

Exhibit M  
Letter from Environmental  
Health Bureau (Janna Faulk)  
Dated March 18, 2010

Wayland Minor Subdivision Appeal  
(PLN110079)  
Merrill Minor Subdivision Appeal  
(PLN110078)

Board of Supervisors  
January 10, 2012



COUNTY OF MONTEREY  
**HEALTH DEPARTMENT**

MEMORANDUM

ENVIRONMENTAL HEALTH BUREAU

MARCH 18, 2010

To: David Mack, Project Planner

From: Janna L Faulk  
Environmental Health Review

Subject: PLN070366, Wayland - Percolation and Leachfield Plans

Monterey County Environmental Health Review Services (EHRS) has reviewed the "Septic Report for Parcels 2, 3 & 4" from Grice Engineering and Geology Inc. received on February 11, 2010. **EHRS acknowledges that this report is technically valid and acceptable. However, if this project is approved, EHRS recommends that the parcels would be best served by a sewage treatment facility due to the concerns listed below:**

- The soils encountered during the percolation drilling and testing on these parcels indicated formations with varying clay and silt concentrations that demonstrated very slow percolation rates. The rate of percolation varied greatly at different depths and locations on each lot. Some percolation holes performed at rates that are within the acceptable range and while other rates failed according to Monterey County Code 15.20. Whereas there is enough evidence to demonstrate the lots are technically buildable, there is not a consistent rate of percolation within and among all of the lots to give EHRS the level of confidence necessary to support the subdivision utilizing the proposed Onsite Wastewater Treatment System (OWTS) designs.
- The clay and silts form impermeable layers that create sheet flow of subsurface water. The Grice Engineering Report requires curtain drains and berms on several properties to collect and divert this water before it could infiltrate and potentially hydraulically overload the OWTS trenches.
- The percolation data suggests that the upper soils are not suitable for septic dispersal. The Grice Engineering Report requires deep trenches to accommodate for the slow percolation in the upper soils. The proposed trench designs call for a total trench depth of 13 to 18 feet deep and effective depth of 8 to 11.6 feet deep for the septic trenches. This means that the top 5 to 10 feet of the trench will be backfilled and not used for septic disposal.
  - These deep trenches would function primarily as disposal of effluent as there will be little to no air in the soil/sidewalls of the trench to allow growth of aerobic bacteria that would provide additional treatment of the effluent. Shallow trenches (five feet or less in depth) in permeable soils are preferred over deep trenches to provide for as much aerobic treatment as possible. Due to the low permeability of the upper soils a shallow system is infeasible for this project.
- These septic designs are not considered simple, conventional OWTS due to the curtain drains and the extraordinarily deep trenches. These systems may cost upwards of 50% more than a standard septic system. The costs include creating a safe working environment by shoring the sides of the trenches when there would be workers installing system components (such as perforated piping) in a 10 foot deep trench.

Regardless of design and construction constraints, OWTS are subject to failure over time by natural and unnatural means. Cumulatively, the soil characteristics, evidence of subsurface sheeting water and moderate to failing percolation test results may result in a relatively rapid failure of the system, despite the various engineering mitigations that are proposed to be incorporated into the OWTS design. EHRS does not support the creation of new lots with potentially marginal septic systems; consequently connection to a public sewer conveyance is a reliable, long-term method of wastewater disposal and should be considered the best option for this subdivision.

**Please Note: Water quality has not been proven for this subdivision**

The water quality for the proposed water system has not yet been proven to be under the state maximum contaminant levels for arsenic. Environmental Health will submit a final recommendation for approval or denial after the water quality tests are finalized.