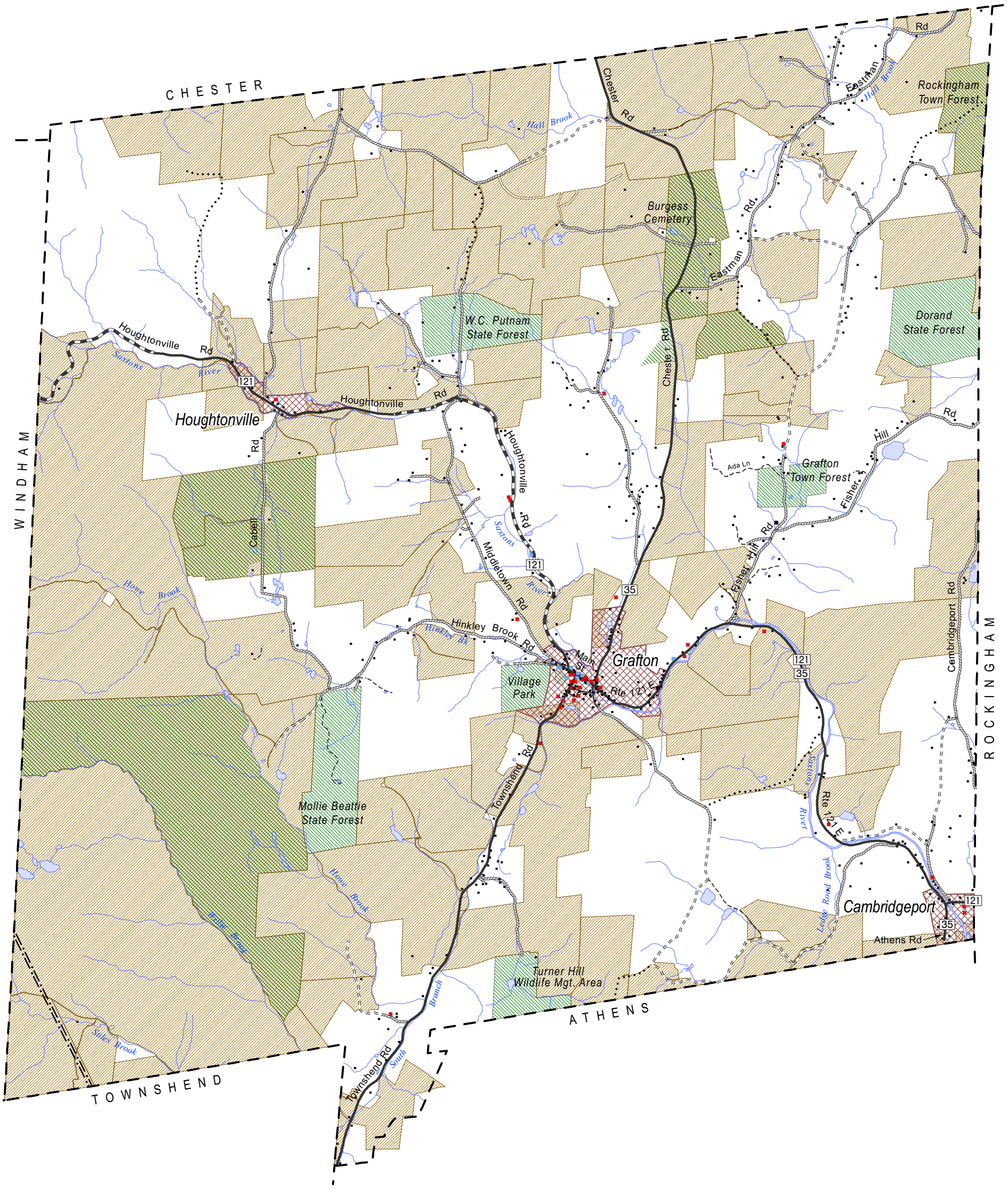

Existing Land Use
Town of Grafton, Vt.
November 2018

GIS
Vermont Geographic Information System

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0.5 0 0.5 1 1.5 Miles

1:42,000

Buildings (from E911):
- Commercial
- Public/Institutional
- Single-family
- Multi-family

- Village
- State forest, town forest, town park
- Parcel enrolled in Use Value Appraisal, 2013
- Conservation easement

- paved roads
- unpaved roads
- Stream
- Pond or river

Data sources:

- Village boundaries were determined by the Grafton Planning Commission. Boundary data were developed by WRC GIS staff using existing roads, surface waters, and parcel data.

- State and town forest lands were derived from 1:5000 parcel coverage.

- Building locations and type are from the Vermont Enhanced 9-1-1 program and are current to 2018.

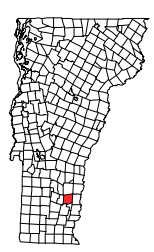
- Parcels enrolled in Use Value Appraisal were digitized by Windham Regional Commission using information provided by the Vermont Department of Taxes and the Windham County Forester.

November 2018; u:\GIS\Towns\Grafton\TP2019_ELU.mxd

Resource Areas - Water and Wildlife

Town of Grafton, Vt.

November 2018



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0.5 0 0.5 1 1.5 2 Miles

1:48,000

- Endangered, threatened, rare, or uncommon animal
- Endangered, threatened, rare, or uncommon plant
- Significant natural community
- Deer wintering area
- Wetland
- Stream
- Pond or river
- paved roads
- unpaved roads

Data sources:

- Natural Heritage data are from VT Dept. of Fish and Wildlife, Nongame and Natural Heritage Program's Natural Heritage Inventory Database. This includes data on Rare, Threatened and Endangered Species and Significant Natural Communities database (VGIS layer RTENATCOM), and on uncommon species and other features (VGIS layer UNCOMSPOF), 2015.

-- Deer wintering areas are taken from the VGIS data layer DEERWN. They were delineated by VT ANR, Department of Fish and Wildlife, and have been updated to a limited extent through 2011.

- Wetlands data are from the Vermont Significant Wetlands Inventory (VGIS data layer VSWI) as of 2010. These include wetlands in the original VSWI data, as well as those from National Wetlands Inventory (NWI) maps, and show approximate locations of wetlands that are generally 3 acres or larger

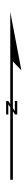
- Surface waters are from the Vermont Hydrography Dataset. The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infrared aerial photography and other ancillary data sources.

November 2018; u:\GIS\Towns\Grafton\Maps\TP2019_Res2.mxd

Resource Areas - Land

Town of Grafton, Vt.

November 2018



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0.5 0 0.5 1 1.5 2 Miles

1:48,000

- Gravel pit
- Scenic view
- Scenic road
- Sand and gravel resources
- 100-foot contour line
- Important farmland soil
- Stream
- Pond or river
- paved roads
- unpaved roads

Data sources:

- Important farmland soil delineations are derived using soils data available from VCGI. These soils qualify as Primary Agricultural Soils under Act 250. Soil boundary data were digitized from 1:20,000 orthophotos from the Windham County Soil Survey.

- Scenic roads and views were taken from the 1986 Resource Areas Town Plan map.

- Gravel pit locations were digitized from the 1982 Windham County Soil Survey.

- Sand and gravel resources are from the VGIS data layer AGGRES. This data layer was derived from "Geology for Environmental Planning" series, which in turn was derived from U.S. Geological Survey sources.

- Contour lines were generated from USGS 1:24000 Digital Elevation Models by WRC using ESRI's Spatial Analyst. They are intended to portray the general hypsography of the area and should not be used to determine actual elevations.

November 2018; u:\GIS\Towns\Grafton\Maps\TP2019_Res1.mxd

Flood Hazards
Town of Grafton, Vt.
November 2018

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0.5 0 0.5 1 1.5 Miles

1:42,000

- Special Flood Hazard Area
- Mapped River Corridor
- Streams with A River Corridor 50-foot setback

Official source of River Corridor data is tinyurl.com/floodreadyatlas. Where river corridors are not mapped (i.e., a stream with a drainage area of between 0.5 and 2 square miles), the corridor is measured 50 feet horizontally from the top of the stream bank.

Data sources:

- Special Flood Hazard Area boundaries (i.e. "the 100-year floodplain") are from FEMA (Federal Emergency Management Agency) D-FIRM (Digital Flood Insurance Rate Map) data effective September 28, 2007.

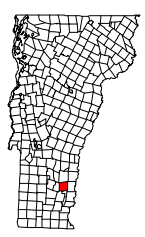
- Statewide River Corridors are from VT ANR Rivers Program 2015 data (VGIS data layer RIVERCORRIDORS).

November 2018; u:\GIS\Towns\Grafton\TP2019_FloodHazards.mxd

Community Facilities

Town of Grafton, Vt.

November 2018



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0.5 0 0.5 1 1.5 Miles

1:42,000

- Cemetery (town-wide map)
- Cemetery (village inset map)
- Community facility (town-wide map)
- Community facility (village inset map)
- School
- Church
- Electric transmission line
- State forest, town forest, town park

Data sources:

- Electric transmission lines were digitized from 1:5000 orthophotos by Greenhorne & O'Mara Inc. under contract with OGIS.

- Cemetery locations were determined by WRC using 1:5000 orthophotos and 1:5000 digital parcel data.

- Community facilities were identified by the Grafton Planning Commission. Locations were determined by WRC using 1:5000 orthophotos and building points located by GPS for Vermont's Enhanced 9-1-1 project.

- Public land boundaries were determined using Grafton's 1:5000 digital parcel data.

November 2018; u:\GIS\Towns\Grafton\TP2019_commfac.mxd

CHESTER

WINDHAM

ROCKINGHAM

ATHENS

TOWNSHEND

Houghtonville

Houghtonville Rd

Saxtons River

Hall Brook

Hall Ranch Rd

Chester Rd

Ellsworth Rd

Illingsworth Rd

Richard's Rd

Eastman Rd

John's Rd

Hakey Rd

Anderson Rd

Louis Marshall Rd

Otis Rd

Burgess Cemetery Rd

Eastman Rd

Stagecoach Rd

Four Chimneys Rd

Putnam State Forest Rd

Fairbanks Rd

Houghtonville Rd

Apple Blossom Ln

North Orchard Rd

Wright Orchard Rd

Chester Rd

Gib Lockerby Rd

Ada Ln

Kenyon Ln

Hill Rd

Record Rd

Record Ln

Bell Rd

Fisher Hill Rd

Bull Hill

Farm Country Ln

Theron Fisher Rd

Cambridgeport Rd

Woodchuck Hill Rd

Hidden Farm Rd

Houghtonville Rd

Middletown Cemetery Rd

Avery Park Dr

Middletown Rd

Jack Taylor Bridge

Cabell Rd

Dam Rd

Hinkley Brook Rd

Hinkley Bk

Fire Pond Rd

Pollard Rd

Gaby's Way

Howeville Rd

Mollie Beattie State Forest Hwy

Main St

Grafton

(see inset map)

Pleasant St

School St

Rte 121 E

Howland Mill Bridge

Misty Dr

Kidder Hill Rd

Townshend Rd

Turner Hill Rd

Zeller Camp Rd

Dug Rd

Ledge Rd

Parker Hill Rd

Ledge Road Brook

Cambridgeport

Athens Rd

Howe Brook

Willie Brook

Stiles Brook

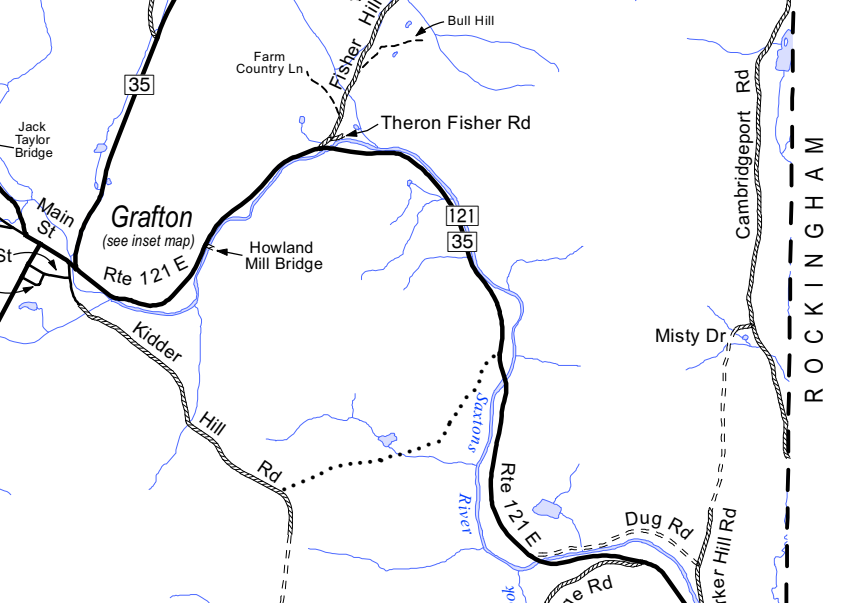
Wyman Hill Rd

Townshend Rd South

Branch

121

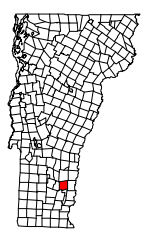
35



Transportation System

Town of Grafton, Vt.

November 2018



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0.5 0 0.5 1 1.5 Miles

1:42,000

- Class 2 town highway - paved
- Class 2 town highway - unpaved
- Class 3 town highway - paved
- Class 3 town highway - unpaved
- Class 4 Town Highway
- Legal Trail
- Private road/drive
- Town boundary
- Stream
- River or pond
- Symbol denotes change in road name

Sources:

- Roads data are from Vt. Agency of Transportation (VGIS data layer RD), 2018, with minor edits by Windham Regional Commission.

- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SWnnnnnnnn). The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infra-red aerial photography and other ancillary data sources.

November 2018; u:\GIS\Towns\Grafton\TP2019_Trans.mxd

Town of Grafton
Known Constraints for Energy Generation *

Vernal Pools

Class 1 and 2 Wetlands, VSWI

DEC River Corridors and/or FEMA Floodways

National Wilderness Areas

State-signifacant Natural Communities and Rare, Threatened, and Endangered species

Some features are shown slightly larger than their actual size to improve visibility on this small-scale map.

5 acres
10 acres
50 acres
100 acres

* - as defined by Vermont's Act 174

0 0.5 1 2 Miles

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_Constraints-known_11x17.mxd

Town of Grafton
Possible Constraints for Energy Generation *

Map 1 of 2

all possible constraints except ag soils and mitigation areas shown; ag soils and mitigation areas on Map 2

- Hydric Soils
- FEMA Special Flood Hazard Areas
- Protected lands (state fee lands and private conservation lands)
- Deer Wintering Areas
- Vermont Conservation Design Highest Priority Forest Blocks

Some features are shown slightly larger than their actual size to improve visibility on this small-scale map.

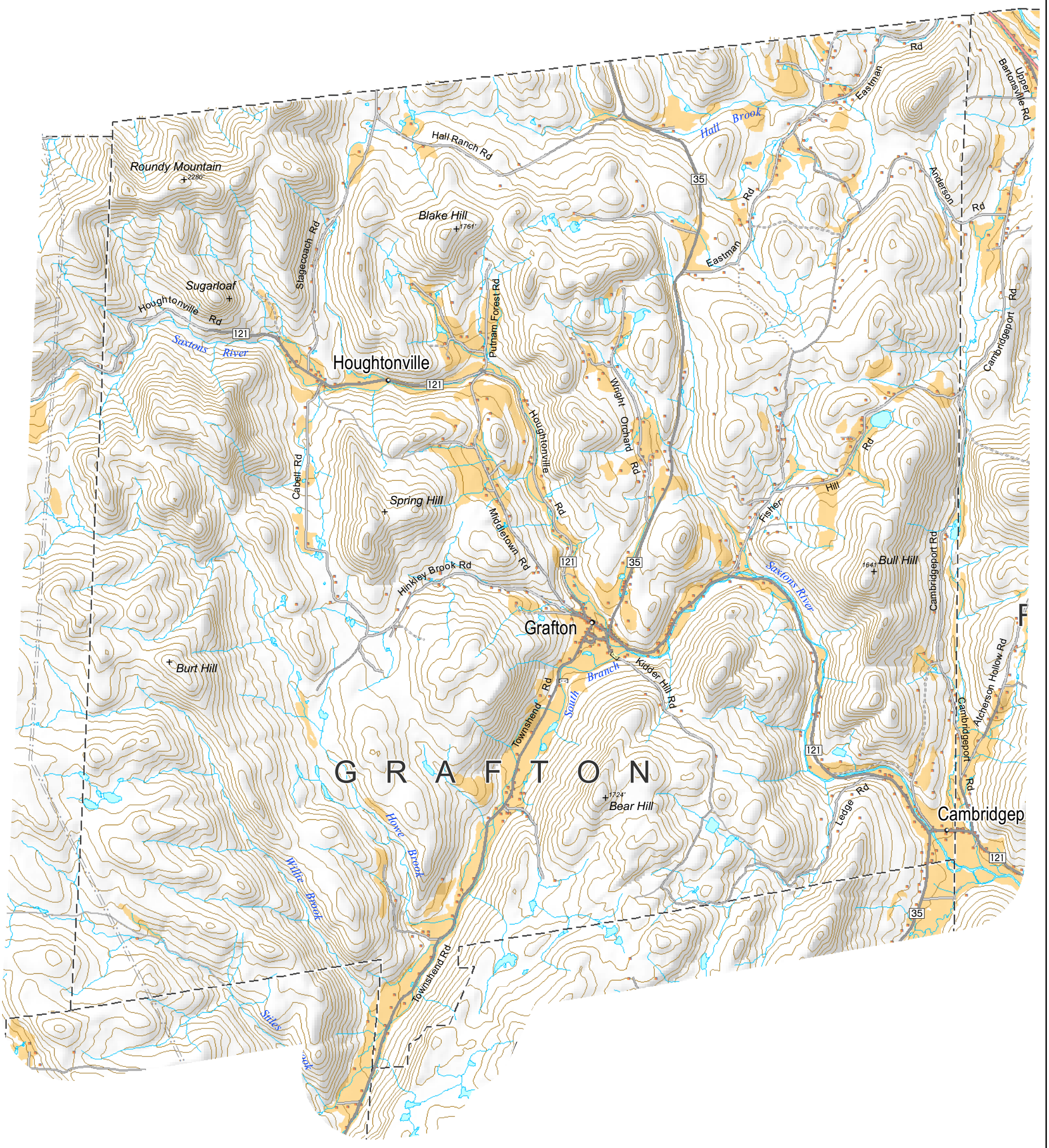
* - as defined by Vermont's Act 174

0 0.5 1 2 Miles

5 acres
10 acres
50 acres
100 acres

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_Constraints-possible_11x17.mxd



Town of Grafton
Possible Constraints for Energy Generation *

Map 2 of 2

only ag soils and mitigation areas shown; all other possible constraints are shown on Map 1

Agricultural Soils

Act 250 Agricultural Soil Mitigation Areas

Some features are shown slightly larger than their actual size to improve visibility on this small-scale map.

* - as defined by Vermont's Act 174

0 0.5 1 2 Miles

5 acres

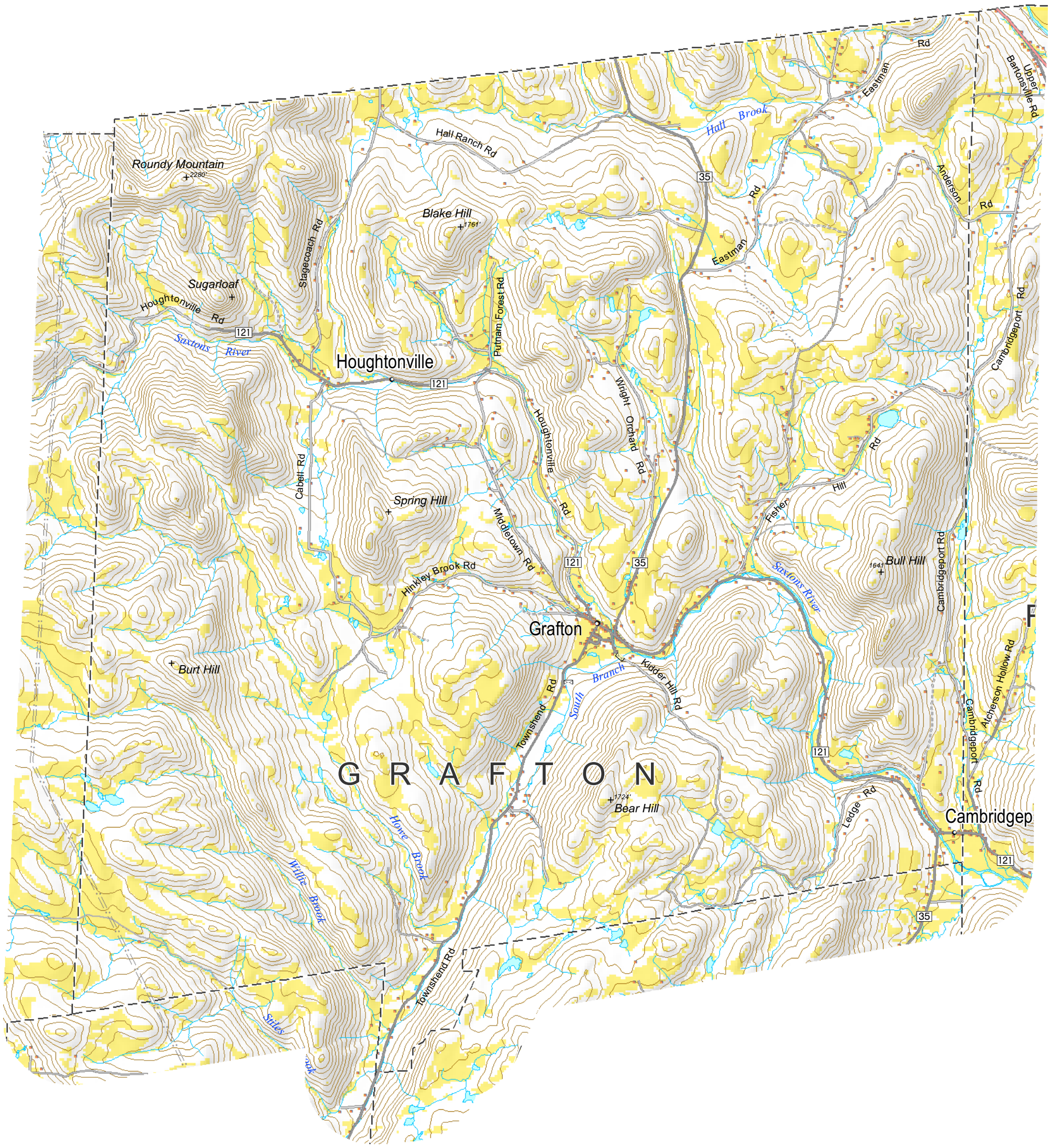
10 acres

50 acres

100 acres

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_Constraints-possible_11x17.mxd



Town of Grafton Solar Resource

Solar radiation generally suitable for generation

determined by identifying areas with appropriate aspect, and excluding sites too steep for development (> 15% slope)

- The actual raw solar data used by the State of Vermont in their Act 174 analysis has not yet been released to the public (though the final, post-analysis data has).
- The data on this map were developed by WRC using similar criteria, and until the actual raw data is released to the public, the data on this map will serve as a proxy.

5 acres
10 acres
50 acres
100 acres

0 0.5 1 2 Miles

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_11x17_SolarResource.mxd

Town of Grafton
Solar Energy Potential

Prime Solar Energy Resource
generally adequate solar resources and no identified constraints
(i.e., no "known" and no "possible" constraints)

Secondary Solar Energy Resource
generally adequate solar resources and no "known" constraints,
but at least one "possible" constraint

"known" and "possible" constraints are identified by the Vt. Public Service Department in their Act 174 Energy Planning Standards

Note: prime vs. secondary solar energy resource is NOT based on solar intensity.

Existing solar installations:

- 1 - 19 kW (generally smaller-scale on-site:
- 20 - 70 kW residence, farm, school, or business)
- 140 - 150 kW (generally larger-scale
- 360 - 2000 kW commercial/utility solar farms)

Existing solar installations from the Vermont Energy Atlas, developed from Certificates of Public Good; they may correspond to the address of the certificate holder and not the actual location of the installation.

5 acres
10 acres
50 acres
100 acres

Substations
3 Phase Power Lines
Transmission Lines

0 0.5 1 2 Miles

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_11x17_WindEnergy.mxd

Town of Grafton
Wind Resource

Generally suitable wind for residential generation

Generally suitable wind for small scale commercial generation
(along with residential generation)

Generally suitable wind for large scale commercial generation
(along with residential and small scale commercial)
darker color = higher wind speed

- The actual raw wind data used by the State of Vermont in their Act 174 analysis has not yet been released to the public (though the final, post-analysis data has).
- The data on this map are very similar to that actual raw data, and until the actual raw data is released to the public, the data on this map will serve as a proxy.

5 acres
10 acres
50 acres
100 acres

0 0.5 1 2 Miles

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
April 2017; u:\GIS\projects\Energy\maps\Town_11x17_WindResource.mxd

Town of Grafton
Wind Energy Potential

Prime Wind Energy Resource
generally adequate wind resources and no identified constraints
(i.e., no "known" and no "possible" constraints)

Secondary Wind Energy Resource
generally adequate wind resources and no "known" constraints,
but at least one "possible" constraint

"known" and "possible" contraints are identified
by the Vt Public Service Department in their
Act 174 Energy Planning Standards

Note: prime vs. secondary wind energy resource is NOT based on wind speed.

- Existing Small Wind
- Existing Commercial Wind
- Commercial Wind In Development

Existing wind from the Vermont Energy Atlas, developed from Certificates of Public Good. They may correspond to the address of the certificate holder and not the actual location of the installation.

5 acres
10 acres
50 acres
100 acres

- Substations
- 3 Phase Power Lines
- Transmission Lines

0 0.5 1 2 Miles

April 2017

map by Windham Regional Commission, Brattleboro, Vt.
March 2017; u:\GIS\projects\Energy\maps\Town_11x17_WindEnergy.mxd

CHESTER

WINDHAM

ROCKINGHAM

TOWNSHEND

ATHENS

Houghtonville

Houghtonville Rd

Houghtonville Rd

Houghtonville Rd

Chester Rd

Chester Rd

Eastman Rd

Eastman Rd

Eastman Hill Rd

Fisher Hill Rd

Hall Brook

Hall Brook

Rockingham Town Forest

Burgess Cemetery

W.C. Putnam State Forest

Dorand State Forest

Grafton Town Forest

Saxtons River

Saxtons River

Cabell Rd

Middletown Rd

Middletown Rd

Hinkley Brook Rd

Hinkley Brk

Main St

Grafton

Village Park

Rte 121 E

Townshend Rd

Saxtons River

Rte 121 E

Cambridgeport Rd

Cambridgeport

Ada Ln

Ledge Road Brook

Athens Rd

Howe Brook

Howe Brook

Willie Brook

Styles Brook

Mollie Beattie State Forest

Turner Hill Wildlife Mgt. Area

South Branch

Townshend Rd

121

35

Note: This Proposed Land Use map is a part of the Town Plan expressing the vision of the Plan in general terms. It is intended to be used in concert with the Plan's policies to articulate the desired future for the town. This map is for planning purposes and general reference only.

Proposed Land Use
Town of Grafton, Vt.
November 2018

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0.5 0 0.5 1 1.5 Miles

1:42,000

- Critical resource area
- Resource lands
- Rural residential
- Village
- Productive rural
- 50-foot contour
- structure

- paved roads
- unpaved roads
- Stream
- Pond or river

November 2018; u:\GIS\Towns\Grafton\TP2019_PLU.mxd