring radioactive elements that dissolve easily in well water. The recommended radiological analysis will test for uranium, analytical gross alpha and radon.

Testing for radon in air may have been required by your mortgage company; however, radon and other radioactive elements are also common in well water in New Hampshire. NHDES estimates that approximately 55 percent of private wells in New Hampshire exceed NHDES' recommended action level for radon.

💧 Volatile Organic Compounds (VOCs)

The most common VOCs come from compounds found in gasoline, such as MtBE and benzene, and from industrial solvents. MtBE can be found in well water even in remote areas.

💧 Additional Tests

Circumstances specific to your well or property may require additional testing not described here. For instance, NHDES does not recommend routine testing for pesticides, herbicides or other synthetic organic compounds (SOCs), mainly because of the high cost. However, such testing might be a good idea if your water has elevated nitrite or nitrate concentrations and an agricultural source is suspected, or significant amounts of pesticide have been applied near your well.

These less-routine tests may not be performed at all laboratories.

What will testing tell me?

The laboratory report you receive will show the level at which any of the tested substances were found in your water sample. The mere presence of a contaminant in your well water does not necessarily mean that there is a problem. However, when levels exceed state or federal health standards or recommended action levels, there may be a problem and you should take steps to fix it. Several methods are available from water treatment vendors to remove contaminants from water. NHDES has fact sheets on its website covering all common water quality problems and their solutions.

When should I test my well water?

NHDES recommends that prospective homebuyers test the water in a home with a private well before purchase.

Water quality in wells is generally stable, and if a change is going to occur, it occurs slowly. Thus the time between water quality tests, once you've purchased the home, can generally be several years if a well is properly constructed and located in a safe area. Bacteria and nitrate are exceptions; you should test for them every year.

The following conditions would call for more frequent testing:

- Heavily developed areas with land uses that handle hazardous chemicals.
- Recent well construction activities or repairs. NHDES recommends testing for bacteria after any well repair or pump or plumbing modification, but only after substantial flushing of the pipes.
- Elevated contaminant concentrations found in earlier testing.
- Noticeable variations in quality such as a change in taste, smell, or appearance after a heavy rain or an unexplained change in a previously trouble-free well, such as a strange taste or cloudy appearance.

When taking any sample, NHDES recommends that it be taken after a heavy rainstorm. These events tend to highlight conditions of improper well construction or poor soil filtration.

Learn More

For information about private well testing, or about accredited laboratories in New Hampshire, visit the NHDES website: www.des.nh.gov

Go to the A to Z List and select "Private Well Testing"

NHDES recommends having the following tests done every 3 to 5 years, except for bacteria and nitrate, which are recommended annually.

Standard Analysis

Arsenic	Lead
Bacteria	Manganese
Chloride	Nitrate/Nitrite
Copper	pH
Fluoride	Sodium
Hardness	Uranium*
Iron	

Radiological Analysis

Analytical Gross Alpha
Radon
Uranium*

Volatile Organic Compounds (VOCs)

*Please note: Uranium is part of both the standard and radiological analysis for the State of NH Lab.



Attachment 3

List of Accredited Laboratories That Perform NHDES-Recommended Water Quality
Tests Referred to as the “Standard Analysis”

**Table 1
Accredited Labs Providing Well Water Quality Testing Services
in New Hampshire and Neighboring States^{1, 2}**

LABORATORY NAME	TELEPHONE	ADDRESS	TOWN	STATE	WEBSITE
ABSOLUTE RESOURCE ASSOCIATES LLC	(603) 436-2001	124 HERITAGE AVE	PORTSMOUTH	NH	WWW.ABSOLUTERESOURCEASSOCIATES.COM
AQUARIAN ANALYTICAL INC	(603) 783-9097	153 WEST RD	CANTERBURY	NH	WWW.AQUARIANLABS.COM
CHEMSERVE INC	(603) 673-5440	317 ELM ST	MILFORD	NH	WWW.CHEMSERVELAB.COM
EAI ANALYTICAL LABS	(603) 357-2577	149 EMERALD STREET	KEENE	NH	WWW.EAI-LABS.COM
EASTERN ANALYTICAL INC	(603) 228-0525	25 CHENELL DR	CONCORD	NH	WWW.EAILABS.COM
ENDYNE INC	(603) 678-4891	56 ETNA ROAD	LEBANON	NH	WWW.ENDYNELABS.COM
EPPING WELL & PUMP COMPANY	(603) 679-5299	337 CALEF HWY	EPPING	NH	WWW.EPPINGWELL.COM
GRANITE STATE ANALYTICAL SERVICES LLC	(603) 432-3044	22 MANCHESTER RD, UNIT 2	DERRY	NH	WWW.GRANITESTATEANALYTICAL.COM
NELSON ANALYTICAL LLC	(603) 622-0200	490 E INDUSTRIAL PARK DRIVE	MANCHESTER	NH	WWW.NELSONANALYTICAL.COM
NEW ENGLAND RADON LTD	(603) 893-4260	11 A INDUSTRIAL WAY UNIT 3	SALEM	NH	WWW.NEWENGLANDRADON.COM
NH DHHS PUBLIC HEALTH LABORATORIES	(603) 271-3445	29 HAZEN DR	CONCORD	NH	des.nh.gov/organization/commissioner/lisu/index.htm
SEACOAST ANALYTICAL SERVICES	(603) 868-1457	72 PINKHAM RD	LEE	NH	
KATAHDIN ANALYTICAL SERVICES INC (#2001)	(207) 874-2400	600 TECHNOLOGY WAY	SCARBOROUGH	ME	WWW.KATAHDINLAB.COM
NELSON ANALYTICAL LLC	(207) 467-3478	120 YORK STREET	KENNEBUNK	ME	WWW.NELSONANALYTICAL.COM
ACCUTEST LABORATORIES OF NEW ENGLAND INC	(508) 481-6200	495 TECHNOLOGY CTR WEST	MARLBOROUGH	MA	WWW.ACCUTEST.COM
CON-TEST ANALYTICAL LABORATORY	(413) 525-2332	39 SPRUCE ST	E LONGMEADOW	MA	WWW.CONTESTLABS.COM
ALS ENVIRONMENTAL (#2941)	(585) 288-5380	1565 JEFFERSON ROAD	ROCHESTER	NY	WWW.ALSGLOBAL.COM
PACE ANALYTICAL SERVICES INC	(631) 694-3040	575 BROAD HOLLOW ROAD	MELVILLE	NY	WWW.PACELABS.COM

Water Quality Testing for Private (Domestic) Wells: DES recommends residents test their well water for all contaminants commonly found in New Hampshire's groundwater, listed in Table 2 below. Private well owners are encouraged to test their water wells every three to five years for the complete set of contaminants listed below. Contact an accredited laboratory to confirm the lab's capacity to complete all recommended tests and for pricing. It is not necessary to do all of these tests at one time.

¹ Updated 6.23.14. Subject to change. For up-to-date information, see <http://www2.des.nh.gov/CertifiedLabs/Certified-Method.aspx>.

² Some labs may not accept samples provided by the general public. Please call labs directly for details.

For more information about DES recommended private well water quality testing, see DES's Fact Sheet WD-DWGB-2-1 Suggested Water Quality Testing for Private Wells (2011) online at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-2-1.pdf>.

Table 2 NH DES Recommendations for Private Well Testing	
Standard Analysis	Testing Frequency
Arsenic Bacteria Chloride Copper Fluoride Hardness Iron Lead Manganese Nitrate/Nitrite pH Sodium Uranium	Every 3 to 5 years (except for bacteria and nitrate, which are recommended yearly)
Radiological Analysis	
Radon Uranium Analytical Gross Alpha	Every 3 to 5 years
Volatile Organic Compounds (VOCs)³	
VOCs	Every 3 to 5 years

For more information or technical assistance related to private well testing visit NH DES's website, www.des.nh.gov, go to the A to Z List and find Private Well Testing and visit the Private Well Testing Program webpage.

³ The most common VOCs come from gasoline compounds, such as MtBE and benzene, and industrial solvents.

**Stratham Aquifer Protection Ordinance & Drinking Water Protection
Review & Recommendations to Enhance Protections**

5/18/2022 Planning Board Meeting
Rockingham Planning Commission

Updates from 4/20/2022 Meeting

Background Information

Rockingham Planning Commission (RPC) is working with the Town of Stratham for updates to the Town's drinking water protection land use regulations to increase the town's resiliency to climate change impacts.

RPC has funding through the New Hampshire Department of Environmental Services (NHDES) Coastal Program to develop a suite of model land use regulations that aim to increase municipal resiliency to the impacts of climate change and coastal hazards. A component of this project is to provide technical assistance to up coastal municipalities to implement one or more of these model regulations. Given Stratham's recent work and expressed interest in working with RPC on reviewing Town's aquifer protection regulations, work on drinking water protection regulations is very timely.

RPC is able to work with the Town on the following items:

- Review existing drinking water protection regulations and provide a list of recommended amendment.
- Meet with the Planning Board and/or Town staff to review draft regulations at least three times.
- Provide draft language for regulations and any associated maps, including revisions to drafts based on feedback from the Planning Board and Town staff.
- Provide summary document of proposed changes based on final draft regulations and guidance on the adoption process.

The Town of Stratham would be responsible for bringing any regulation change to public hearing and through the adoption process. However, RPC is available to provide support and guidance for the regulation adoption.

RPC has reviewed Stratham's existing Aquifer Protection Ordinance to provide guidance on updates based on the NH Department of Environmental Services Model Groundwater Protection Ordinance, additions from model language developed as part of *RPC's Resilient Land Use Guide for NH: Adapting to Climate Change & Coastal Hazards*, and general procedural amendments. The proposed text changes include comments of explanation.

The major discussion items for the Planning Board to consider within the proposed changes are:

1. Would the Board be amendable to expanding the aquifer district to include the wellhead protection areas of all public water supplies?

Appendix A for a map of the existing aquifer and the wellhead protection areas of all public water systems.

2. Amending the list of prohibited and permitted uses.
3. Increasing the use performance standards to prevent potential contamination. **Note that the maximum impervious lot coverage amount of 20% is the same for all uses. It is possible to include different criteria for lots that would require site plan approval versus single-family and duplex residential lots.**

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Existing Text ~~Text To Be Removed~~ **Text To Be Added**
~~Text To Be Removed~~ **Text To Be Added**
(green text is modifications from the April 20, 2022 discussion)

SECTION XIII: AQUIFER PROTECTION DISTRICT (OVERLAY)
(Adopted 03/92)

13.1 AUTHORITY AND PURPOSE

Pursuant to RSA 674:16-21, the Town of Stratham adopts an Aquifer Protection District and accompanying regulations in order to protect, preserve and maintain potential groundwater supplies and related groundwater recharge areas within the Town. **This ordinance shall be administered, including the granting of conditional permits, by the planning board.**

13.## PURPOSE

The purpose of this ordinance is, in the interest of public health, safety, and general welfare, to preserve, maintain, and protect from contamination existing and potential groundwater supply areas and to protect surface waters that are fed by groundwater. The purpose is to be accomplished by regulating land uses which could contribute pollutants to designated wells and/or aquifers identified as being needed for present and/or future public water supply.

13.2 DEFINITIONS

13.2.1 Animal Feedlot: A commercial agricultural establishment consisting of confined feeding areas and related structures used for the raising of livestock.

13.2.2 Aquifer: ~~For the purpose of this Ordinance, aquifer means a geologic formation, group of formations or part of a formation that is capable of yielding quantities of groundwater usable for municipal or public water supplies.~~
A geologic formation composed of rock, sand, or gravel that contains significant amounts of potentially recoverable water.

13.2.3 Dwelling Unit: ~~Please review~~ As defined by Section 2.1.19.

13.2.# Flood hazard areas: Areas that result in flood waters that often carry hazardous and toxic materials, including raw sewage, animal wastes, oil, gasoline, solvents, and chemicals such as pesticides and fertilizer. Flood waters that enter a well can contaminate the groundwater and

Commented [JR1]: To clarify that the intent of this zoning district, would there be interest in renaming it the Groundwater Protection District to better communicate what is being protected? The public often does not know what an aquifer is.

Commented [JR2]: Numbering of sections will be adjusted as needed based on amendments.

Commented [JR3]: Recommend breaking these to up

Commented [JR4]: We can certainly alter this language, but it is consistent with the updated Master Plan.

Commented [JR5]: These definitions only apply to this section of the Zoning Ordinance. The suggested definitions could be pulled into the general definitions section, but would need to be reviewed for their impacts on other areas of the zoning ordinance.

Commented [JR6]: This definition is very specific and does not address the use of ground water for private wells. The proposed definition is more generic, and is mainly included to clarify the purpose of the ordinance.

Commented [JR7]: Suggest better referencing language

49 **make the well water unsafe to drink or to use in your business. The**
50 **effects may last long after the flood waters have receded.**

Commented [JR8]: Putting additional restrictions on hazardous land uses in flood prone areas to reduce the possibilities of contaminating drinking water supplies.

51
52 13.2.4 **Groundwater:** ~~All the water below the land surface in the zone of saturation~~
53 ~~or in rock fractures capable of yielding water to a well.~~

Commented [JR9]: This definition is the same as in RSA 485-C – Goundwater Protection Act.

54
55 **Subsurface water that occurs beneath the water table in soils and**
56 **geologic formations.**

57
58 13.2.# **Gasoline station:** means that portion of a property where
59 **petroleum products are received by tank vessel, pipeline, tank car, or**
60 **tank vehicle and distributed for the purposes of retail sale of gasoline.**

Commented [JR10]: This term is used in Prohibited Uses section

61
62 13.2.5 **Groundwater Recharge:** The infiltration of precipitation through surface soil
63 materials into groundwater. Recharge may also occur from surface waters,
64 including lakes, streams and wetlands.

65
66 13.2.# **Impervious surface:** A surface through which regulated
67 **substances cannot pass when spilled. Impervious surfaces include**
68 **concrete unless unsealed cracks or holes are present. Earthen;**
69 **wooden, or gravel surfaces; or other surfaces which could react with**
70 **or dissolve when in contact with the substances stored on them are**
71 **not considered impervious surfaces.**

Commented [JR11]: What is considered impervious with respect to stormwater infiltration is not necessarily considered impervious with respect to containment of regulated substances.

72
73 13.2.# **Junkyard:** An establishment or place of business which is maintained,
74 **operated, or used for storing, keeping, buying, or selling junk, or for**
75 **the maintenance or operation of an automotive recycling yard. The**
76 **word does not include any motor vehicle dealers registered with the**
77 **director of motor vehicles under RSA 261:104 and controlled under**
78 **RSA 236:126.**

From NH Code of Administrative Rules Env-Wq 401 .03(c), Best Management Practices rules for groundwater protection, except that “substances” has been substituted for “contaminants.”

79
80 13.2.6 **Leachable Wastes:** Waste materials including solid wastes, sludge and
81 agricultural wastes capable of releasing contaminants to the surrounding
82 environment.

Stratham may also want to consider a general definition of an impervious surface.

83
84 13.2.7 **Non-Conforming Use:** ~~Please review~~As defined by Section 2.1.41.

Commented [JR12]: From RSA 236:91 IV. Junkyard owners must obtain an annual town or city issued "junkyard" license under RSA 236:111-129 and certify in their application for this license that the yard operates in compliance with best management practices (BMPs) established by NHDES.

85
86 13.2.# **Public water system:** A system for the provision to the public of piped
87 **water for human consumption, if such system has at least 15 service**
88 **connections or regularly serves an average of at least 25 individuals**
89 **daily at least 60 days out of the year.**

Commented [JR13]: From RSA 485:1-a, XV. The definition used here is abbreviated because the only reference in this ordinance to a public water system is in the definition of wellhead protection area.

90
91 13.2.8 **Recharge Area:** The land surface area from which groundwater recharge
92 occurs.

93
94 13.2.# **Regulated substance:** petroleum, petroleum products, regulated
95 **contaminants for which an ambient groundwater quality standard has**
96 **been established under RSA 485-C:6, and substances listed under 40**

97 **CFR 302, 7-1-05 edition, excluding substances used in the treatment**
98 **of drinking water or waste water at department approved facilities.**

99
100 **13.2.# Sanitary protective radius: The area around a public water supply**
101 **well which must be maintained in its natural state as required by**
102 **EnvDw 301 or 302 (for community water systems); Env-Dw 405.14**
103 **and 406.12 (for other public water systems).**

104
105 13.2.9 Site Coverage: That portion of the entire parcel or site, which through the
106 development of the parcel, is rendered impervious to groundwater infiltration.

107
108 13.2.10 Solid Waste: Any discarded or abandoned material including refuse,
109 putrescible material, septage or sludge, as defined by New Hampshire Solid
110 Waste Rules He P 1901.03. Solid waste includes solid, liquid, semi-solid or
111 gaseous waste material.

112
113 13.2.11 Toxic or Hazardous Materials: Any substance which poses an actual or
114 potential hazard to water supplies or human health if such a substance were
115 discharged to land or waters of the Town. Hazardous materials include:
116 volatile organic chemicals, petroleum products, heavy metals, radioactive or
117 infectious wastes, acids and alkalis. Also included are pesticides, herbicides,
118 solvents and thinners and such other substances as defined in the NH Water
119 Supply and Pollution Control Rules, Section Ws 410.04(1), in the NH Solid
120 Waste Rules He-P 1901.3(v) and in the Code of Federal Regulations 40 CFR
121 261 as amended.

122
123 **13.2.# Wellhead protection area: The surface and subsurface area**
124 **surrounding a water well or wellfield supplying a community public**
125 **water system, through which contaminants are reasonably likely to**
126 **move toward and reach such water well or wellfield.**

127
128 **13.3 DISTRICT BOUNDARIES**

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130 a. **Location: The Aquifer Protection District is an overlay district**
131 **which is superimposed over the existing underlying zoning and**
132 **includes:**

133 **1) All of the Wellhead Protection Areas for public water supply**
134 **wells as defined under Section 13.2.#, and**

135 **2) The boundaries of groundwater as depicted in the following**
136 **studies, or as amended:**

137 **i. Stratified-Drift Aquifers in the Exeter, Lamprey, and**
138 **Oyster River Basins - US Geological Survey Open-File**
139 **Report 92-95, "Geohydrologic and Ground-Water-**
140 **Quality Data for Stratified-Drift Aquifers in the Exeter,**
141 **Lamprey, and Oyster River Basins, Southeastern New**
142 **Hampshire."**

Commented [JR14]: From Env-Wq 401.03(h). Chemicals used by NHDES-permitted facilities to treat drinking water or waste water are excluded from the definition of regulated substance because they are used in the treatment of water supplies and are not considered to pose a significant risk to groundwater. Regulated contaminants and petroleum/petroleum products are included with the exception of propane.

Commented [JR15]: he sanitary protective radius ranges from 75 to 400 feet, depending on the amount of water withdrawn from the well. The minimum radius for a community well is 150 feet. The "natural state" requirement for new community wells prohibits any development in the sanitary radius of the well. Other non-community public water systems (i.e. hotels, campgrounds, convenience stores) have a less restrictive natural state requirement that allows a limited set of uses (i.e. parking lots, tennis courts) in the sanitary radii.

Commented [JR16]: From RSA 485-C:2, XVIII, except that the definition has been narrowed to include only wells for community (residential) public water systems and not other types of public water systems. This definition is not needed if the ordinance is to be used only to protect stratified-drift aquifers. Check with NHDES to see how the wellhead protection areas in your district have been delineated.

Commented [JR17]: As public water systems are developed or change over time, this boundary will change without the need to amend the zoning.

- 143 ii. **Stratified-Drift Aquifers in the Lower Merrimack and**
144 **Coastal River Basins - US Geological Survey Water-**
145 **Resources Investigations Report 91-4025,**
146 **"Geohydrology and Water Quality of Stratified-Drift**
147 **Aquifers in the Lower Merrimack and Coastal River**
148 **Basins, Southeastern New Hampshire."**

Commented [JR18]: These are the studies that currently define Stratham's aquifer district; these are just the correct citation.

150 ~~The Aquifer Protection District is defined as the area shown on the~~
151 ~~map entitled, "Aquifer Protection District" and is hereby adopted as~~
152 ~~part of the Town's Official Zoning Map. The Aquifer Protection district~~
153 ~~includes the area delineated by the groundwater mapping studies~~
154 ~~entitled, "Lamprey/Exeter/Oyster River Study and Lower~~
155 ~~Merrimack/Coastal Study as prepared by the U.S. Geological Survey in~~
156 ~~1990 and 1991 respectively.~~ The Aquifer Protection District is an overlay
157 district which imposes additional requirements and restrictions to those of the
158 underlying district. In all cases, the more restrictive requirement(s) shall
159 apply.
160

- 161 b. Appeals: Where the bounds of an identified aquifer or recharge area,
162 as delineated, are in doubt or in dispute, any landowner aggrieved by
163 such delineation may appeal the boundary location to the Planning
164 Board. Upon receipt of a written appeal, the Planning Board shall
165 suspend further action on development plans related to the area under
166 appeal and shall engage, at the landowner's expenses, a qualified
167 hydrogeologist to prepare a report determining the proper location and
168 extent of the aquifer and recharge area relative to the property in
169 question.
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171 **13.4 USE REGULATIONS**

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173 a. Minimum Lot Size: The minimum lot size within the Aquifer Protection
174 District for each newly created lot shall be the same as allowed in the
175 underlying zoning district. Larger lot sizes may be required depending
176 on the soil-based lot sizing standards found within the Stratham
177 Subdivision Regulations (Section 4.3).
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- 179 b. Maximum Site Coverage:
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181 i. Within the Aquifer Protection District, no more than twenty
182 percent (20%) of a single lot or building site may be rendered
183 impervious to groundwater infiltration. To the extent feasible, all
184 runoff from impervious surfaces shall be recharged to the aquifer
185 on-site. Recharge impoundments shall have vegetative cover for
186 surface treatment and infiltration.
187 ii. Maximum impervious site coverage may exceed twenty percent
188 (20%) provided that the following **performance** standards are
189 met and the plans approved by the Planning Board or its
190 designated agent:

Commented [JR19]: Currently this is applicable to all lots no matter the use. It is possible to differentiate between residential lots of 3 or less units and lots that would be subject to site plan review.

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1) The applicant shall submit a stormwater drainage plan consistent with the requirements of Stratham's Site Plan and Subdivision Regulations.

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2) All runoff from impervious surfaces shall be recharged on the site and diverted, to the extent possible, towards areas covered with vegetation for surface infiltration. This includes roof and foundation drains, if present.

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3) Low Impact Development practices, which are designed to mimic natural hydrology by reducing impervious surfaces and stormwater runoff and increasing groundwater recharge and pollutant removal, shall be used to the extent practicable unless the applicant can document infeasibility to the satisfaction of the Planning Board.

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4) The stormwater drainage plan shall provide for removal of oil and gasoline from parking lot runoff by the use of treatment swales, oil/gas separators or other devices, prior to retention and percolation of the runoff.

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5) Runoff shall be pretreated prior to infiltration. Pretreatment to the extent practicable shall be in accordance with Stratham's Site Plan and Subdivision Regulations and Best Management Practices as recommended by NHDES.

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213 **#. Performance Standards**

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1) Maintain a minimum of four feet vertical separation between the bottom of a stormwater practice that infiltrates or filters stormwater and the average seasonal high water table as determined by a licensed hydrogeologist, soil scientist, engineer or other qualified professional as determined by the Planning Board.

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2) Spill Prevention, Control and Countermeasure (SPCC) Plan: All Conditional Uses, as listed under Section 2.5.4.G using, storing or handling regulated substances shall submit a spill control and countermeasure (SPCC) plan to the [Fire Chief, Health officer or Emergency Management officer] who shall determine whether the plan will prevent, contain, and minimize releases from ordinary or catastrophic events such as spills, floods or fires that may cause large releases of regulated substances. It shall include:

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a) A description of the physical layout and a facility diagram, including all surrounding surface waters and wellhead protection areas.

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b) Contact list and phone numbers for the current facility response coordinator(s), cleanup contractors, and all appropriate

Commented [JR20]: US Gov. Printing Office website for a full listing of regulated substances:
http://www.access.gpo.gov/nara/cfr/waisidx_00/40cfr302.00.html

Current contact information for facility response coordinators is vital to public safety and emergency clean-up efforts so that responders can quickly assess the situation and nature of the substances on-site. NHDES Spill Response should be notified of spills involving more than 25 gallons, and any spill that enters a waterway.

A SPCC plan can also be required at a higher level for only those conditional uses with more than 55 gallons or 660 lbs of a regulated substance on-site. This extends the state's current requirement for SPCC plans by applying it to all regulated substances and lowering the quantities required on-site to necessitate an SPCC plan.

NHDES requires only facilities that store oil in an aggregate capacity of greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons to prepare an SPCC plan

232 **federal, state, and local agencies who must be contacted in case**
233 **of a release to the environment.**

234 **c) A list of all regulated substances in use and locations of use**
235 **and storage.**

236 **d) A prediction of the direction, rate of flow, and total quantity**
237 **of regulated substance that could be released where experience**
238 **indicates a potential for equipment failure.**

239 **e)A description of containment and/or diversionary structures**
240 **or equipment to prevent regulated substances from infiltrating**
241 **into the ground.**

242 **f) List of positions within the facility that require training to**
243 **respond to spills of regulated substances.**

244 **g) Prevention protocols that are to be followed after an event to**
245 **limit future large releases of any regulated substance.**

246 **h)Require that the SPCC is reviewed periodically (at least once**
247 **every three years) and/or after any major storm event.**

248 **i)Identify prevention protocols and best management practices**
249 **that should be implemented prior to a storm/emergency event.**
250 **Examples may include:**

- 251 **▪ Prior to the storm, empty tank of product and fill entirely**
252 **with water.**
- 253 **▪ If removing the product is not possible, add more product**
254 **to the tank so its height is 3-6 feet higher than the**
255 **expected storm surge or predicted reach of flood water.**
256 **Close valves associated with piping and dispensing**
- 257 **▪ Anchor tanks and all piping to prevent uplift or floatation**
- 258 **▪ Use stiffener rings to prevent buckling from storm surge**
259 **and wind loads**
- 260 **▪ To the greatest extent possible, remove or secure all**
261 **possible projectile hazards from the facility grounds**
- 262 **▪ Ensure all storm drains and dewatering intakes are clear**
263 **and free of debris.**
- 264 **▪ Shut off the power to the fuel system**
- 265 **▪ Inventory and record the level of product in each tank to**
266 **account for any loss or water entry**
- 267 **▪ Conduct a detailed risk assessment of the facility and**
268 **evaluate the impact of mitigation strategies; include these**
269 **assessments in the Spill Prevention, Control and**
270 **Countermeasure Plan, Facility Response Plan, Risk**
271 **Management Plan, or other pollution prevention plan, as**
272 **applicable. Develop a detailed timeline for preparing tanks**
273 **in advance of an event**

274

275 **4) Use of Deicing Chemicals:** There shall be minimal use of deicing chemicals
276 on all public and private roads, and parking lots within this District, and those
277 compounds used shall be free of sodium and chloride to the extent possible.

278 **5) Hydrogeologic Study** The Planning Board shall determine, on a case-
279 by-case basis, the need for a hydrogeologic study for any development
280 within the Aquifer Protection District. This determination shall
281 consider the sensitivity of the site including, but not limited to, areas
282 that have septic systems in close proximity to wells -- including public
283 supply wells, irrigation wells, residential wells, and monitoring wells -
284 - or that may contain excessively drained soils or steep slopes. Costs
285 for the above mentioned services shall be charged to the applicant.
286 Requirements for a hydrogeologic study shall include the following:

287 **1. The hydrogeologic study shall be performed by a NH licensed**
288 **geologist specializing in hydrogeology.**

289 **2. The hydrogeologic study shall evaluate the development's**
290 **impact on groundwater within both the parcel to be developed and**
291 **surrounding land. Beyond the property lines of said site groundwater**
292 **quality shall not be degraded by polluting substances such as, but not**
293 **limited to, nitrates, phosphates, bacteria, etc. Larger lots may be**
294 **required based on the findings of this study.**

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297 c. **Prohibited Uses:** The following uses are prohibited within the Aquifer
298 Protection Zone:

- 300 # **Outdoor storage of road salt or other deicing chemicals in bulk.**
- 301 # **Development or operation of gasoline stations.**
- 302 i. **On-site Disposal:** Bulk storage, processing or recycling of toxic
303 or hazardous materials or wastes.
- 304 ii. **Underground Storage Tanks:** Except as regulated by the NH
305 Water Supply and Pollution Control Commission (Ws 411).
306 Storage tanks, if contained within basements, are permitted.
- 307 iii. **Dumping of Snow:** Carried from off-site.
- 308 iv. **Automotive Uses:** Including: car washes, service and repair
309 shops, junk and salvage yards **as defined by RSA 236:112.**
- 310 v. **Laundry:** And dry-cleaning establishments.
- 311 vi. **Industrial Uses:** Which discharge contact type wastes on site.

312 **vii. Prohibit outdoor storage areas for regulated substances in**
313 **special flood hazard areas or any area projected to experience sea**
314 **level rise as defined by the NH Coastal Flood Risk Summary Part 1:**
315 **Science.**

316
317 d. **Conditional Uses:** The following uses, if allowed in the underlying zoning
318 district, are permitted only after approval **for a Conditional Use**
319 **Permit** is granted by the Planning Board:

Commented [JR21]: There are two regulatory approaches to protecting important groundwater: prohibiting high-risk land uses and ensuring that other land uses comply with performance standards. This list is considered high risk land uses that are not otherwise restricted in Stratham.

Commented [JR22]: This would apply to expanding existing gasoline stations or new gas stations. It would not however apply to if a gas station were to install EV charging stations.

Commented [JR23]: RSA 235:112
- <https://www.gencourt.state.nh.us/rsa/html/XX/236/236-112.htm>

236:112 Definitions. –
For the purposes of this subdivision:
I. "Junk yard" means a place used for storing and keeping, or storing and selling, trading, or otherwise transferring old or scrap copper, brass, rope, rags, batteries, paper, trash, rubber debris, waste, or junked, dismantled, or wrecked motor vehicles, or parts thereof, iron, steel, or other old or scrap ferrous or nonferrous material. As used in this subdivision, the term includes, but is not limited to, the following types of junk yards:

Commented [JR24]: This would only apply to those areas that may be subject to flooding due to sea-level rise. This area is very limited for Stratham along the Squamscott River and Great Bay areas.

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- i. ~~Industrial and Commercial Land Uses: Not~~ **All non-residential uses not** otherwise prohibited under 13.4.d of this Ordinance.
 - ii. **Multi-family**: Residential development.
 - iii. **Sand and Gravel Excavation**: And other mining provided that such excavation or mining is not carried out within six vertical feet of the seasonal high water table.
 - iv. **Animal Feedlots**: And manure storage facilities provided the applicant consults with the Rockingham County Conservation District (RCCD) before such uses are established.

Commented [JR25]: This is to clarify that it is uses that would be subject to site plan requirements

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e. The Planning Board shall grant **a Conditional Use Permit** approval for those uses listed in ~~Section 13.4.#. above (e.i. through e.iv.)~~ only after it is determined that all of the following conditions have been met:

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- 1. The use will not detrimentally affect groundwater quality, nor cause a significant long-term reduction in the volume of water contained in the aquifer or in the storage capacity of the aquifer;
 - 2. For the uses described in Section 13.4.e, item i and item ii, the Planning Board shall make this determination by applying the performance standard outlined in Section 13.4.c (stormwater management plan) **and 13.4.# (performance standards)**;
 - 3. The use will discharge no wastewater on-site other than that typically discharged by domestic wastewater disposal systems;
 - 4. The proposed use complies with all applicable provisions of this Section.
 - 5. All conditional uses shall be subject to inspections by the Building Inspector or other agent designated by the **Selectmen Select Board**. The purpose of these inspections is to ensure contained compliance with the conditions under which approvals were granted.

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f. **Permitted Uses:**

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The following activities may be permitted provided they are conducted in accordance with the intent of this Ordinance:

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- i. **Any Use Permitted by the Underlying District of the Zoning Ordinance**: Except as prohibited in Section 14.3.d or regulated by Section 13.4 of this Article.
 - ii. **Maintenance, Repair of Any Existing Structures**: Provided there is no increase in impermeable surface above the limit established in Section 13.4.b of this Article.
 - iii. **Agricultural and Forestry Uses**: Provided that fertilizers, pesticides, manure and other leachables are used according to best management practices as prescribed by the Rockingham County Conservation District if applicable. All said leachables must be stored under shelter.

- 368
369 g. Special Exception for Lots of Record: Upon application to the Board of
370 Adjustment, a special exception shall be granted to permit the erection
371 of a structure within the Aquifer Protection District on a non-conforming
372 lot provided that all of the following conditions are found to exist:
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374 i. Non-Conforming Uses: Any non-conforming use within the
375 Aquifer Protection district shall comply to the provisions of Section
376 5.1 of the Zoning Ordinance (Non-Conforming Uses).
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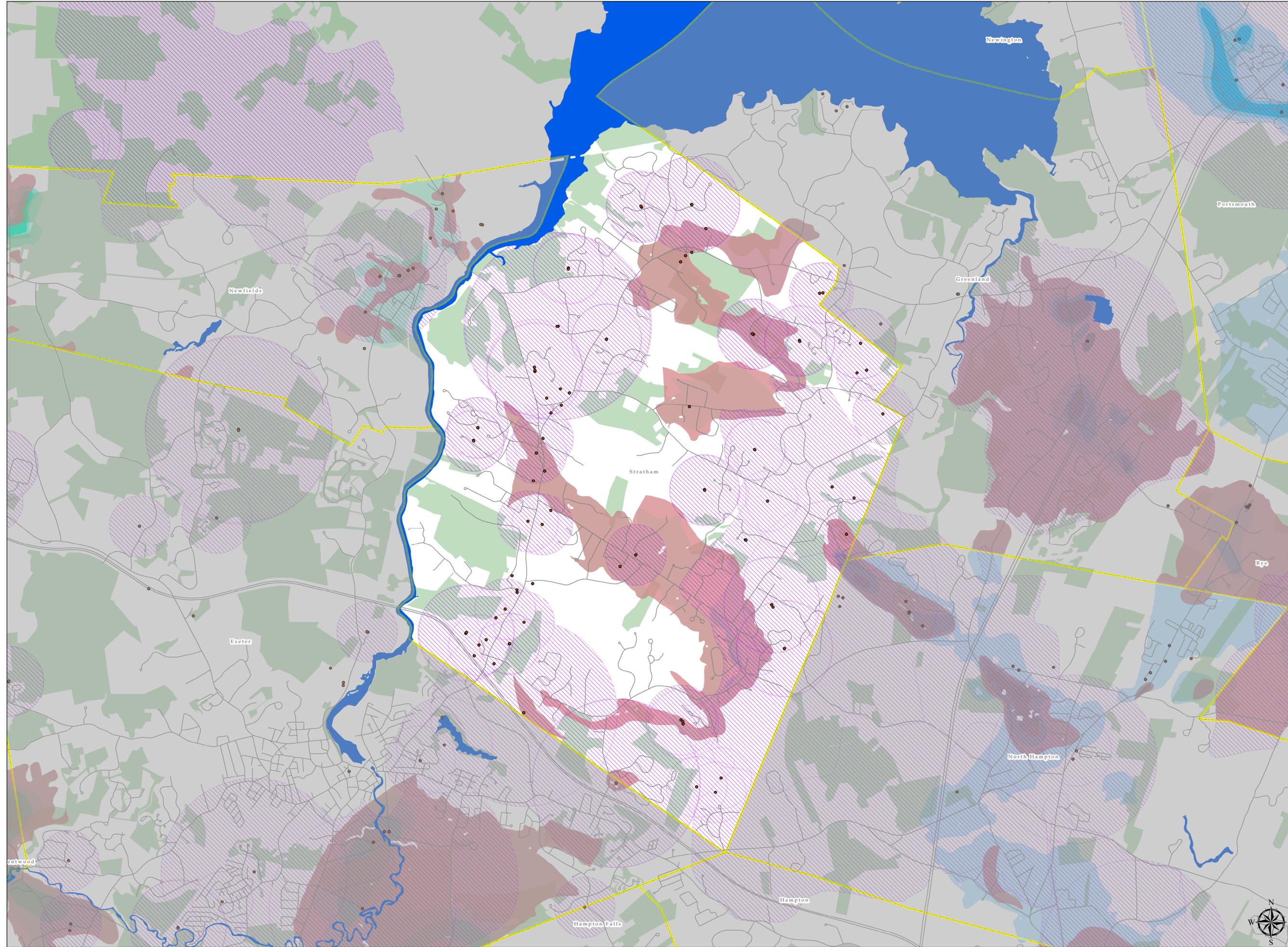
378 **13.5 MISCELLANEOUS PROVISIONS**

- 379
380 a. Location: Where the premises are partially outside of the Aquifer
381 Protection Overlay Zone, potential pollution sources such as, but not
382 limited to, on-site waste disposal systems shall be located outside and
383 down gradient of the Zone to the extent feasible.
384

385 **13.4 ADMINISTRATION**

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387 a. Application and Interpretation: The provisions of the Aquifer Protection
388 District shall be applied and interpreted by the Planning Board.
389 b. Enforcement: The ~~Board of Selectmen~~ **Select Board** (or their duly
390 designated agent) shall be responsible for the enforcement of the
391 provisions and conditions of the Aquifer Protection District.
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Stratham



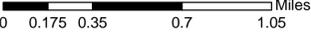
- Public Supply Wells (2017)
- Roads
- Waterbodies
- Wellhead Protection Areas
- Zoning or Code Protected Areas
- Conservation / Public Lands
- Stratified-Drift Aquifers in the Exeter**
- Transmissivity**
- Less than 500
- 500 to 1000
- 1000 to 2000
- 2000 to 3000
- Greater than 3000
- Stratified-Drift Aquifers Merrimack**
- Transmissivity**
- Less than 1000
- 1000 to 2000
- 2000 to 4000
- Greater than 4000
- RPC Towns
- New Hampshire Communities



Water and Sewer Lines

- Both Water and Sewer Lines
- Sewer Lines
- Water Lines
- Roads
- Waterbodies
- Conservation / Public Lands
- RPC Towns
- New Hampshire Communities

This dataset includes water and sewer line distribution areas for public drinking water systems with at least 15 service connections used by year round residents or regularly serve at least 25 year round residents. The datasets are based on marked up drawings provided by the survey team. In most cases the lines are interpolated by comparing the markings to aerial and vector basemap data. Once the lines are digitized (heads up method) a 200 ft buffer is applied. The location of the resulting polygon is approximate.





April 29, 2022

New Hampshire Executive Council
State House
Concord, NH 03301

RE: InvestNH item

Dear Councilors,

During the April 20 Council meeting, we had a robust discussion on the InvestNH program to bring \$100 million to address the workforce housing crisis in New Hampshire. At that meeting we discussed many aspects of the proposal and in the end, the Council clearly expressed a desire to see more program details. To be thorough, I subsequently followed up with each of you, offering to take on any new or additional written questions. Although I have not received any additional questions to date, I am pleased to provide you the detail included herein.

This document provides additional specific details related to program functionality for each of the four grant programs we've proposed. I have also assembled a question and answer section to get at some of the specific issues that came up at the meeting on April 20.

I look forward to having an opportunity to discuss this with you again at your next meeting on May 4. I appreciate your desire for these details and am hopeful that you reach a point that allows you to support our request to obligate these resources to address the current housing crisis. I cannot emphasize enough that time is of the essence here as we move to have this program available for the upcoming construction season while remaining mindful of the relatively short window we have under the ARPA rules.

Please don't hesitate to contact me if you have further questions.

Respectfully,

A handwritten signature in blue ink, appearing to read 'T. Caswell'.

Taylor Caswell
Commissioner

CAPITAL GRANT PROGRAM – Project Specific Funding

TOTAL OBLIGATION.

\$60 million including \$10 million to NH Housing Finance Authority (NHHFA) programming

PROGRAM DESCRIPTION.

Flexible supplemental funding available for development of new multifamily rental housing units in the State. This program is intended to accelerate unit production in projects already using other private and/or public funding sources.

ELIGIBLE ACTIVITIES.

- Construction and other hard costs such as
 - Infrastructure upgrades necessary for project
 - Environmental remediation (hard costs)
 - Construction
 - ADA required upgrades
- NOT eligible:
 - Soft costs such as permitting costs, engineering, legal, or architecture
 - Land acquisition
 - Landscaping
 - Financing costs
 - Developer fees

ELIGIBLE APPLICANTS.

- Responsible project developer and/or owner of multifamily rental housing project of 3 or more units per structure
 - Must add to housing stock (no rehab of existing housing)
 - Housing must be used for long term residential and not for short term or seasonal rentals.
- In order to apply, local permits must be completed and construction eligible to be underway. Conditioned permits are allowed as long as the conditions are solely related to pending action from the State of New Hampshire.
- Applicant must identify the reason for funding and demonstrate a matching dollar for dollar investment of requested award

PROGRAM OPERATION SUMMARY.

- Applicants for projects with more than 15 units or over \$3 million in total development cost must demonstrate an affordability commitment. Eligible confirmation of this would include:
 - Project funding must include other grants, loans, or tax credits that include a requirement that units be available for rent by individuals or families with incomes at or below 80% of area median income.
 - A minimum of 20% of the project units are reserved for people with limited income as defined by the permitting municipality. Rent restrictions will be in place for at least five years.
- Applicants for projects with 15 units or fewer or less than \$3 million in total development costs will be subject to a rent cap below the maximum rent affordable to 80% of the average median income applicable in the area of the property. Grant recipients would agree to maintain that rent level (adjusted annually) for a minimum of five years.
- Cap of \$3 million per project.
- Program is envisioned to run on 6-week application cycles. Initial rounds will be limited to nonprofit developers and for those with less than 10 units
- Applications will open Monday, June 20, 2022 through Friday, June 30, 2023. Projects must aim to be complete within 18 months.

- Funds would be issued on a reimbursement basis.
- Applications will undergo analysis that may include the following:
 - Project costs and request are reasonable
 - Projected rents meet housing needs as proven by data about housing needs in area of project
 - All sources of project financing are committed
 - To the extent practicable, InvestNH funds are not substituted for non-federal financial support

MUNICIPAL PER UNIT GRANT

TOTAL OBLIGATION.

\$30 million

PROGRAM DESCRIPTION.

Flexible grants for municipalities that issue permits for eligible housing within six months of initial application.

ELIGIBLE ACTIVITIES.

- Flexible grant to municipality. Limited restrictions on use (follow SLFRF revenue replacement guidelines).
- Grants made on a per-unit basis for housing that have five or more rental units and add to local housing stock.
 - To be eligible under this program, units must meet the same criteria as the capital grant program.

ELIGIBLE APPLICANTS

- NH municipalities
- Local permits must be complete at least six months from initial application. Conditioned permits are allowed as long as the conditions are solely related to pending action from the State of New Hampshire.

PROGRAM OPERATION POINTS.

- Rolling applications until funds are gone
- Grant award = \$10,000 per unit.
 - Cap of \$1m per project.
 - Limited to \$1m per municipality
 - Waivers can be issued to this cap for units that otherwise fit the requirements of the program but are specifically for units built to Universal Design standards

MUNICIPAL ZONING GRANT

TOTAL OBLIGATION.

\$5 million

PROGRAM DESCRIPTION.

Grant program to municipalities to support and study zoning or regulatory causes of a lack of affordable housing, identify potential changes to zoning rules and regulations, and/or establish or update those rules and regulations in response to those findings.

ELIGIBLE ACTIVITIES

- Grant funds are for some or all of the following services:
 - work with the municipality and local community to identify its housing needs and understand development options
 - review current regulations
 - re-write or create new zoning regulation
- Stated primary goal of the request must be to *increase* housing stock.

ELIGIBLE APPLICANTS.

Incorporated cities and towns.

PROGRAM OPERATION POINTS.

- Rolling applications until funds are depleted.
- Funds must be obligated by December 2023 and completely spent by September 2024.

MUNICIPAL DEMOLITION GRANT

TOTAL OBLIGATION

\$5 million

PROGRAM DESCRIPTION.

Grant funding for demolition of vacant or dilapidated buildings.

ELIGIBLE ACTIVITIES

- Demolition of vacant or dilapidated buildings and any associated environmental abatement measures.
 - Portion of buildings allowed.
- Municipality requesting demolition certifies that:
 - The project or portion of the project is obsolete as to physical condition, location, or other factors, making it unsuitable for housing purposes; and
 - No reasonable program of modifications is cost-effective to return the project or portion of the project to useful life.
- Demolition must be paired with greening or other lot improvements as part of a revitalization strategy.
- Permit review requirement costs are eligible (environmental, historic review, etc).
 - Reimbursement basis

ELIGIBLE APPLICANTS

- Incorporated cities or towns.
- All necessary permits and certifications must be in place to request funds

PROGRAM OPERATION POINTS.

- Must demonstrate how use of this program will improve housing situation
- Preference for projects that will directly result in a housing development project
- Cap of \$500,000 per grant
 - Under some circumstances and with defined approvals, the cap could be exceeded in rare cases if there are sufficient funds.
 - Funds must be expended by December 31, 2024

QUESTIONS AND ANSWERS

Q: How will InvestNH guarantee that funding will get to low- and moderate-income tenants?

InvestNH applicants must demonstrate that units in their projects will only be available to tenants at 80% or below the area median income (AMI) or have rent restrictions that do not exceed the maximum affordable rent for tenants at or below 80% AMI.

Q: How does using existing funding programs guarantee affordability?

Programs that fund affordable housing always require the recipient to use specific limits on the incomes of the renter or of the rent cost of the unit. InvestNH grants to projects over 15 units or \$3m in development cost must also be using one or more of these existing affordable housing funding programs. This will guarantee that the projects InvestNH is funding will always include affordability commitments. For projects smaller than that, applicants will be required to commit to a rent cap below the maximum rent affordable to 80% of the average median income applicable in the area of the property.

Q: What types of projects could use the capital fund?

- Mixed income development
- Mixed use development (commercial and residential)
- Small-scale conversions of large single family homes to apartments

Q: What are examples of these rents in NH communities?

A full chart is attached, but the capital grant program would require rents be affordable for a family of 3 at 80% of AMI. According to HUD standards, these rents could not be higher than:

Manchester:	\$1,820
Nashua:	\$2,200
Portsmouth – Rochester:	\$2,100
Grafton County:	\$1,600
Cheshire County:	\$1,630
Coos County:	\$1,260

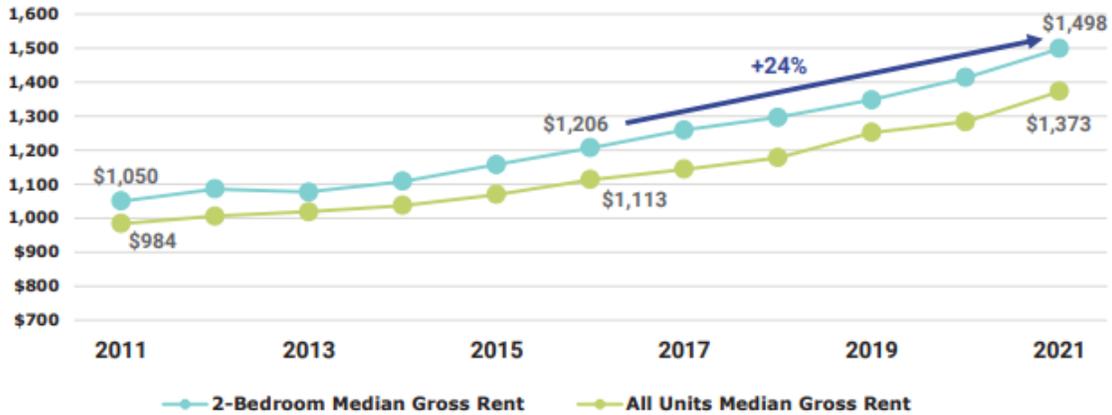
Q: Are there examples of projects that have seen funding gaps after funding was secured?

Conway:	Avesta Housing project cost increase of \$1.2 million
Rochester:	Champlin Place gap of \$812,000 (65 units)
Salem:	Depot & Main gap of \$1,000,000 (74 units)
Milford:	Milford Senior Housing gap of \$1.2m (88 units)
Concord:	The Rail Yard gap of \$1.2m (96 units)
Swanzey:	Swanzey West gap of \$1.2m (84 units)

Q: What are the needs in New Hampshire regarding availability and affordability of housing?

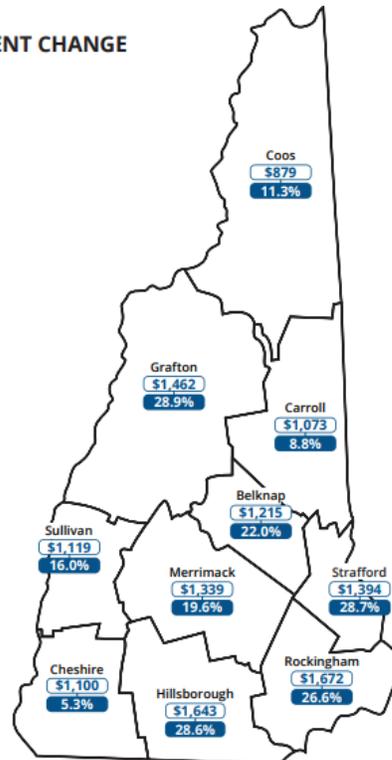
MONTHLY MEDIAN GROSS RENTS, 2-BEDROOM & ALL UNITS (STATEWIDE, 2011 - 2021)
Includes utilities

The statewide median gross rent (including utilities) for a 2-bedroom unit has increased over 24% in the past 5 years.

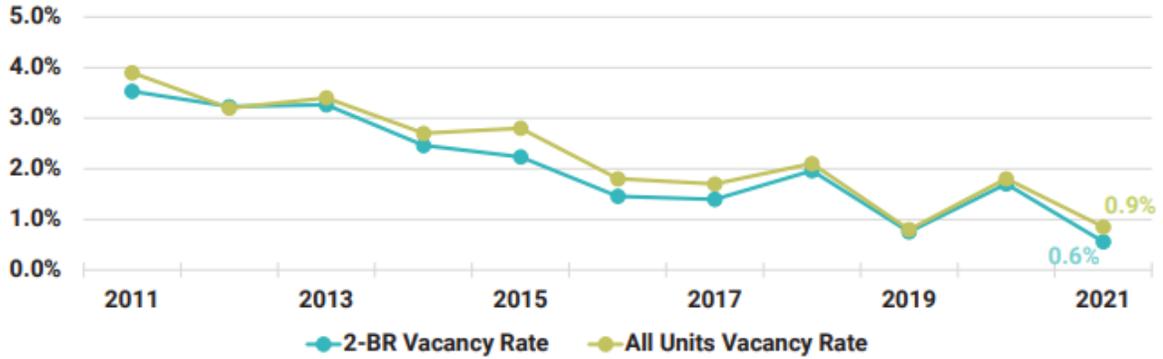


2021 MEDIAN MONTHLY GROSS RENT AND PERCENT CHANGE BY COUNTY FOR 2-BEDROOM UNITS, 2016 - 2021

The statewide median gross rent for a 2-bedroom unit in 2021 was \$1,498. Eighty percent of the rental units surveyed are in the southern tier (Hillsborough, Rockingham, Merrimack, and Strafford counties) and they have the highest median gross rents. The rental costs seen here in Grafton County are driven by the market in the Hanover/Lebanon area.



STATEWIDE VACANCY RATES, 2-BEDROOM & ALL UNITS (2011 - 2021)



VACANCY RATES FOR ALL UNITS (STATEWIDE & COUNTY)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
STATEWIDE	3.5%	3.2%	3.3%	2.5%	2.2%	1.5%	1.4%	2.0%	0.8%	1.8%	0.9%
Belknap County	8.9%	3.3%	7.5%	5.3%	1.2%	4.9%	4.6%	4.0%	2.0%	1.0%	1.2%
Carroll County	11.3%	5.1%	3.1%	3.6%	3.9%	1.4%	0.0%	*N/A	*N/A	2.7%	0.7%
Cheshire County	6.4%	7.1%	2.5%	3.7%	3.2%	4.5%	1.0%	1.7%	0.9%	1.9%	1.7%
Coos County	15.2%	12.6%	9.5%	7.9%	9.2%	6.9%	10.7%	3.7%	1.0%	1.7%	0.6%
Grafton County	7.6%	7.5%	3.0%	3.9%	2.7%	3.0%	3.0%	3.9%	0.3%	2.8%	1.1%
Hillsborough County	2.2%	2.2%	2.6%	2.1%	2.3%	0.9%	1.2%	1.8%	1.0%	2.3%	0.9%
Merrimack County	4.8%	2.7%	3.3%	2.5%	1.7%	1.2%	1.1%	2.5%	0.5%	1.2%	0.4%
Rockingham County	2.7%	3.2%	3.4%	2.1%	1.9%	1.0%	1.1%	1.0%	0.3%	0.9%	0.8%
Strafford County	3.3%	3.6%	4.9%	2.1%	2.3%	1.4%	1.2%	2.6%	0.8%	2.1%	0.9%
Sullivan County	5.7%	7.4%	7.3%	5.8%	2.7%	6.4%	2.2%	0.9%	0.0%	0.0%	0.5%

