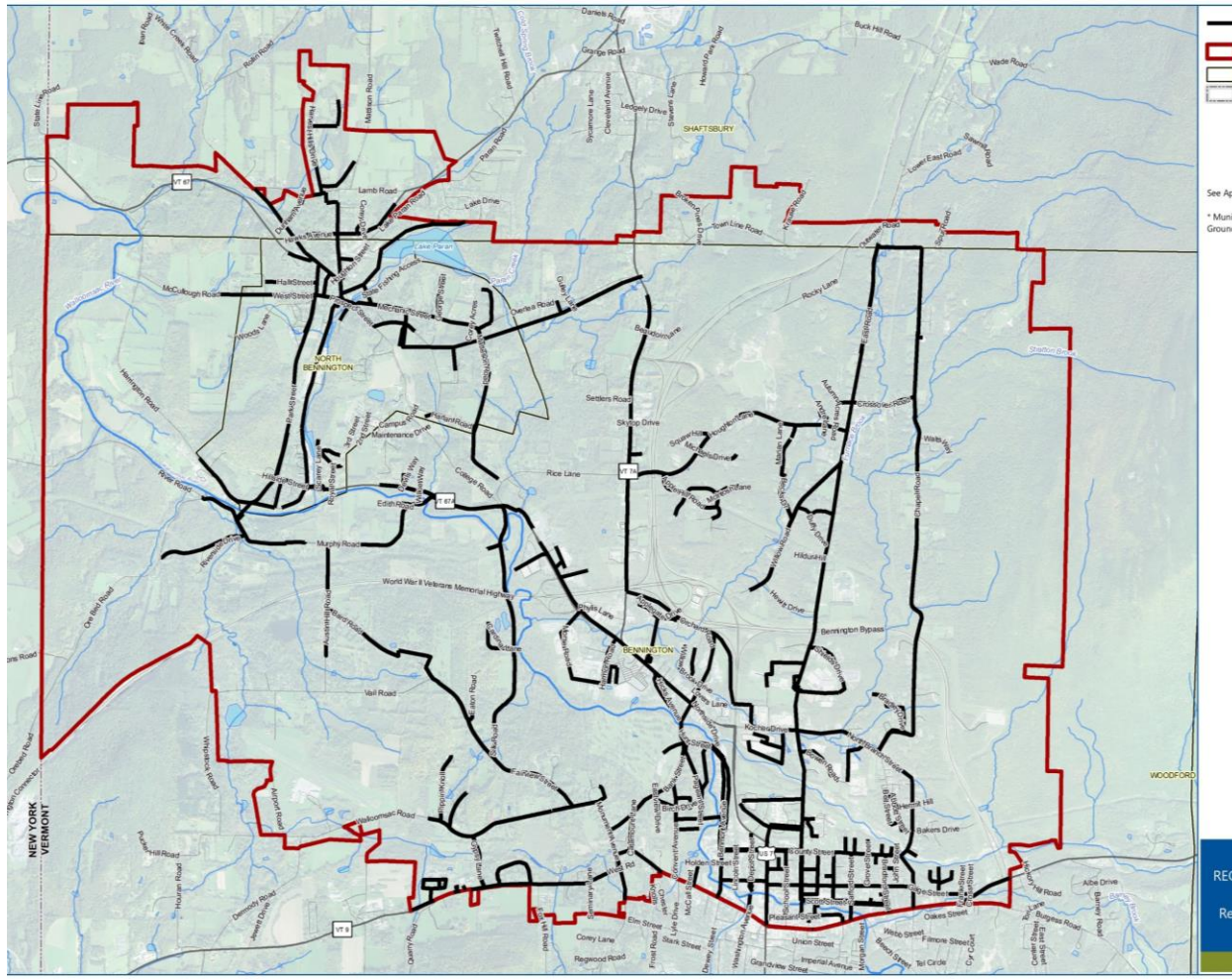
Proposed Groundwater Reclassification Bennington and Shaftsbury VT

Bennington Selectboard Meeting

April 12, 2021

VT Department of Environmental Conservation

VERMONT
AGENCY OF NATURAL RESOURCES
Respect. Protect. Enjoy.



How we got here?

1. In early 2016 found PFOA in wells near former Chemfab facilities
2. Began emergency response-sampling and getting people drinking clean water-bottle water at first then treatment systems
3. Continued PFAS Response to define contamination, monitoring water supply wells and install treatments systems where needed
4. 2017 and 2019 Settlement Agreements
   - Outlined Saint-Gobain and State Obligations for Waterline extensions residences/businesses eligible for connections
   - Outlined Saint-Gobain's long-term monitoring and corrective action obligations for areas not getting connected

Corrective Action Work

- Waterline extension work ongoing
- 480 residences or businesses eligible for connection to municipal water
- Currently 438 agreed to be connected, with 365 of those residences or businesses connected.
- Waterline work estimated to be completed this summer

Corrective Action Work

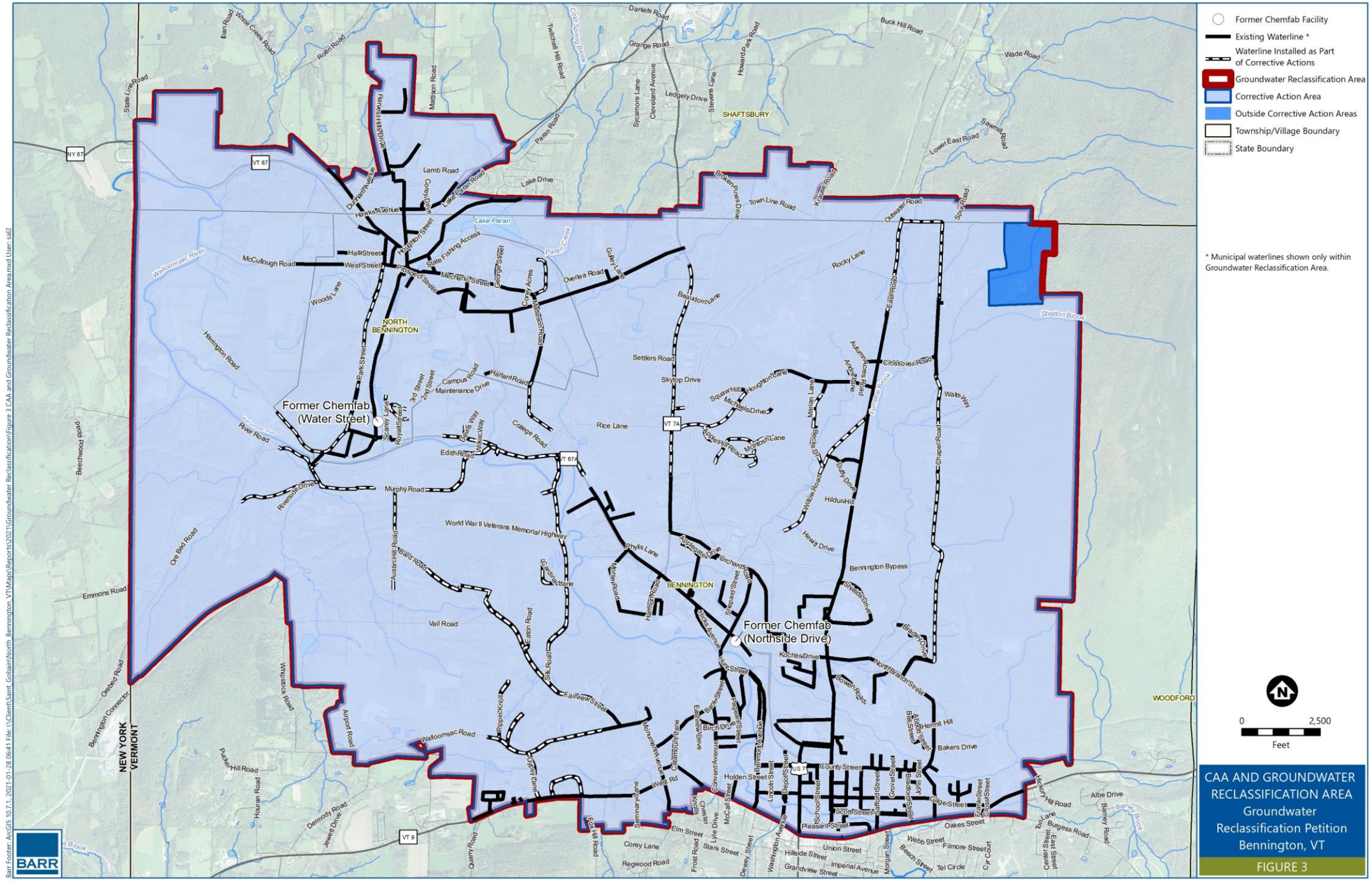
1. Ongoing Long-term Monitoring of wells below 20 ppt standard (140+)
2. Ongoing maintenance of POETs in areas not getting waterlines (33)
3. Installation and operation of five replacement wells
4. Implement Institutional controls (Groundwater Reclassification) to reduce potential of new water supply wells from being adversely affected by PFAS
5. Ongoing assessment and feasibility of potential long-term remedies
6. Saint-Gobain is obligated to ensure existing water supplies have potable water in areas not getting connected by:
   - ongoing monitoring of wells currently with PFAS levels below the standard. If levels exceed standard, then Saint-Gobain must provide a short-term and long-term remedy (POETs, Replacement Well, and waterline connection if feasible)
   - Maintaining and monitoring treatment systems until PFAS levels are below the groundwater standards for 8 consecutive quarterly rounds and exhibit a stable or declining trend
7. Saint-Gobain is obligated to perform these tasks until there is sufficient evidence that the underlying groundwater is clean (levels below the standards as defined by the performance standards/criteria in the Settlement Agreement)

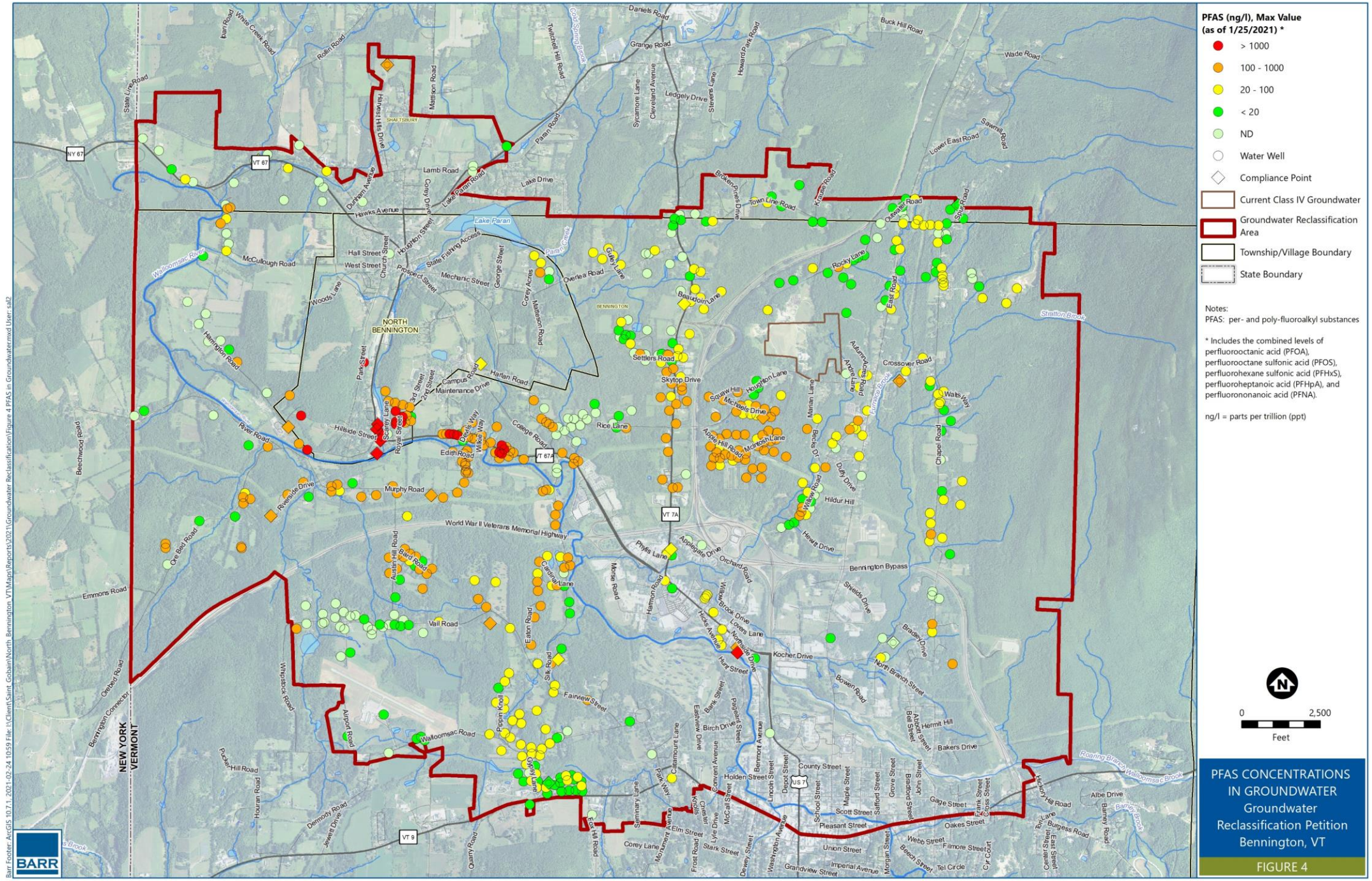
Why is the Groundwater Being Reclassified to a Class IV?

1. To Protect Human Health due to Unacceptable Levels of PFAS in groundwater
2. PFAS is expected to be in some parts of groundwater for 5+ years, likely decades
3. Part of the Remedy in the approved Corrective Action Plan(s) to address future groundwater use from new water supply wells
4. Notifies landowners, well drillers, and permitting agencies that groundwater in some parts of aquifer have or suspected to have PFAS levels above the standard
5. Provides criteria and restrictions for drilling new drinking water wells in the reclassification area
   - Prohibits drilling wells within 200’ of an existing water line (some exceptions)
   - Well construction, monitoring and treatment requirements (if needed)

The Proposed Class IV Groundwater in Bennington Area must account for the following:

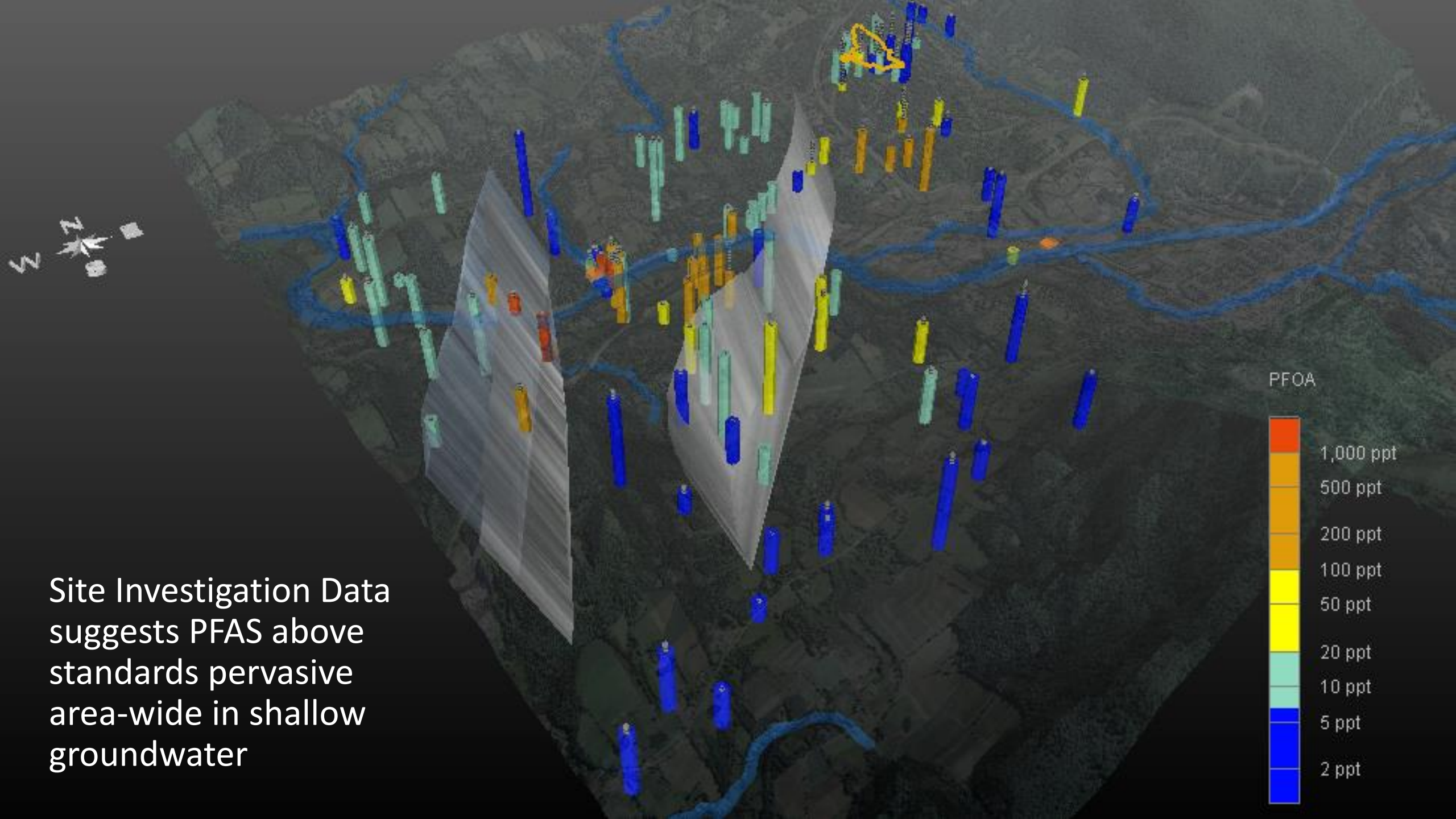
1. Potable groundwater is available within the proposed area
2. PFAS is expected to be in some parts of groundwater for 5+ years, likely decades
3. 140+ drinking water wells within the proposed reclassification area do not have PFAS or have PFAS below the standard
4. In several areas within the proposed reclassification, the installation of a well is the only feasible option for a water supply for a given property
5. To ensure measures are in place for providing potable water for future water supply wells




PFAS (ng/l), Max Value
(as of 1/25/2021) *
> 1000
100 - 1000
20 - 100
< 20
ND
Water Well
Compliance Point
Current Class IV Groundwater
Groundwater Reclassification Area
Township/Village Boundary
State Boundary
Notes:
PFAS: per- and poly-fluoroalkyl substances
* Includes the combined levels of perfluorooctanic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorononanoic acid (PFNA).
ng/l = parts per trillion (ppt)
0
2,500
Feet
PFAS CONCENTRATIONS IN GROUNDWATER
Groundwater Reclassification Petition
Bennington, VT
FIGURE 4
NORTH BENNINGTON
BENNINGTON
SHAFTSBURY
NEW YORK
VERMONT
Lake Paran
Walloomsac River
Paran Creek
Stratton Brook
Roaring Branch-Walloomsac Brook
Barnes Brook
NY 67
VT 67
VT 67A
VT 7A
VT 9
US 7
Barr Footer: ArcGIS 10.7.1, 2021-02-24 10:59 File: I:\Client\Saint Gobain\North Bennington_VT\Maps\Reports\2021\Groundwater Reclassification\Figure 4 PFAS in Groundwater.mxd User: sal2

Why are wells that are tested below the standard included in Reclassification area?

- Although a well may be clean, portions of **the groundwater may be contaminated.**
- Site investigation and Conceptual Site Model indicate:
  1. Air deposition from former Chemfab facilities into soils
  2. Leaching of PFAS through these soils into groundwater
  3. PFAS above the standards prevalent in shallow groundwater
- Several instances where a deeper well has no PFAS but shallow wells nearby have PFAS above standard.



Site Investigation Data suggests PFAS above standards pervasive area-wide in shallow groundwater

Will this Class IV designation affect property values?

Here's our experience:

1. If there is any affect on property value it is due to the PFAS levels in groundwater and not the reclassification.
2. We've seen that more certainty helps with the transfers of properties. Having a formal plan in place, and defined solutions, creates greater certainty.
3. In nation-wide studies examining the affect that groundwater contamination has on property values, their outcomes varied. Many factors affect property values.

Finding of Facts

proposed changes highlighted in yellow

1. Petition and other referenced documents support the proposed reclassification
2. Based on environmental investigations, the zone of PFAS contamination is defined
3. The major source of PFAS appears to be the leaching of PFAS through the soils, adversely affecting groundwater from past air emissions
4. Within the reclassification area, there's a high likelihood that PFAS is in the aquifer (particularly in the shallow groundwater)at levels above the standard.
5. PFAS is predicted to persist for more than five years or longer in groundwater.
6. Deeper parts of the aquifer, if some cases, can provide potable water.
7. PFAS in groundwater could adversely affect potable and non-potable groundwater uses.
8. Connecting to municipal lines is the preferred long-term remedy. However, connecting to waterlines isn't possible in every case given scale of proposed Class IV Area.

Draft Reclassification Order

- Allows new permitted drinking water wells to be installed (including replacement wells) outside 200-feet of an existing water line or within 200-feet, if given a variance by ANR.
- Order specifies:
  - ✓Well Construction Requirements
  - ✓Initial Testing requirements
  - ✓A long-term monitoring plan
  - ✓Treatment requirements if PFAS levels above the applicable

Draft Reclassification Order (continued)

- Prohibits shallow (overburden) wells or springs as a new potable or public water source
- Does not affect existing water sources

Draft Reclassification Order (continued)

- Requires landowners (or their representatives) to notify:
  - DEC before any new well is installed for industrial, commercial, or geothermal to assess suitability given Class IV.
  - Agency of Agriculture, Food, and Market to assess suitability for agricultural use

Draft Reclassification Order (continued)

- St. Gobain is required to continue long-term monitoring within the proposed area
- ANR will continue monitoring the Class IV area to assess future adjustments to reclassification area
- These adjustments include expanding or decreasing the area or reclassifying the area back to Class III

What Does NOT Change

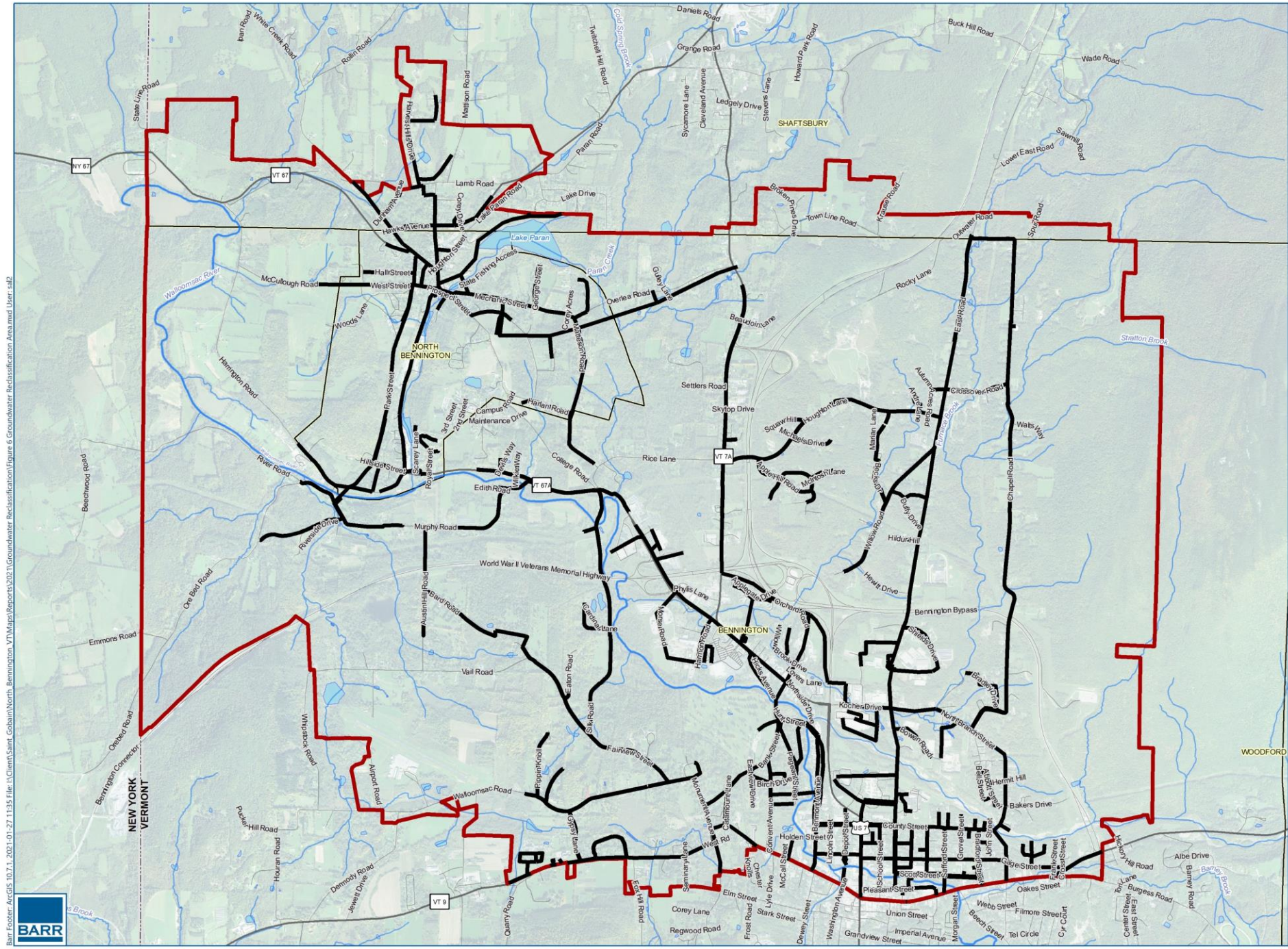
- ✓Does NOT affect the use of existing wells or water sources
- ✓Does NOT affect the ability for a new property owner to use an existing well
- ✓Does NOT affect Saint-Gobain's obligation under the Settlement Agreement

Summary
(based on Proposed Reclassification Order)

- The Proposed Order…
  - Specifies conditions for new bedrock water wells within Reclassification Area (Well construction, monitoring, and treatment if necessary)
  - Recognizes some parts of the aquifer can potentially provide potable water
  - Requires Replacement Wells to obtain a new permit
  - Notifies Well Drillers about Reclassification on ANR Atlas
- Prohibits:
  - Drilling new drinking water wells within 200’ of existing water line (exceptions for extenuating circumstances)
  - Using shallow wells or springs as a new drinking water source

Summary
(based on Proposed Reclassification Order)

- Requires landowners to notify:
  - VT DEC before any new well is installed for industrial, commercial, or geothermal to assess suitability given the Class IV.
  - Agency of Agriculture, Food, and Market to assess suitability for agricultural use.



Next Steps

1. ANR will review comments and questions on the proposed reclassification and Draft Decision

   (Comment deadline May 28, 2021)
2. ANR (Secretary) will issue a final decision to reclassify groundwater and response to public comments through the Environmental Notice Bulletin. Place Final on website
3. The final decision shall include a final reclassification order, if applicable
4. Notify all Vermont licensed well drillers and applicable permitting and oversight agencies if final decision reclassifies Groundwater
5. Place reclassification area on VT ANR Atlas

More Information

- For more information about the proposed reclassification go to our website https://dec.vermont.gov/bennington-groundwater-reclassification
  - The Petition and other supporting documentation
  - The Draft Decision, including a proposed reclassification order
  - Links to Environmental Notice Board
  - Fact Sheets/FAQs
- Copies of reclassification documents at the Bennington Town Offices.
- Contact Town to arrange an appointment.
- Submit comments on reclassification on the Environmental Notice Board or e-mail:

  John Schmeltzer 802 249-5620 john.Schmeltzer@vermont.gov
  Richard Spiese 802 249-5083 richard.spiese@vermont.gov

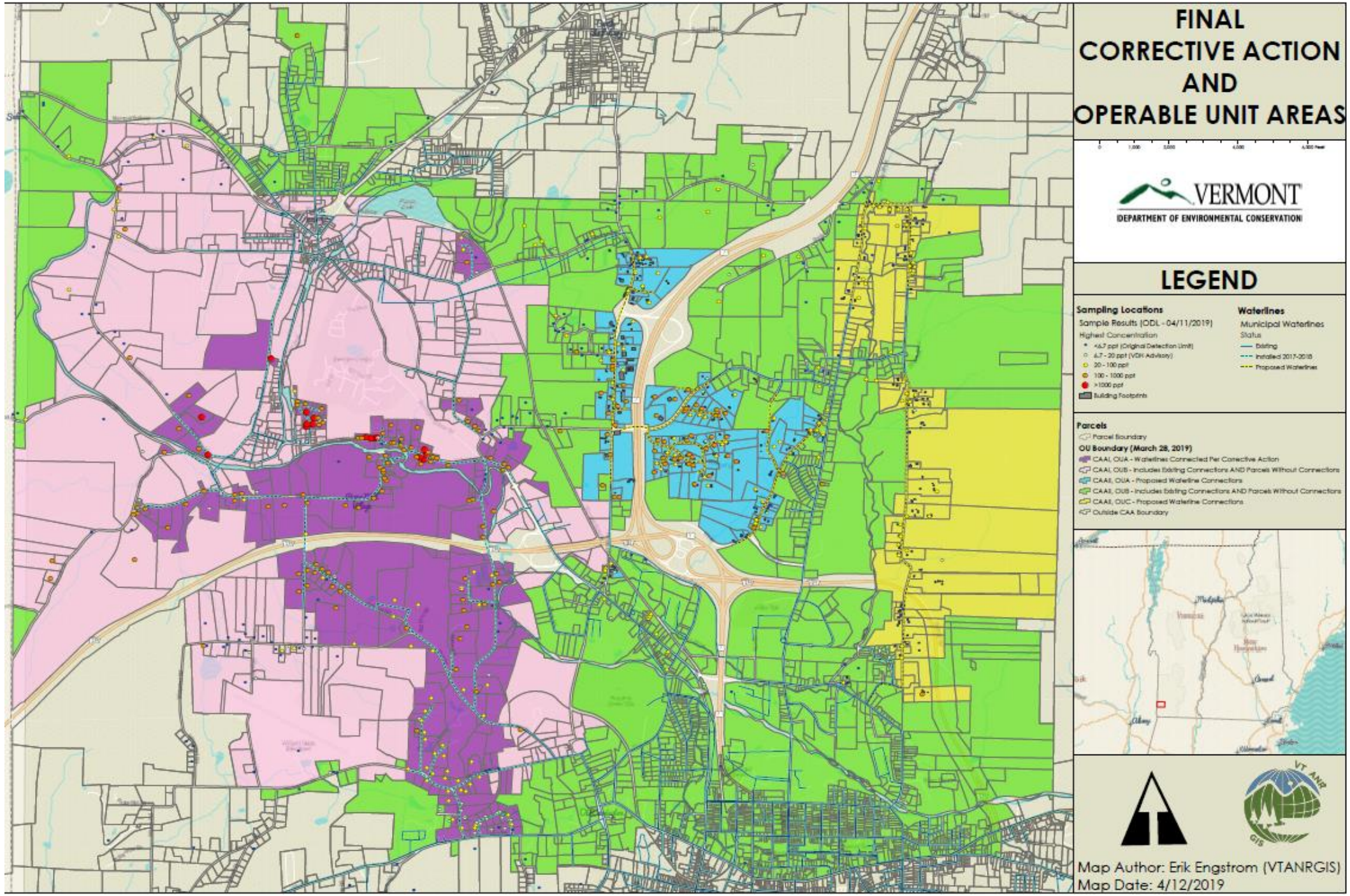
Saint-Gobain's Obligations

Areas not currently receiving waterlines (OPERABLE UNIT B)

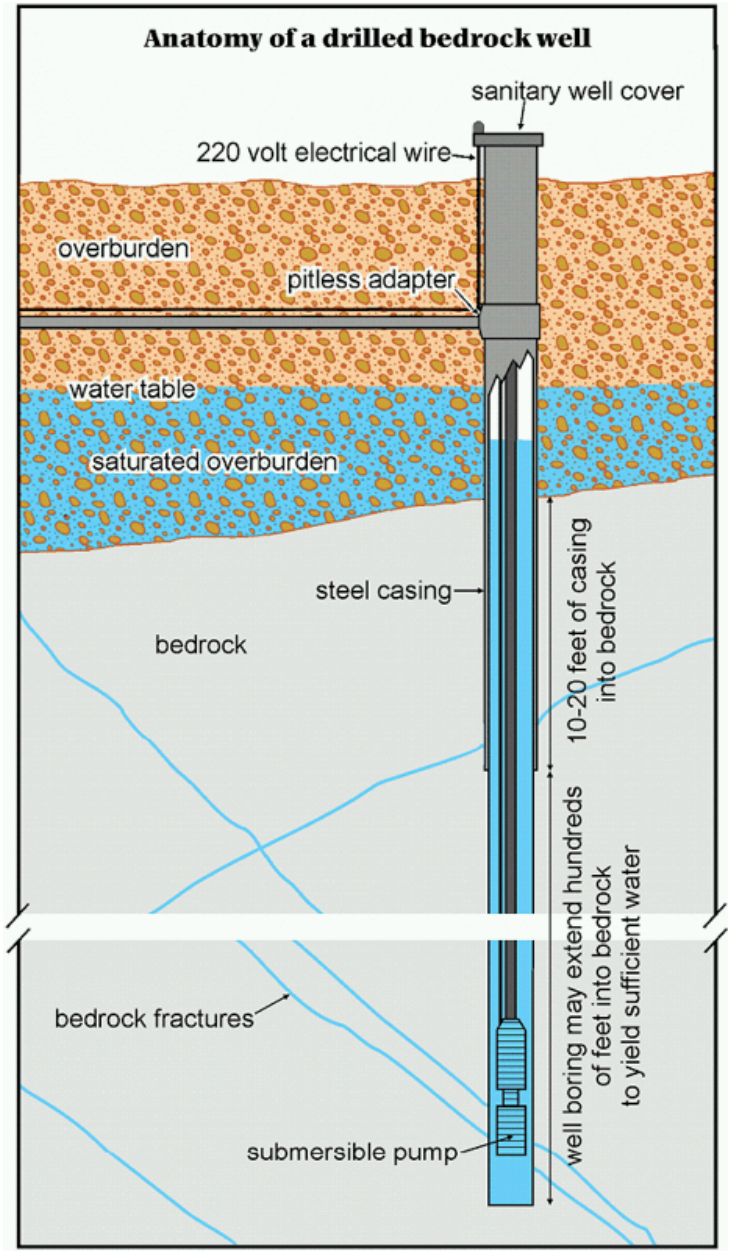
- Responsible for Long-term PFAS monitoring of existing and new wells, including replacement wells
- Provide short-term (bottled water) and long-term (treatment system) if PFAS Levels exceed standard
- Assess and implement an alternative long-term drinking water remedy, i.e., replacement wells and if some instances connection to waterlines
- Provide Annual Report on monitoring results, treatment systems, and response activities
- Install replacement wells, if directed by VT DEC, due to PFAS levels in existing water supply wells at no cost to property owner. (Must meet Reclassification Order requirements.)

Waterline (OPERABLE UNITS A AND C)

- No obligations for sampling or treatment for existing wells after waterline connections are completed (2021)
- If permittee chooses to drill a new drinking water within areas where waterlines available (OU A and OU C), then permittee responsible to meet the testing and treatment requirements as outlined in the Reclassification Order


FINAL
CORRECTIVE ACTION
AND
OPERABLE UNIT AREAS
VERMONT
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
LEGEND
Sampling Locations
Sample Results (ODL - 04/11/2019)
Highest Concentration
<6.7 ppt (Original Detection Limit)
6.7 - 20 ppt (VDH Advisory)
20 - 100 ppt
100 - 1000 ppt
>1000 ppt
Building Footprints
Waterlines
Municipal Waterlines
Status
Existing
Installed 2017-2018
Proposed Waterlines
Parcels
Parcel Boundary
OU Boundary (March 28, 2019)
CAAI, OUA - Waterlines Connected Per Corrective Action
CAAI, OUB - Includes Existing Connections AND Parcels Without Connections
CAAII, OUA - Proposed Waterline Connections
CAAII, OUB - Includes Existing Connections AND Parcels Without Connections
CAAII, OUC - Proposed Waterline Connections
Outside CAA Boundary
Map Author: Erik Engstrom (VTANRGIS)
Map Date: 4/12/2019

Well Construction Requirements



- Casing Depth at least 50 feet below bedrock.
- For properties with existing bedrock wells, replacement well casing should be installed 30 feet below casing.
- Install Grout between casing and borehole to seal a possible pathway for
- Variance

  It is known" that in some areas in Bennington installing casing into competent bedrock as described above is not possible. There is flexibility in the order to take this into account.

Image-state of Maine