



TOWN OF MIDDLEBOROUGH HEALTH DEPARTMENT

Jeanne Spalding, RS, CHO
Health Officer
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MEMO

TO: Board of Selectmen/Health

FROM: Jeanne Spalding, Health Officer

DATE: July 8, 2011

RE: Vernon St. well variance to septic system

As the Board may recall, this proposal and supporting groundwater monitoring data was presented by Brian Grady of GAF in April 2009. At the request of the Health Dept. the applicant agreed to a review by another engineer relative to the variance issue of a 200 ft. septic separation to wells with a perc rate of less than 5 min/in. The design does meet the state requirement of 100 ft. separation. The engineer review supported the data provided by GAF.

With the assistance of Paul Fellini from the Planning Dept. additional review of existing files and data within the Conservation Dept. relative to a watershed study for this area was also taken into consideration. During an informal meeting with Mr. Fellini and Mr. Grady in the Health Dept. office, discussion of the variance issue relative to the FEMA Map and monitoring well data supplied by Mr. Grady appears to be supported by information in the watershed study.

After a multi- agency review with the Planning Dept., Conservation and Health Dept., in May/June of this year, numerous inconsistencies and concerns were identified from the wetlands permit filing previously based on the 2004

Gallagher Eng. plan and the septic plan/well variance filing from the GAF plan dated 4/15/09. A letter generated as a result of this review was sent to DEP with a request to revisit the DEP's decision relative to the wetlands permit. A copy of this correspondence dated June 16, 2011 has been attached for your review.

The Health Dept. has reviewed the septic plan and will not approve the septic plan as submitted for the purpose of septic design installation for the following:

- There are inconsistencies with the design plan property lines from the GAF plan of 2009 and the Gallagher Eng. plan from 2004.
A surveyed plan will be required to verify property line locations, all proposed work, abutter's well and septic, and all associated resource information.
- Given the recent flooding events, there may be inconsistencies with the 100 year flood elevation
- There are only two test pits and Title 5 requires four test pits, 2 for the primary and 2 for the reserve leaching areas.
The two test pits on the plan are not located at the primary and reserve area.
An additional two test pits can be conducted to verify if data is consistent with previous observations for the relevance of the prior test pit locations.
- There does not appear to be enough area from the reserve to the property line to accommodate breakout distance and the three to one slope to the roadway.
This might be addressed through the installation of a structural retaining wall as a barrier with survey verification of property line and identification of available area. It is suggested that this retaining wall be continued around the entire system to minimize the possibility of any flood or rainwater undermining or washout at the base of the system and will provide area for a drainage swale between the system and roadway. Title 5 distances will have to be met.
- The reserve buildout will result in water shedding onto the roadway from storm events. *See above comment.*
- There appears to be the potential for water impoundment against the foundation and spillover towards the roadway at the north side of the structure and driveway surrounding the proposed well site. This may also result in obstruction of drainage on the abutter's lot to the north.
- There is inadequate fill material over the septic tank per Title 5 requirements.
- Septic invert and outlet covers are to be brought up to grade.
- The septic plan does not indicate lengths of pipe from the house to the septic tank and from the tank to the distribution box nor does it indicate the slope.

I contacted Brian Grady at GAF and discussed the plan issues as indicated and he assured me that they had surveyed the property lines and resources and will have a new plan for Monday night's hearing addressing some of these outstanding issues stamped by a Professional Land Surveyor. After a full review of this new site plan

conditions may be better evaluated in order to make accurate considerations and assumptions under the regulation.

If after this evaluation, the Board considers approving the variance then I would recommend the following conditions relative to the well:

- *The well is to be a deep bedrock well exceeding 100ft. deep.*
- *The onsite well is to be tested in the April/May period for three years after occupancy.*
- *The onsite well is to be tested one week after a 100yr. flood event for the next three years. (may be in lieu of the April/May test)*
- *With the agreement of the direct abutters, Mr. and Mrs. Thompson, a baseline test of their well be conducted at the applicant's expense and one follow up test in the April/May period one year after occupancy.*
- *All well tests to be collected and tested by a certified lab and results submitted directly to the Health Dept. from the lab.*
- *If contamination is found in either well, further testing and mitigation will be required.*

This does not constitute an approval of the septic design site plan which at this time is not approved for previously stated deficiencies. In addition, any and all changes to the plan will result in a referral back to the Conservation Commission. All departments are to have the same plans for the purpose of review and permitting for proposed project approval.