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Danby Green Homes Tour

Saturday, April 21, 2012, 10am-4pm

1 2353 Spencer Road

Gothic Revival farmhouse constructed around 1862. Much tighter and better insulated than when we bought it (pretty easy since it had virtually no insulation and the curtains blew whenever the wind did, with the windows shut). Still has its original windows, some of them refurbished and weather stripped, and all of them with Low-E storm windows added.

A solar batch water heater preheats water before the electric heater; this meets hot water need from late spring to early fall. An active solar hot air collector supplements passive solar gain from considerable south window area.

Both heater and collector are sited inconspicuously to minimize effect on aesthetics of the house. When the sun isn't shining, heats comes from "canned solar" wood. Annual use is about 2 cords of wood and less than 100 gallons of fuel oil.

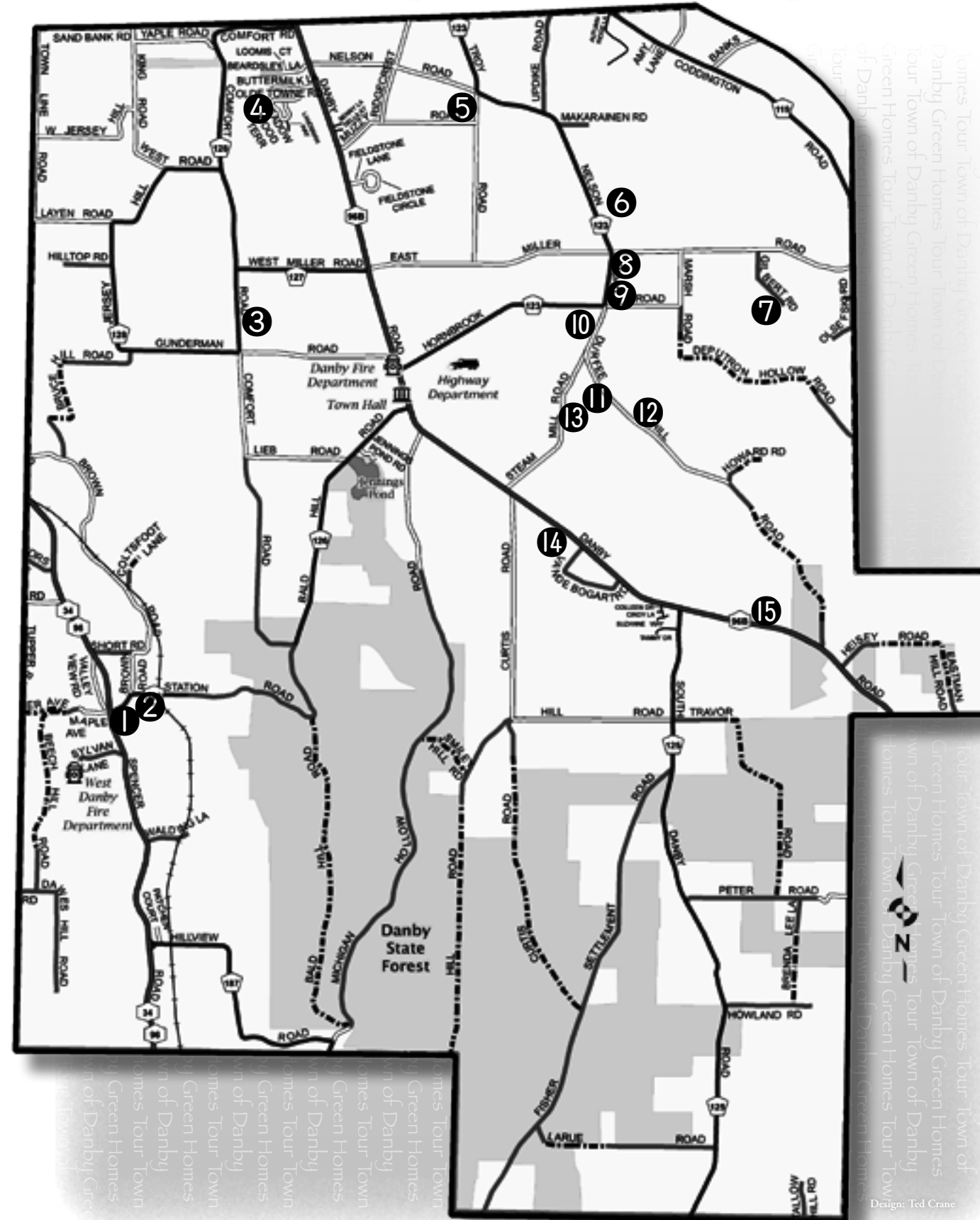
We grow almost all of the fruits and vegetables we eat, using cold storage in cellar and two colder-yet freezers.

2 54 Station Road

The house looks pretty ordinary—it looks like any other simple little house—but is now very well insulated. It wears a skirt of 3" of extruded polystyrene and has 10" walls and a 16" of overhead insulation, but none of that is visible. The windows are triple glazed. The foam skirt wraps the house around its base, extending down about 4', compensating for an uninsulated concrete slab house floor. The extra room for wall insulation was created by adding a light-weight frame outside the original house walls, hanging from the original walls. The new roof is 16" above the old one. All the lumber was either salvaged or locally milled.

3 747 Comfort Road

Four homes and a garage/shop are heated by a central wood boiler. A wood processor, capable of turning whole logs into cut and split firewood at the rate of 5 cords per hours, is under construction.



4 108 Olde Towne Road

Passive solar home built in 1987. Earth-bermed lower level; *Cretecore* foundation system predates modern ICF blocks. The contemporary design was tuned to maximize the south-facing glass and minimize the northern exposure. For its era, it was superinsulated with 16" fiberglass in the ceilings and 8" in the lower level living space. The windows have movable insulation to retain solar gain at night. Radiant in-floor heating. A small wood stove supplements the winter heat and will heat the whole house in the spring and fall.

5 224 Muzzy Road

Home to a family with small children, this house has been retrofitted with solar thermal for hot water, a photovoltaic system for electricity (installed by Renovus in 2008) and a wood stove for heat. Featured in *Empowered*.



6 576 Nelson Road

Much glass faces SSW for solar gain; smaller northern windows. Insulated stamped concrete floor with radiant heating. Closed cell spray foam insulation for tightness. On-demand, propane-heated hot water for floor and domestic. Framing, siding, and interior trim is local, rough-cut hemlock. Small centrally-located wood stove for supplemental heat. White steel roof to reflect heat. Great location for solar and wind power.



7 24 Gilbert Road

Recently installed 4.5kW solar electric. Outside wood boiler. Recent cellulose attic insulation installed by Snug Planet (home energy audit identified this as a good upgrade).

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8 401 East Miller Road

Energy efficient home since 2006. Timber-framed house featuring natural materials, solar panels, instant hot water from propane heat, and a masonry stove that heats the home using 3+ cords of wood each year. Currently planting

fruit and nut trees, berries, and many perennial edibles following Permaculture design principles.

9 723 Nelson Road • Noon-4pm only.

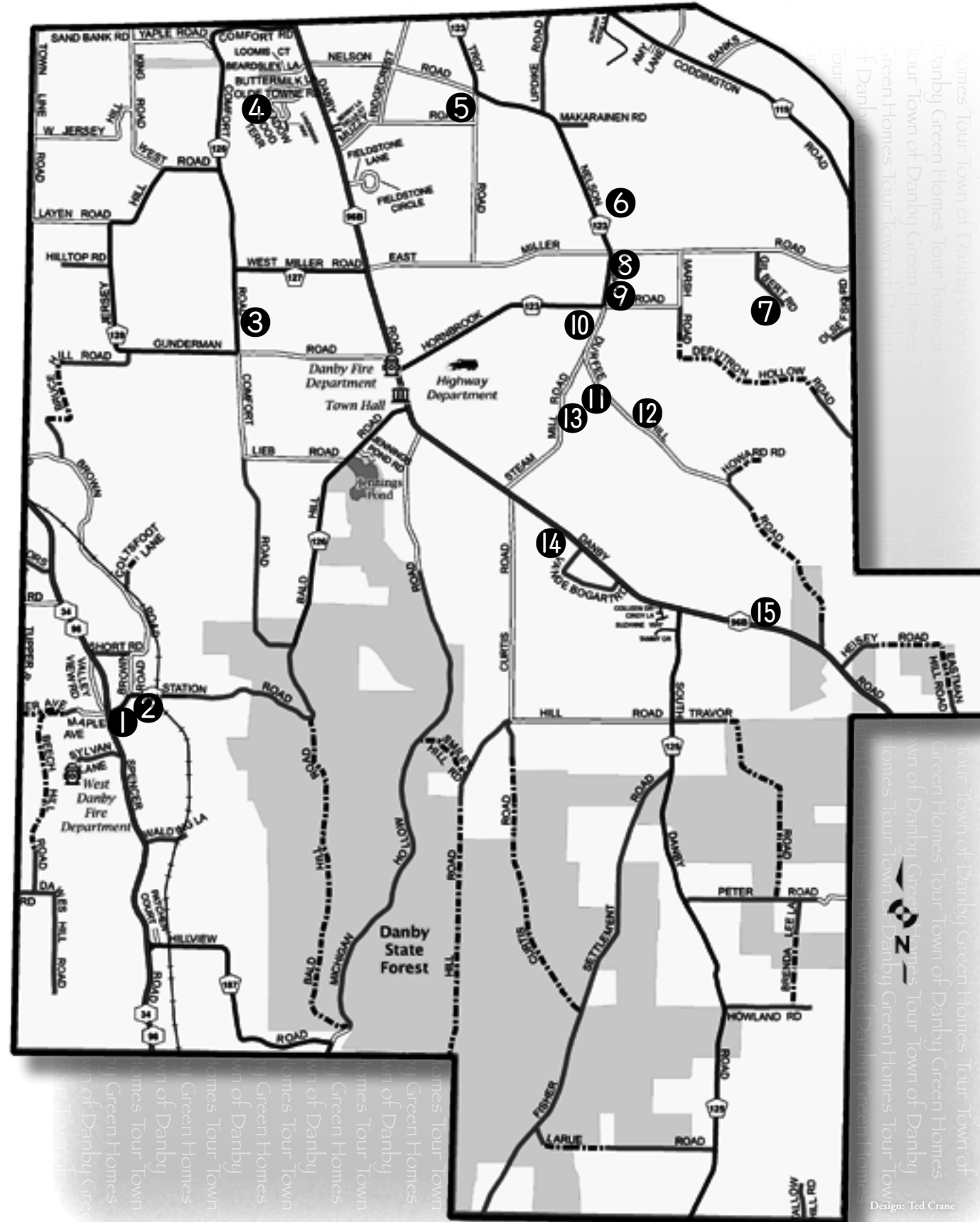
Upstate Energy Solutions installed an 80,000 BTU horizontal loop geo-thermal system this winter; converted from an older 130,000 BTU oil furnace. The process required conversion from a hot water system to a forced air system.

10 30 Durfee Hill Road

A very well insulated, 700 sq.ft. home. Heated with wood with radiant heat in the basement as a backup. Local pine inside and out and uses environmentally friendly finishes as much as possible. The main environmental component is the small size of the house.

11 56 Durfee Hill Road

3.4kW, grid-connected solar electric system. The solar hot water system has two 4'x8' collectors and an 80-gallon tank; its pump is run by a small solar collector. A simple gray water option for laundry, and a wood stove situated in a fairly unique way.



12 103 Durfee Hill Road

Off-grid home with solar and wind power since 2000. Straw bale walls, post and beam framing, nearly all local lumber, salvaged and reclaimed materials. No VOC paints, natural finishes. CFL and LED lighting throughout.



1kW Bergey wind turbine on a 100' tower installed in 2005. 460W solar electric system ground-mounted on poles, with a 24-watt trace inverter, 8 deep-cycle batteries, and Bergey power controller.

13 926 Steam Mill Road

Geothermal system; the tubes are underground, and the pumps are in the crawl space. In lieu of visual inspection of our crawl space, enjoy a very nice Powerpoint presentation explaining the physics of ground-source heat pumps.

14 2146 Danby Road

8.6kW solar electric grid; two arrays, ground-mounted on poles. Each array is 15'x15'. Grid connected, installed in August of 2011 by Renovus Energy. Estimated to cut utility cost in half. The total project cost was \$63,482 final cost after rebates and credits, \$30,688.



15 2505 Danby Road

Two very different root cellars, a large raised bed vegetable garden irrigated solely thru rainwater collection and gravity distribution system, a chicken house and fencing for a small flock of hens. A very productive 10'x15' (\$250) greenhouse.

A free-standing 3kW solar panel, an outdoor wood furnace that heats the house completely and furnishes all the hot water.

A small homemade maple syrup setup, an extensive composting system, and a small, well-insulated house with homemade insulating window curtains for winter.

