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House Committee on Environment and Energy
State House
Montpelier, Vermont

Subject: S.100 - housing opportunities made for everyone

Dear Committee:

I am Thomas Weiss, a civil engineer. My professional experience includes planning and design of water and sewer systems, preparation of flood insurance maps and studies, permitting, and environmental reviews. This experience includes understanding contracts, specifications, rules, regulations, and statutes.

These comments apply to S.100 as as it comes to you from House General and Housing. These comments focus on permitting and energy aspects of S.100.

First I wish to thank Chair Sheldon for her comment on Vermont Public Radio last week that she thinks Act 250 bears no responsibility for the housing shortage.

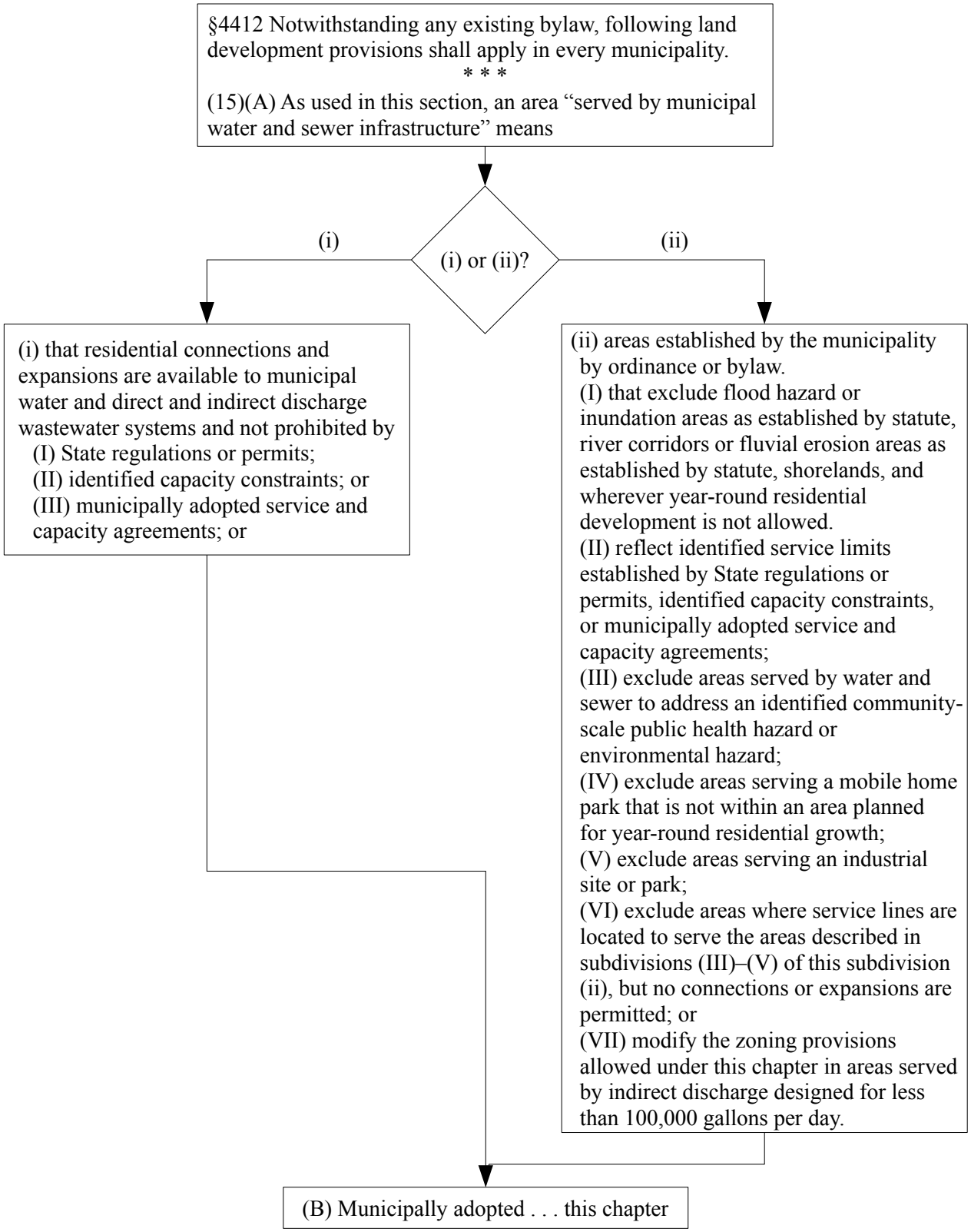
This letter covers the following topics, with recommendations for each topic.
- Make sure the definition of "area served by municipal water and sewer infrastructure" specifically states what is intended and understood
- Provide access to sunlight for gardens
- Remove the concept of enhanced designations
- Retain State oversight over connections to municipal water and wastewater systems
- Prevent the isolation zones of water and sewer systems from encroaching on a neighbor's property where municipal water and sewer are not available
- Require that new housing does not add to greenhouse gas emissions
- Retain Act 250 jurisdiction over housing

Make sure the definition of "area served by municipal water and sewer infrastructure" specifically states what is intended and understood

The definition of "served by municipal water and sewer" is at best confusing. At worst it says exactly the opposite of what everyone else says it means. It seems to be running roughshod over good planning by negating good planning.

Other witnesses who have spoken on this issue read it differently than I do. They have told you that the areas in subdivision (ii) are excluded from the provisions that apply to being an area served by municipal water and sewer. On the contrary, it says that the seven categories excluded by municipal zoning and bylaw are not excluded by this bill. I have placed the text of the bill into boxes to make it easier to see what I mean. It appears to me, that all the others are taking the "not prohibited by" phrase from (i) and incorrectly applying it to (ii).

Here is a flow chart that shows how I read this subdivision (15).


§4412 Notwithstanding any existing bylaw, following land development provisions shall apply in every municipality.
* * *
(15)(A) As used in this section, an area "served by municipal water and sewer infrastructure" means
(i) or (ii)?
(i)
(ii)
(i) that residential connections and expansions are available to municipal water and direct and indirect discharge wastewater systems and not prohibited by
(I) State regulations or permits;
(II) identified capacity constraints; or
(III) municipally adopted service and capacity agreements; or
(ii) areas established by the municipality by ordinance or bylaw.
(I) that exclude flood hazard or inundation areas as established by statute, river corridors or fluvial erosion areas as established by statute, shorelands, and wherever year-round residential development is not allowed.
(II) reflect identified service limits established by State regulations or permits, identified capacity constraints, or municipally adopted service and capacity agreements;
(III) exclude areas served by water and sewer to address an identified community-scale public health hazard or environmental hazard;
(IV) exclude areas serving a mobile home park that is not within an area planned for year-round residential growth;
(V) exclude areas serving an industrial site or park;
(VI) exclude areas where service lines are located to serve the areas described in subdivisions (III)–(V) of this subdivision (ii), but no connections or expansions are permitted; or
(VII) modify the zoning provisions allowed under this chapter in areas served by indirect discharge designed for less than 100,000 gallons per day.
(B) Municipally adopted . . . this chapter

This language means that all the parcels along water and sewer lines between the compact center and an industrial park, for example, are defined as areas served by municipal water and sewer infrastructure and subject to all the provisions that apply to areas served by municipal water and sewer.

In order for this mean what others understand this to mean, subdivision (15)(A) needs to be revised. Here is one way to revise it for clarity.

(15)(A) As used in this section, an area "served by municipal water and sewer infrastructure" means ~~(i)~~ that residential connections and expansions are available to municipal water and direct and indirect discharge wastewater systems and not prohibited by

~~(I)~~ (i) State regulations or permits;

~~(II)~~ (ii) identified capacity constraints; ~~or~~

~~(III)~~ (iii) municipally adopted service and capacity agreements~~; or~~ .

~~(ii)~~ (iv) ~~areas established by the municipality by~~ municipal ordinance or bylaw.

(I) that exclude flood hazard or inundation areas as established by statute, river corridors or fluvial erosion areas as established by statute, shorelands, and wherever year-round residential development is not allowed.

(II) reflect identified service limits established by State regulations or permits, identified capacity constraints, or municipally adopted service and capacity agreements;

(III) exclude areas served by water and sewer to address an identified community-scale public health hazard or environmental hazard;

(IV) exclude areas serving a mobile home park that is not within an area planned for year-round residential growth;

(V) exclude areas serving an industrial site or park;

(VI) exclude areas where service lines are located to serve the areas described in subdivisions (III)–(V) of this subdivision ~~(ii)~~ (iv) but no connections or expansions are permitted; or

(VII) modify the zoning provisions allowed under this chapter in areas served by indirect discharge designed for less than 100,000 gallons per day.

(B) Municipally adopted . . .this chapter.

Recommendation: Amend subdivision (15) as suggested above. The language must be clear and specific.

Provide access to sunlight for gardens

Food security is of concern at all times. Problems of food security increase during periods of economic travail, recently the COVID pandemic One way to improve food security is for housing to provide access on site to land and sunlight for the residents. §4302(a) states in part"It is the intent and purpose of [chapter 117] to encourage the appropriate development . . . in a manner which will promote . . . access to adequate light and air . . ." §4302 c)(9)(C) states "The use of locally-grown food products should be encouraged." Growing food on the lot where one lives is as local as it gets.

This housing bill should and can integrate sustainability and food security. This can be done by reserving an area (or areas) designated for gardening with access to sunlight on each lot. The gardening space should be large enough to allow residents to grow a significant portion of their own fruits and vegetables, if they choose. New lots and new construction would need to preserve access to sunlight on those lots and on neighboring lots. Dimensional standards, setbacks, and orientation need to allow sunlight onto the garden spaces and onto neighboring properties.

Recommendation: Require gardening space with access to sunlight.. New lots and new construction need to preserve access to sunlight on their lots and on neighboring lots.

Remove the concept of enhanced designations

To create enhanced designations, S.100 identifies that:
- NRB develops model bylaws that shall address all Act 250 criteria.
- DHCD (not NRB) determines whether a municipality's bylaws are "consistent with" the model bylaw.
- DHCD (not NRB) determines whether the municipality has adequate staff
- NRB holds a public hearing and decides whether to issue an enhanced designation or not.

NRB board members appear to lack the qualifications to develop and approve the model bylaws or to decide on whether to approve an enhanced designation. Their qualifications are:

The chair is a political appointee with a degree in journalism. Five years as a newspaper editor, thirteen years in public relations. One year as deputy commissioner at the Department of Liquor Control and Lottery.

The four members, also political appointees, include::
- a civil engineer specializing in water resources engineering.
- the owner of a building supply company; member of the chamber of commerce; board of realtors; regional planning commission, legislator.
- a fire and rescue chief; real estate broker; developer with investment properties; legislator.
- a member of the Vermont State Police (12 years), a Development Review Board member, with a degree in journalism.

The minutes of the meetings of the Natural Resources Board show that the members do not appear to be engaged with Act 250 in a meaningful way. The median duration of the 15 meetings in 2022 and 2023 is 17 minutes. The minutes show that the board members make no presentations. The Board did engage in two executive sessions (10 and 27 minutes).

The NRB report on Act 250 Jurisdiction over Agricultural Businesses is a case in point.

Legislative committees held hearings on accessory on-farm businesses last year and could not come to a resolution. The NRB then was charged with consulting with stakeholders and submitting a report with recommendations. I was a stakeholder. The charge to the NRB (Act 182, 2022, sec. 39) is

> "On or before January 15, 2023, the Natural Resources Board shall submit to the General Assembly a report with recommendations on how Act 250 jurisdiction should be applied to agricultural businesses, including those located on properties already operating as farms. . . ."

The word "recommendation" appears twice in the report. Both are in the charge to the NRB. Instead of recommendations, the NRB laid out the issues (already known to the legislative committees) and suggested options. There was no attempt to resolve the questions the committees had been facing.
at resolving issues. When the report came in this year, House Agriculture, Food Resilience, and Forestry held a hearing and afterward scratched their heads. It was submitted to Senate Natural Resources and Energy. It is placed under Reports and Resources at both committees.

Rather than trying to correct everything that was left out of these sections, it is much easier to delete the sections.

Recommendation: Remove sections 18 through 21.

I also lack confidence in the quality of NRB's other report required by Act 182. This second report is on place-based jurisdiction and other matters related to Act 150. It is due December 31, 2023. That is the day before the

model bylaws are to be ready. According to the minutes of NRB's February 14 meeting, NRB is planning to hold off much of the work until the FY 24 budget is available. That budget proposal has $200,000 for a contract to hire a facilitator for the report.

Retain State oversight over connections to municipal water and wastewater systems

You continue to hear undocumented assertions that State permits for connections to municipal water and wastewater systems are redundant and have no value. In 2021 I clearly documented that those assertions are unfounded and testified to that effect last year. Each permit has a separate role. The State permits provide value, especially when there are flaws in the design. Those who continue to make the same unfounded assertions have still not presented any evidence.

You retained State permits for connections to municipal water and sewer last year.

Wastewater infrastructure received the worst grade, D+, on both the 2023 and 2019 report cards on Vermont's infrastructure. The Vermont Section of the American Society of Civil Engineers issues this report card every four years. No improvement over the last four years. Our wastewater infrastructure needs massive investment in order to handle existing demands. Additional stress will be placed on that infrastructure by concentrating new housing into the compact centers that have municipal sewer systems. It would be irresponsible to return to S.100 language that would remove this additional point of State oversight.

During the summer of 2021, I looked into the effect of the Wastewater System and Potable Water Supply Permits (WW permits) on housing projects. I looked at 16 housing projects in Montpelier (where I live), Northfield (nearby), Brattleboro (justifiably proud of recent housing projects), and Rutland (an outspoken asserter of no value for the State oversight). These permits are issued by the regional engineers at the Department of Environmental Conservation's regional offices. My investigation shows that the WW permits are not a barrier for housing that connects to municipal water and sewer systems. Eliminating the WW permits in these cases typically will not shorten the pre-development period, will not make housing affordable, and will lose the benefits provided by the State's oversight. My report can be found at

https://legislature.vermont.gov/Documents/2022/WorkGroups/Senate%20Natural%20Resources/Bills/S.234/Public%20Comments/S.234~Thomas%20Weiss~Housing%20and%20Smart%20Growth~1-26-2022.pdf

Cost of the WW permits

My research shows that the cost to the applicant for the WW permit is a few hours time and a small application fee. The median permit fee per unit of these projects was $175. The maximum was $750 (4 units added to 9 existing units).

The information needed for the WW permit is needed by other permits and for the project design itself. The only time involved in the WW application is to transfer already available information to the application and some time to co-ordinate with the regional engineer assigned to the project. This should amount to no more than a few hours of time. It is inappropriate to allocate the cost of developing the information to the WW permit. Even if the WW permit is eliminated, the cost of developing that information is not eliminated.

Time to obtain the WW permits

It is inappropriate to make blanket assertions that the WW permit program delays projects. This report shows that the WW permit program does not lead to project delays.

Different municipalities require different permits under different conditions. All four municipalities require zoning permits and allocate capacity. Some issue building permits; others rely on the construction permits of the

Department of Public Safety's Fire Safety Division. Some issue connection permits, others wrap them into the zoning permit. I looked into the timing of the WW permit compared to the timing of other permits needed for a project. Other approvals that may be required are: allocation of capacity (15 projects); zoning permit (15), building permit (8), connection permit (3), Act 250 permit (3), flood permit (1), and public works permit (1). Developers determine the order and timing of applications for these various approvals. The WW permit was the last to be received on 8 projects. One project was abandoned after the permit was issued. One was for a subdivision and the new lot had not been sold many months later. The WW permit application was withdrawn on one project. That leaves five permits where the time between last permit and the WW permit might have been caused by the applicants' choices on timing (delay not caused by the WW program) or they might have been caused by the WW permit process. I did not have enough information to determine which.

Value of the WW permits

Review by the regional engineer provides value. One of the projects had requested an incorrect allocation from the municipality. The municipality allocated the amount requested. The same incorrect flow was included in the application for the WW permit. The review by the regional engineer caught that error. In addition the State review found that the water service needed to be in a different location because it was proposed to be too close to the sewer service. It was easy to change the location on the design drawing. If that had not been caught by the regional engineer, the pipes might have been installed too close to each other. That would have endangered the health of the building occupants. If the error had been found during construction, it would have delayed construction.

Other benefits of retaining the WW permits for systems connecting to municipal water and wastewater systems.

The WW program provides a single repository for permits and the supporting documents.

The proposed registration program means that records for some projects will be maintained by the State. Records for other projects will be maintained by the municipalities.

Municipalities already have a procedure to issue permits

A municipality may request now authority to issue permits for service connections. Thus there is no need for sections 24 and 25 of this bill. Let the municipalities use the alternative procedure that now exists. That alternative procedure is at 10 V.S.A. §1976. The procedure in § 1976 requires a municipality to follow the provisions of 10 V.S.A. chapter 64 (potable water supply and wastewater system permit). Bruce Douglas, Wastewater Program Manager at DEC, testified last year on these permits.

Recommendations:

- Retain Wastewater System and Potable Water Supply permitting at the State for all projects involving connections to municipal water and sewer systems.
- Discourage new housing connected to wastewater systems that discharge into or upstream of impaired waters.

Prevent the isolation zones of water and sewer systems from encroaching on a neighbor's property where municipal water and sewer are not available

Rep. Bongartz has spoken glowingly of his "twofer" in all areas where zoning allows housing. Allowing accessory dwelling units by right, turns the "twofer" into a fourfer". What he neglected to mention is that there is *not* a "twofer" for on-site wastewater treatment and disposal. Twofers mean more bedrooms, which in turn lead to larger on-site wastewater treatment and disposal systems. Larger means larger lot sizes to accommodate the leach fields. Larger means more expensive. Even though the focus of this bill is to concentrate people more densely into the compact settlements, that does not relieve the pressure to build housing in the rural countryside. There will still be a demand for lots of new housing in the rural countryside each year.

A major impetus for Act 250 back in 1969 and 1970 was sewage coming out of the ground because the housing density was too high to allow the on-site treatment systems to function properly. The increased density allowed by this bill will create conflicts between neighbors. And those conflicts have already occurred.

On-site sewage treatment allows uncompensated encroachment on a neighbor's property.
The bill proposes to prevent municipalities from having single-family zoning. Instead the bill appears to propose allowing at least four units per parcel. (That is a duplex or two single-family units with one ADU each).

These isolation zones restrict what can be done inside them. Existing rules allow isolation zones to extend onto a neighbor's property and there is little the neighbor can do about it.

On-site wastewater treatment requires isolation zones in order to function properly and to protect public health. Statutes (10 V.S.A. §1973(j)) and the rules (Wastewater System and Potable Water Supply Permits, WW permits) allow a permittee's isolation zone to extend onto a neighbor's property with no compensation to the neighbor. The only requirement is to send the neighbor a form that says, in effect: "The isolation zone for my on-site system will extend into your property. This notice gives you a chance to talk to me before the permit is issued. If I decide to make no changes, you cannot stop the WW permit." The notice indicates that the neighboring landowner can build in the isolation zone. The notice doesn't point out that the isolation zone inhibits other uses on the neighbor's property. If the neighbor builds a cellar in the isolation zone, there is a potential for leachate entering the cellar. The neighbor might be leery of planting a vegetable garden or fruit trees in the isolation zone. And when a system fails, the neighbor could bear the brunt of surfacing sewage.

I am asking that the trade-off for higher density outside the compact centers is to require that all isolation zones remain within the parcel generating the wastewater.

Recommendation:
- Amend the bill to prevent the isolation distances of water and sewer systems from encroaching on a neighbor's property where municipal water and sewer are not available.

Require that new housing does not add to greenhouse gas emissions

You have just recommended amendments to S.5, the thermal energy bill. S.100 proposes to create thousands of new housing units. As S.100 now exists, those thousands of new homes will be built to our totally inadequate energy codes. S.100 proposes to prohibit municipalities from adopting more efficient energy codes.

New housing, additions, and renovations built to Vermont's present energy standards are inadequate to the needs of the future. By 2050, the “stretch code” will be seen as wasteful of energy. Our energy standards need to anticipate the future. Passive House standards are one example of best available practices, using perhaps half the energy as the stretch code. All new housing units must be as efficient as possible, limiting carbon emissions by using best available practices.

You have heard concerns that developers have difficulty with different energy codes in different municipalities . The obvious solution is for the developers always to use the most efficient code. Problem solved.

The Department of Public Service is revising both of our energy standards (residential buildings and commercial buildings). The codes are based on the 2021 International Energy Conservation Code. Development on that code began around 2018 and its contents had to be agreed to by a committee. By the time our energy standards are revised, they will already be out of date by three or four years. We need our energy standards to anticipate the future, rather than being out of date on the day they become effective. Our standards should not be less than

best available practices. Better yet, new buildings should be real zero. The RBES and CBES that are being adopted are less than best available practices.

Section 13 of S.100 proposed that municipalities may adopt more-restrictive energy standards on dwelling units greater than 1800 sq. ft. This of course reaches only those municipalities with zoning and that also choose to adopt more-restrictive energy standards. In order to avoid a patchwork quilt of differing energy codes, I suggest a statewide standard of best available practices leading to real zero.

Larger units should not get to use more energy merely because they are larger. A housing unit greater than, perhaps, 1200 to 1800 sq. ft. would not be allowed to use more energy regardless of its increased size. (1800 sq. ft. was used in S.100 as introduced. Considering our need to cut carbon emissions, 1200 sq. ft. is a more reasonable size for capping energy.)

Recommendations:
- Require that all housing be built to best available practices, at least as efficient as the Passive House standards.
- Cap thermal loads of housing units using best design practices.

Retain Act 250 jurisdiction over housing

Only a small fraction of our housing needs Act 250 permits.

The NRB provided Senate Natural Resources and Energy with a document showing that annually some 400 housing units had received Act 250 permits in the years 2017 through 2022. The American Community Survey (the data that VHFA uses) shows that annually the number of housing units in Vermont increased by some 2800 in that same time period. Six times as many units are built outside Act 250 as within Act 250.

Act 250 permits for most housing projects are issued without hearings; therefore those permits are not subject to appeal. Act 250 adds a median time of only six days between receipt of the last document from the applicant and issuing the permit. There is little to no benefit from exempting more housing from Act 250 and much to be lost.

Previously, I have looked at the savings from eliminating Act 250 from housing projects. The median savings in time is six days. The relevant time is not how long between application and permit, but between receipt of the last document from the applicant and the permit. That time is six days. Act 250 permits for most housing projects are issued without hearings. That means that there is no possibility of appeal. In order to appeal, one has to have participated in hearings.

The breadth of Act 250 promotes responsible development of those projects subject to its jurisdiction.

In addition, the jurisdictional changes proposed by S.100 are unbalanced. One of the goals of chapter 117 is to "plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside." (24 V.S.A. §4302(c)(1)).

S.100 focuses on getting more housing into our compact centers. S.100 does nothing to reduce the existing pressure on our rural countryside. This imbalance appears to be based on the misguided assumption that these measures to increase housing in the compact centers will end pressure to convert farms and forests to housing. On the contrary, there will still be many individuals and families who will not want to live in the compact centers. Living in the rural countryside is one of the attractions of living in Vermont. The bill needs to provide balance by increasing protection of farmland and forests.

The three-year exemptions from Act 250 are in S.100 with the express intent of making them permanent in some form in the next year or two.

These actions to reduce jurisdiction are all premature. Last year, the legislature (Act 182 of 2022) directed DHCD to evaluate the designations program. The review is to recommend "how to objectively define and map existing compact settlements as a basis for broader recognition". That broader recognition includes Act 250. The legislature also directed the NRB to report on "How to transition to a system on which Act 250 jurisdiction is based on location, which shall encourage development in designated areas, the maintenance of intact rural working lands, and the protection of natural resources of statewide significance".

Housing being built in the rural countryside already has led to significant habitat loss, forest fragmentation, and other negative results. Even if the majority of the hoped-for units go into the compact centers, that means the rest will be built in the rural countryside. That means there will be ongoing pressure to subdivide and fragment the rural countryside.

With thoughtful design, clustered rural housing development can limit waste of natural resources, avoid sprawl, and increase agricultural and economic sustainability, by sharing physical and social infrastructure and resources using whole system regenerative land management techniques on farm- and forestland.

Recommendations:
Remove all amendments to Act 250 jurisdiction from the bill, pending DHCD's designations study and the NRB's location-based jurisdiction study.

I ask that you find these recommendations persuasive and that you amend S.100 as recommended.

Thank you for taking the time to read this testimony.

Sincerely,
Thomas Weiss