



VERMONT AGRICULTURE & ENVIRONMENTAL LABORATORY

INTRODUCING
OURSELVES &
OUR WORK

MARCH 31, 2015



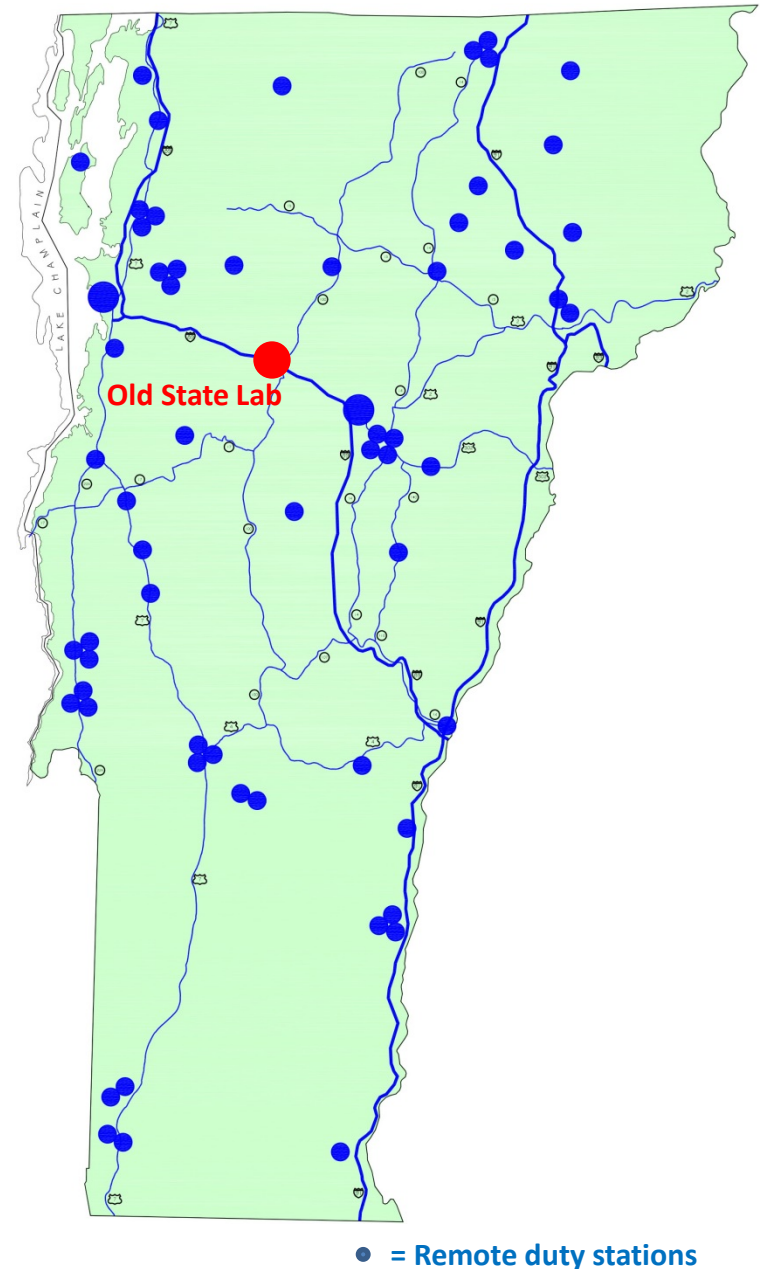
VERMONT AGRICULTURE & ENVIRONMENTAL LABORATORY

The missions of the Agency of Agriculture, Food and Markets and the Agency of Natural Resources include: support and encourage commerce while protecting the working landscape, human animal & plant health, and the environment.

Quite simply, our agencies protect and monitor our natural world: air, water, soil, trees, plants, bugs, fish, birds and animals.

Most of the state's inspectors, wardens, vets, and scientists are field based, working out of small offices or their homes. Several programs depend on citizen volunteers.

The State Lab tests samples from across Vermont. Before TS Irene, it was located in Waterbury, VT.

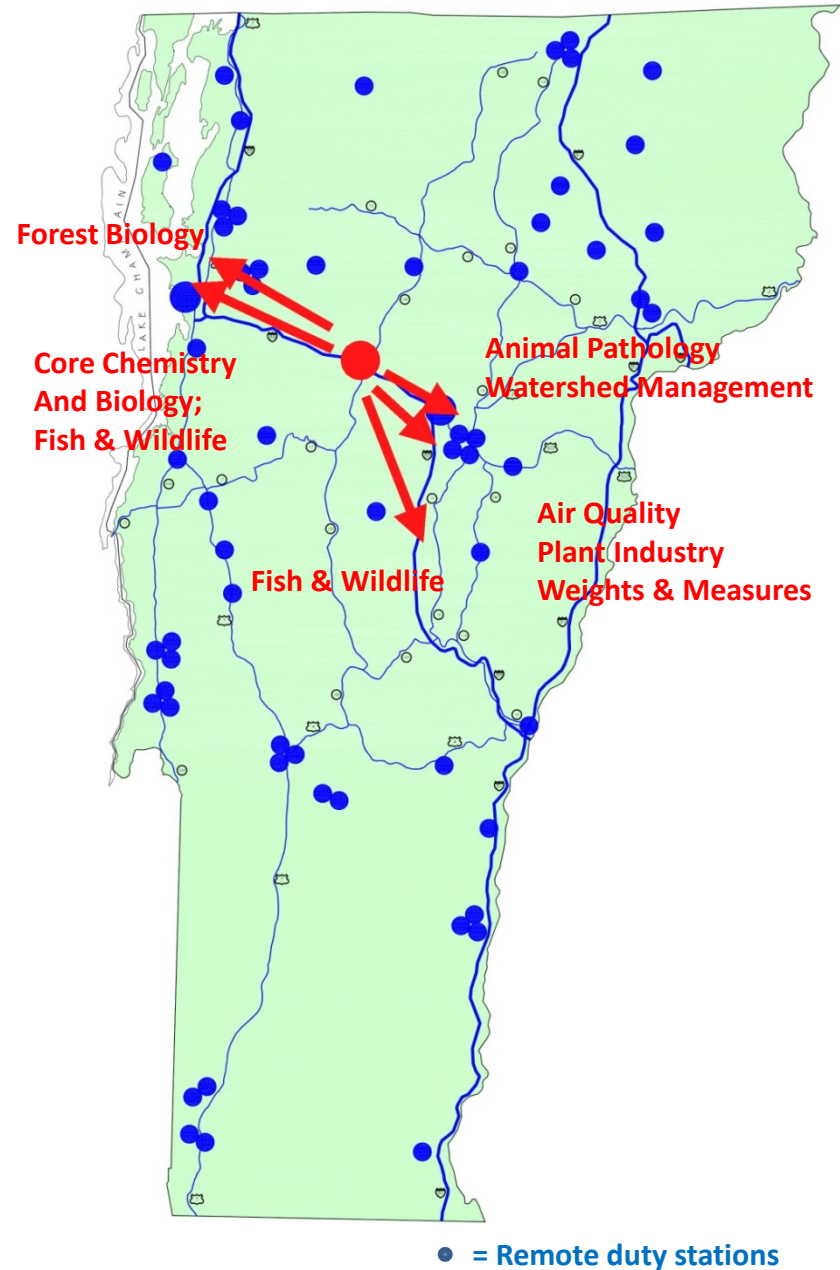


VERMONT AGRICULTURE & ENVIRONMENTAL LABORATORY



TS Irene destroyed Vermont's agriculture and environmental lab August 28, 2011. Since then, lab services have been located in five different locations.

This lab is the last major reconstruction project the State faces to repair the damage caused by TS Irene.



WHO ARE OUR SCIENTISTS AND WHAT DO WE DO?

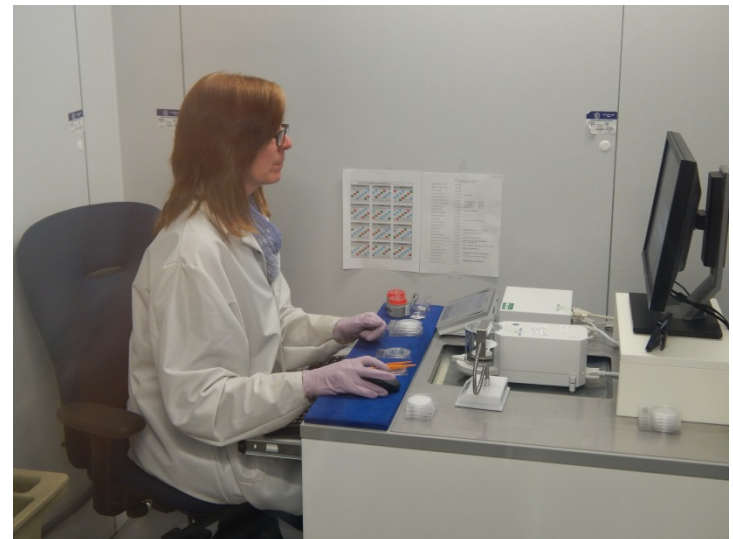
AIR



Five remote stations monitor long-term climate changes



Back at the temporary lab in Berlin



Measuring air particulates

WATER



All watershed testing & protection



Aquatic taxonomy



Phosphorus and nitrogen testing

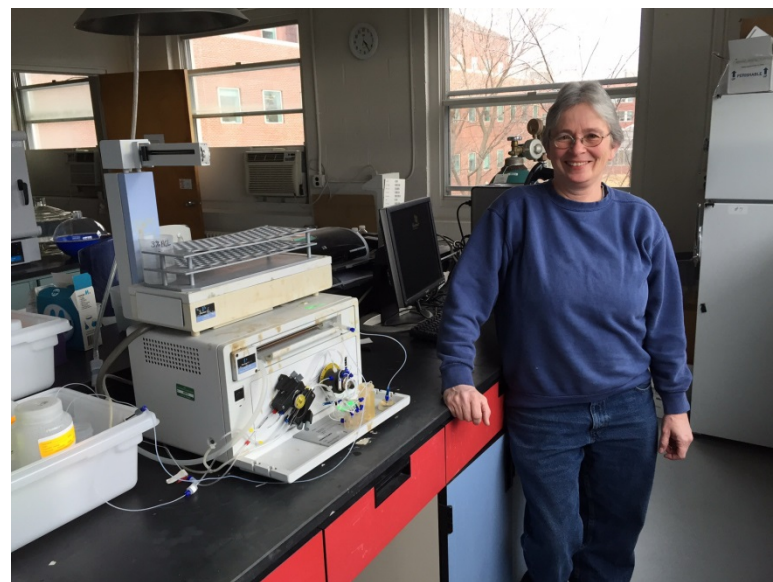
SOIL



Nutrients, metals & fertilizer testing



Semi-volatiles & volatiles testing



Mercury Analyzer

PLANTS



Seed and ginseng certification



Pesticide residue testing



Imported & exported plant inspection



Invasive plant monitoring & removal

TREES



Orchard fertilizer and pest support



Testing for the maple industry



Monitoring for climate change and forest health



Tree & plant disease research

INSECTS



Aquatic insect sampling



Honey bee research



Mosquito & west nile virus research



State specimen archive

FISH



State & private fish culture facility inspections & diagnostics



Watershed Management: Fish survey



Fish health lab: bacteriology, virology, and genetic testing/research

BIRDS & ANIMALS

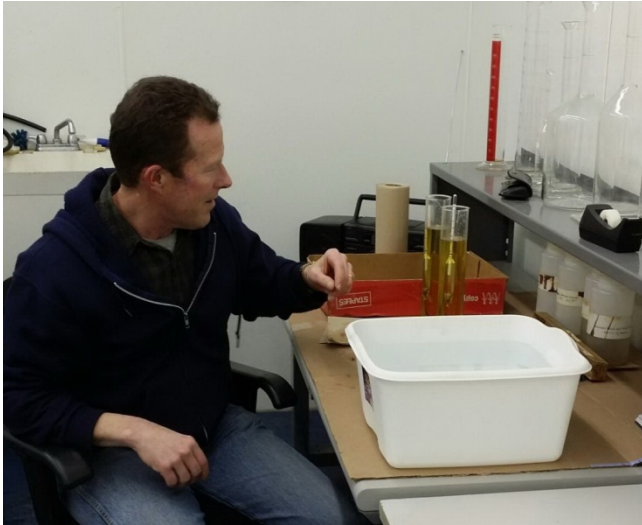


State veterinarians travel across Vermont



State dairy lab (mastitis, serology, pathogens)
Food safety testing, including pet food & feed.

WEIGHTS, MEASURES, and CALIBRATIONS



Calibrating maple syrup hydrometers



1000 lb proving weight



The scale truck for site visits



Very small weights!

VOLUNTEERS ARE ESSENTIAL TO OUR PROGRAMS



Aquatic life surveys & water sampling



Tick counts to monitor Lyme disease



Counting Cerceris wasps to monitor Emerald Ash borers



Scoring trees for forest health

WE HAVE A STRONG CONNECTION WITH EDUCATION



Fish health lab: college interns



Class visits to the **Bug Lab** & school outreach



Specimen Collection: Year-round interns
& volunteers of all ages

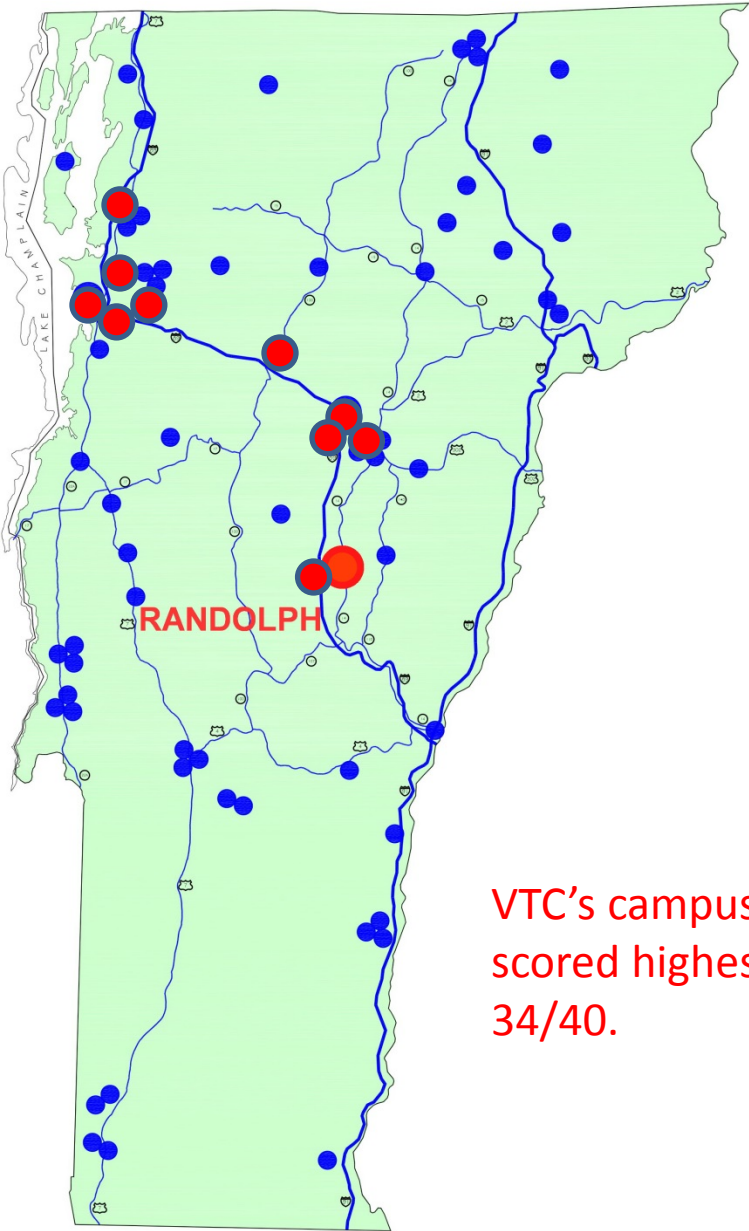


First Detector (volunteer group) training

ABOUT THE NEW BUILDING

SITE/LOCATION

19 sites were offered for use
They were scored with 8 criteria



VTC's campus
scored highest,
34/40.

VERMONT AGENCIES OF AGRICULTURE & NATURAL RESOURCES LAB FACILITY										
FACILITY SITE OPTIONS CRITERIA SCORING SUMMARY										
SITE	VARIATION	CRITERION 1 LOT SIZE	CRITERION 2 PHYSICAL	CRITERION 3 UTILITIES	CRITERION 4 ZONING	CRITERION 5 NEIGHBORHOOD	CRITERION 6 CONSTRUCTION	CRITERION 7 QUALITY	CRITERION 8 BENEFITS	TOTAL
1	Milton	2.8	2.8	3.2	2.8	3.2	3	1.2	1.2	20.2
2	Colchester Severance	4.3	4.2	4.3	3.7	4	4.8	1.7	2.2	29.2
3	Colchester Health Lab	3.5	3.3	4.8	4.5	4.2	4	2.2	3.3	29.8
4	Burlington 195 Colchester	1.2	1.5	4.8	2	2	1	1.5	3.2	17.2
5	So Burl Spear St	3.3	3.5	4.7	3	3.8	3.8	2.3	3.8	28.2
6	So Burl Tech Park	3.5	3.8	4.8	4.3	4.5	3.3	2.2	2.2	28.6
7	So Burl Hinesburg Rd	4	4.3	4.8	4.2	3.5	4.2	1.3	1	27.3
8	Richmond Rte 2	2.3	3	1.5	2.5	2.2	3	1.7	1.3	17.5
9	Richmond Creamery	2.3	3.3	4.3	3.8	2.7	3.5	1.8	2.5	24.2
10	Waterbury	4	3.7	4.3	4	2.8	3.8	4	4	30.6
11	Montpelier Armory	2	2.7	4.5	3.3	3.8	3.5	4	3	26.8
12	Montpelier 2 Rivers Farm	4.2	2.8	4.3	3.3	3.8	2.7	3.7	3	27.8
13	Berlin F&W Land	3.7	2.2	1.2	3.2	2.8	3.5	3.8	2.8	23.2
14	Berlin Route 12	3.8	3.5	1.8	3.2	3.7	3.2	4.3	3.7	27.2
15	Berlin Dog River Rd	4.2	3.8	2	3.8	3.7	3.7	4.3	3.7	29.2
16	Berlin Regional Library	3.3	3.2	4.2	2	3.7	2.7	3.5	3.5	26.1
17	Berlin Back Field	4.5	3.5	4.2	2	4	3.7	3.7	3.7	29.3
18	Randolph VTC Campus	4.5	4.5	4	4.3	4	4.5	3.6	4.6	34
19	Randolph Exr 4	3.6	2.4	2.6	2.8	3.2	3.6	2.8	3	24

SITE/LOCATION

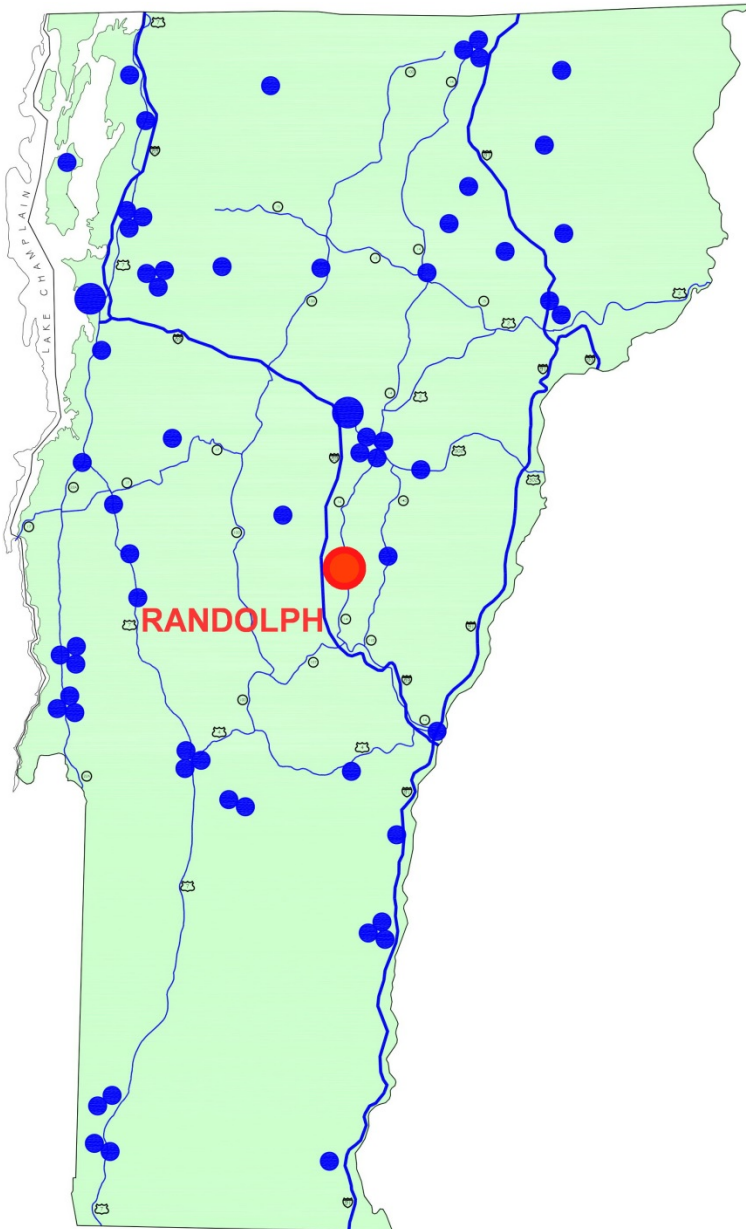
VTC's campus offers opportunities for collaboration.

Central location in the state.

VTC's programs: agriculture, horticulture, engineering, and veterinary technology

Orange county's strong working landscape economy

Proximity to higher ed & health care institutions (Gifford, VT Law School, Dartmouth, Dartmouth-Hitchcock Medical Center)



BUILDING INFORMATION

Concept Phase Statistics

- Approximately 34,000 sf lab
- Wood chip heat & solar collectors
- Total project cost: \$25,600,000



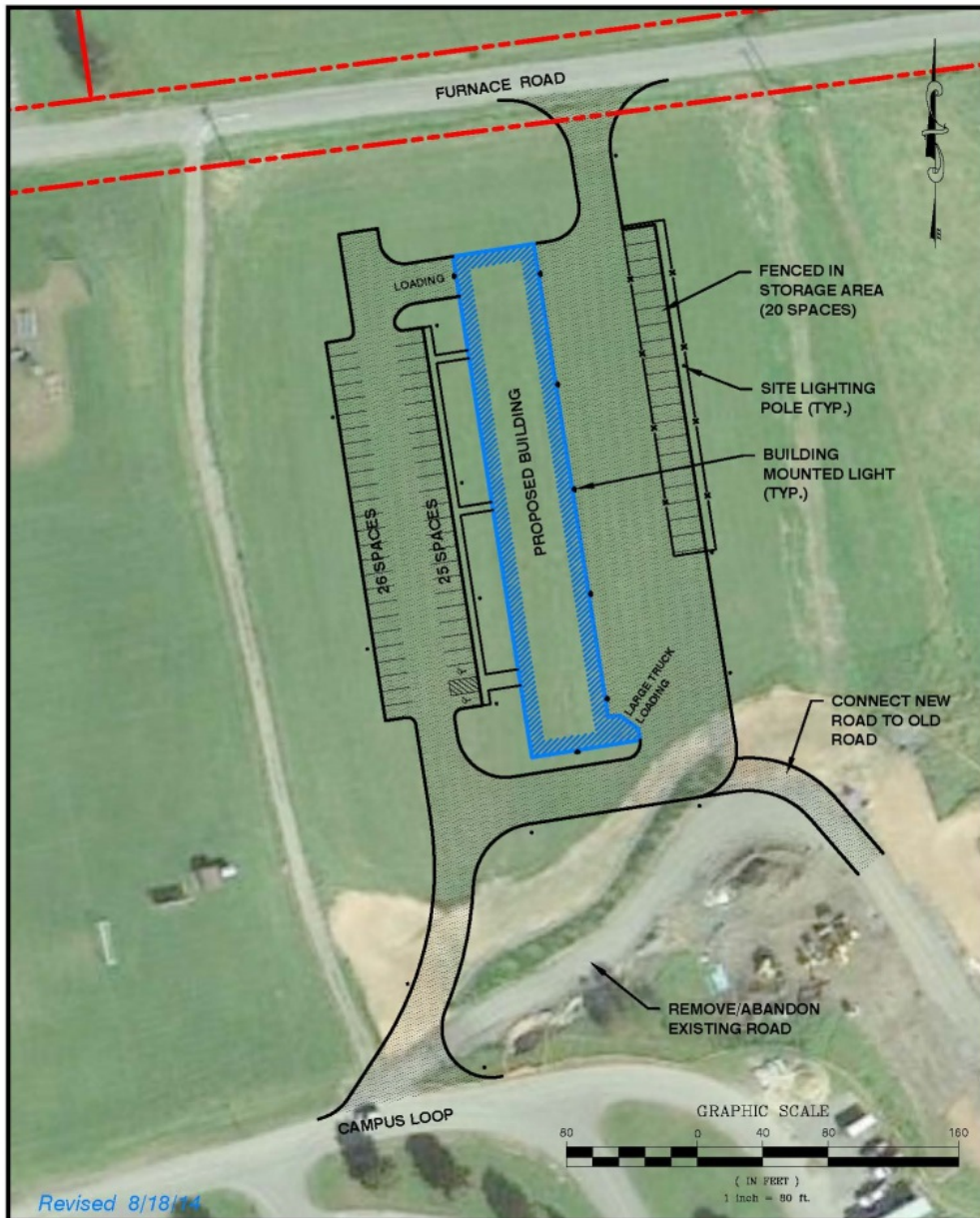
	<u>Pre-Irene</u>	<u>2013 Feasibility Study</u>	<u>Current Design</u>
Space	34,110+ s.f.	35,375 s.f.	34,004 s.f. (includes capacity for emerging testing)
Staffing	27 + 16 part-time	26 + 16 part-time	32 + 21 part-time (includes staff for 10-year plan)

Highlights of the design so far:

- The building will use as little ground as possible (less than 3 acres), and keep the rest of the site in agricultural use.
- Through rigorous programming, every space and function has already been described. This lab is super efficient: 72% is lab space compared to the normal 50-60%.
- We have accepted an Efficiency Vermont challenge to use 50% less energy than a typical lab.
- This project will be at least LEED Gold equivalent (version 4.0).



Site Location: North edge of VTC's campus



Revised 8/18/14

CIVIL ENGINEERING ASSOCIATES, INC.

10 MANSFIELD VIEW LN.,
SO. BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271



Scale 1" = 80'
Date JUL. 29, 2014
Drawn by SAL
CEA Project No. 14185



STATE
OF
VERMONT

DEPARTMENT OF
BUILDINGS & GENERAL SERVICES

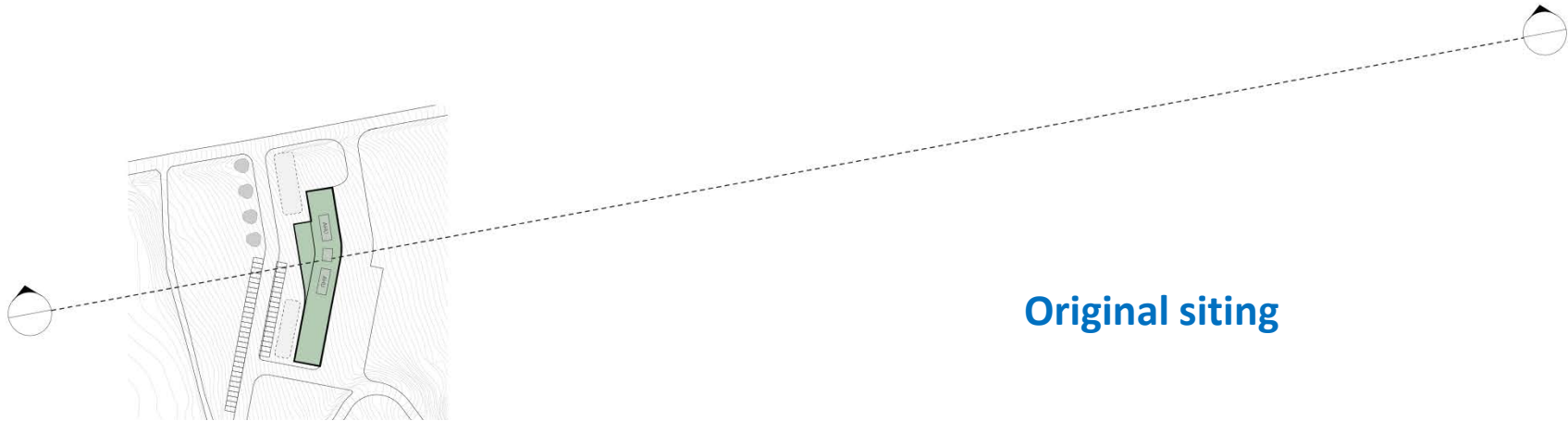
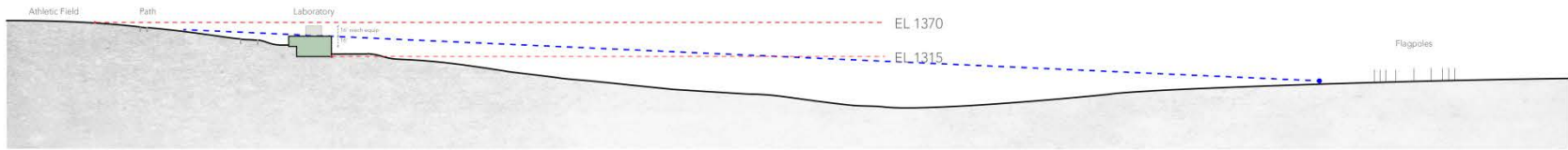
NEW AGRICULTURAL/ENVIRONMENTAL LAB

SITE PLAN
VTC SITE - NORTH

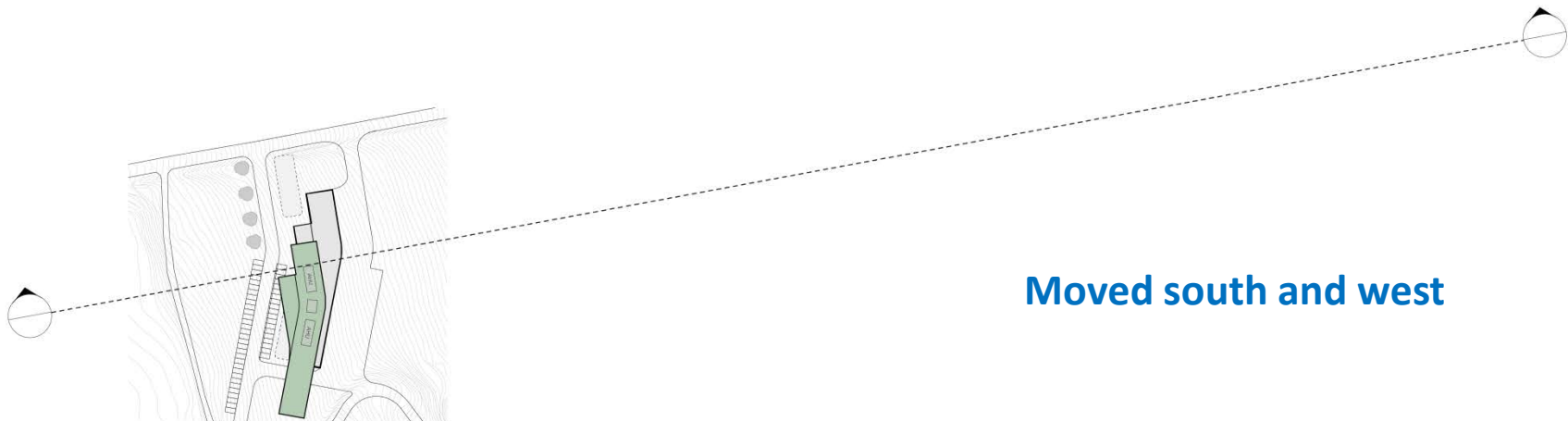
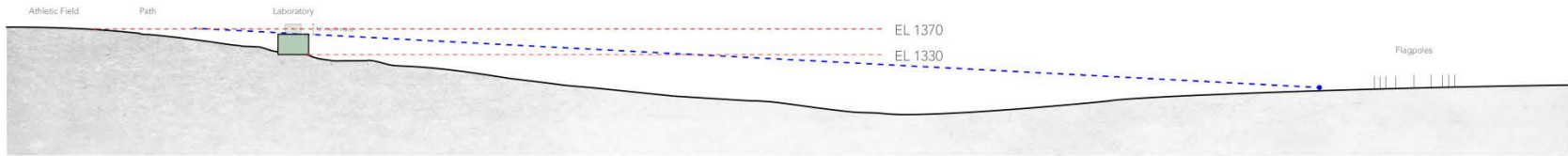
RANDOLPH VERMONT



Conceptual Site Plan ¹¹



Original siting



Moved south and west



Original siting



Moved south & west

SCHEDULE



Appropriation: May 2015

Design: now through summer 2016

Permitting: early 2016

Construction begins: end 2016

Construction complete: early 2018

Weighing In: Contact for Questions & Suggestions

Sandy Vitzthum, Project Manager
Vermont Buildings & General Services
802-505-3389
sandra.vitzthum@state.vt.us

And stay tuned!

There is a public website for the lab and its progress, along with a forum for questions and answers:

<https://inside.vermont.gov/agency/ANR/LAB/default.aspx>

Trivia question: What is the range of mass our lab can measure by balance?



Weights & Measure's 500 kg calibrator



Air Quality's one-millionth-gram micro balance

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A magnitude of 500,000,000,000!



Weights & Measure's 500 kg calibrator



Air Quality's one-millionth-gram micro balance



VERMONT AGRICULTURE & ENVIRONMENTAL LABORATORY

OPENING
2018!

