

TOWN OF BRISTOL, VERMONT
CONSERVATION COMMISSION
APPROVED MINUTES OF MEETING HELD
THURSDAY, 13 NOVEMBER 2014
AT HOLLEY HALL, BRISTOL VT

MEMBERS ATTENDING: Ken Johnson (KJ), Chair; Pete Diminico (PD) Vice-Chair; Katie Reilley (KR), Clerk; David Henderson (DH); David Rosen (DR); Kristen Underwood (KU); Randy Durand (RD); Rick Taylor (RT)

ALSO ATTENDING: Susan Kavanaugh, John Elder, Kris Perlee and Katie Raycroft-Meyer (Planning Commission); Elise Schadler, Grant Troester, James Pospishil, Jules Brooks, and Shannon Scarbrough (UVM); Jon Kim (Vermont Geological Society) and George Springston (Norwich University).

I. Call to order.

Meeting called to order at 5:30 p.m.

VI. (taken out of order)

D. Bristol Village tree inventory: Public presentation by Vermont Urban & Community Forestry Program regarding the results of the tree inventory and on-going stewardship. Students from the University of Vermont were present, along with Elise Schadler of UVM Extension, to discuss their work on the Bristol Tree Inventory. They completed the field work on the inventory in 3 ½ days last September. In their presentation, the students explained the organization and contents of their report on the results of their field work, which also includes recommendations for future stewardship of Bristol's urban forest. The Town will receive hard copies of the report, as well digital copies of the information. It is intended that the inventory be just the first step in a program of on-going education and stewardship of the Town's urban trees. The group also encouraged the expansion of stewardship concerns to private property owners. The Commission thanked the group for their work and look forward to receiving the report.

A. Vermont Geological Survey bedrock mapping of Bristol and South Mountain Quadrangles; update; discussion on Memorandum of Understanding with VGS; derivative maps and meeting with VGS staff and Planning Commission (see attached). Jon Kim from VGS and George Springston from Norwich Univ. were present to discuss the status of the project and the preparation of the geologic survey maps for the Town of Bristol. The Commission reviewed the example of a large presentation map previously prepared for the Town of East Montpelier. This comprehensive map included three base maps - surficial geology, bedrock geology and identifiable well locations - and numerous combinations of those three base maps, with additional data and analyses. Mr. Kim and Mr. Springston explained that they will assemble the three sections of quadrangle maps so

that the Town of Bristol in its entirety will be on one map. They also wanted to emphasize that the project final documents can include whatever maps the Commission(s) might choose, and are not limited to a specific number. They can work to produce whatever map layer we request, within the constraints of the data sources.

There was also discussion of producing maps in the future. VGS would have the ability to produce different or additional maps; however, it is also possible the Kevin Behm of the Addison County Regional Planning Commission might be able to generate maps, edit data sets, etc. as time progresses. He, as well as the Town, will be receiving digital data sets of the geologic survey information. The data will also be available on the ANR website.

Kris Perlee told Mr. Kim that a great deal of information on water quality is available in the well-monitoring data from the Town's landfill. Mr. Kim will check with the Solid Waste records on the landfill.

The Memorandum of Understanding between the Town and the Department of Environmental Conservation (DEC) has been signed by the Selectboard Chair and sent back to DEC. The town will receive an invoice on the project upon delivery of preliminary bedrock and surficial maps after February 15, 2015, according to the MOU. (See e-mail attachment to these minutes.) The project is to be completed by May 30, 2015.

Pete also requested that the Commission receive a map product for public display in time for Town Meeting Day in March 2015.

- II. Public comment period; additions to agenda.
Public attending present for Items VI. D & A. See above.
- III. Addition of items to the agenda.
No additions.
- IV. Approval of minutes of 9 October 2014.
DH moved, and KU seconded that the minutes of 9 October 2014 be approved; approved by all.
- V. Correspondence.
E-mails related to items listed above and below.
- VI. Old Business
 - B. Former Saunders Properties, South 116 Road, Bristol Flats: Update; discussion of maintenance items.
This item will be removed from the agenda until spring of 2015, or until needed.
 - C. Farmland Conservation: Farr/Fuller properties on North 116 Bristol; update.
Work progressing on farmhouse.
 - E. Conservation Commission membership; on-going discussion.
The Commission is still lacking one member. Several persons have expressed interest. We will hold off on generating interest through Front Porch Forum.
 - F. CRF items: on-going discussion.
Tabled until next meeting.

- G. Monkton Agricultural and Natural Areas Committee: meeting scheduled for November 19th, 2014 at 7:15 at Monkton Town Hall.
Several BCC members will attend the meeting. Pete will bring maps that he has from Lewis Creek Association.

- H. Association of Vermont Conservation Commissions meeting on Nov. 1, 2014:
information and discussion.
Ken thought we had paid our membership. Pete said we weren't on their list of members. Randy described some of the workshops he attended during the AVCC Annual Meeting, and thought the ANR Atlas is very informative, once you can learn to navigate the site (www.anr.state.vt.us/site/html/maps.htm).

- VII. New Business

- VIII. Other

- IX. Events
 - A. Meeting with Monkton's Agricultural and Natural Areas Committee on November 19th, 2014 at 7:15 at Monkton Town Hall.

- X. Next Meeting Schedule: Thursday, 11 December 2014.

- XI. Adjournment
DH moved that the meeting be adjourned; RT seconded; approved by all.
Meeting adjourned at 7:35 p.m.

MENU

Original Geologic Data:

- 1) Joined bedrock geologic maps of the Bristol and South Mountain quadrangles
- 2) Joined surficial geologic maps of the Bristol and South Mountain quadrangles
- 3) Accurately-located water wells in the Town of Bristol

Primary Derivative Maps

- 1) Isopach map (depth to bedrock)
- 2) Scaled well yields
- 3) Generalized potentiometric map (groundwater flow directions from static water levels)
- 4a) Average well yields by bedrock formation and surficial unit
- 4b) Average well depths by bedrock formation and surficial unit
- 5) Groundwater chemistry by bedrock formation

Secondary Derivative Maps

- 1) bedrock well yields vs. surficial unit thickness vs. surficial material
- 2) bedrock well yields vs. hydrogeologic classification of surficial material
- 3) Maps du jour – What are the questions that Bristol would like answers to? Sand and gravel deposits? We will tailor these maps to your needs, as long as we have sufficient data.

STATEMAP Project Summary
prepared by Kristen Underwood, Bristol Conservation Commission
4 October 2014

Bedrock and Surficial Geology mapping has been completed by the Vermont Geological Survey (VGS) under contract to the US Geological Survey for regions encompassing the town of Bristol. Mapping products can be viewed at the VGS web site: <http://www.anr.state.vt.us/dec/geo/ofreps.htm>
2012-2013 – VGS completes mapping of the **Bristol, VT 7.5-Minute** topographic quadrangle

- Bedrock Geology
<http://www.anr.state.vt.us/dec/geo/images/digitalofrs/BristolQ/BristolRxPlate1sm.pdf>

- Surficial Geology
<http://www.anr.state.vt.us/dec/geo/images/digitalofrs/BristolQ/BristolSurfsm.pdf>

2013-2014 – VGS completes mapping of the **South Mountain, VT 7.5-Minute** topographic quadrangle as well as small portion of the Monkton, VT quad spanning the northwest corner of the town of Bristol (i.e., in the area of The Watershed Center off Plank Road).

- Bedrock Geology
<http://www.anr.state.vt.us/dec/geo/images/digitalofrs/SouthMtn/SouthMtBedrockMap2014.pdf>

- Surficial Geology
<http://www.anr.state.vt.us/dec/geo/images/digitalofrs/SouthMtn/SouthMtnSurficialMap2014.pdf>

- <http://www.anr.state.vt.us/dec/geo/images/digitalofrs/SouthMtn/techsum14.pdf>

Past Town Meetings

5/9/2013 – Bristol CC meeting – Jon Kim (VGS) attends and updates the CC on progress of bedrock and surficial geology mapping for regions containing the town of Bristol. He also solicits public involvement in a related effort to collect drilled private well data and evaluate water quality. Jon discussed the kinds of derivative maps that could be prepared from the fundamental mapping information and associated well data for the town of Bristol.

11/4/2013 – Bristol SB meeting - SB unanimously approved funding for an MOU with VGS to prepare up to 6 maps specific to the town of Bristol derived from the fundamental bedrock and surficial geologic mapping recently completed (*I don't have access to these minutes, but Pete D and I recall that some money would come from the PC operational budget, and some from the Bristol CRF*).

11/14/2013 – Bristol CC meeting – also attended by John Elder from the PC.

Excerpted from CC draft 11/14/13 minutes: “Jon Kim and George Springston were present to discuss the on-going work on the geologic mapping of the Town of Bristol, and to discuss possible derivative maps that would be useful for planning purposes....Regarding the potential mapping products, Jon K. explained that once the data is collected and processed, there are three levels of mapping that data: primary maps, derivative maps, and secondary derivative maps. Primary maps show the data on bedrock geology, surficial geology, and well locations. First level derivative maps include an additional dimension and/or level of analysis, including maps that show, for instance, depth to bedrock, well yields and depth by bedrock formation, location of sand and gravel formation, hydrogeologic classification of surficial materials, etc. The next level of mapping, the secondary derivative maps, typically combine two or more derivative maps that enable an even greater levels of

analysis. There was further discussion about mapping existing soils data to locate areas with greater soil permeability, with significant depth and suitable slope to indicate areas of appropriate development for septic systems, or areas with appropriate soils for larger sewage disposal systems.”

Upcoming Meetings:

11/13/2014 - Bristol CC meeting - John Elder and Kris Perlee invited as liaisons to PC
Jon Kim and George Springston will present finalized bedrock and surficial geologic mapping for town of Bristol and the group will identify final list of primary or secondary derivative maps to be prepared for the town.