

BURKEA WORKS

1903

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Reference

STATE BOARD OF HEALTH.

Reply to the Application of  
Mecora Henderson, Williams and  
Boarding, Special Committee of the  
Town of Wayland, Mecca.

April 27, 1903.

Original at Wayland Historical Society 4-79

COMMONWEALTH OF MASSACHUSETTS.

*ANSWERS* *Henderson* *Williams* *submitting* *for* *advice* *in* *relation* *to* *the* *improvement* *of* *the* *water* *supply* *of* *Wayland* *under* *the* *provisions* *of* *section* *117* *of* *chapter* *75,* *of* *the* *Revised* *Laws* *of* *Massachusetts.*

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Commonwealth of Massachusetts.

OFFICE OF THE STATE BOARD OF HEALTH,  
STATE HOUSE, BOSTON.

April 27, 1903.

To Messrs. Walter R. Henderson,  
Chester B. Williams and  
John Connelly,

Special Committee of the Town of Wayland.

Gentlemen:-

The State Board of Health received from you on March 31 an application requesting the advice of the Board as to the improvement of the water supply of Wayland, in which you state that the town is planning to expend \$2,000 in cleaning the present reservoir and removing mud from the bottom and that you are considering the question of extending the present system to supply the center of the town; and in response to your application the Board has caused

the reservoir and its surroundings to be examined by its engineer and has considered the results of numerous analyses of the water of this source made recently and in past years.

It appears from the information available to the Board that water can be drawn at present either directly from the reservoir or from a filter gallery extending along the shore of the reservoir for a distance of about 400 feet, with two branches extending beneath the bottom of the reservoir.

The results of analyses show that the water of the reservoir is generally highly colored and contains frequently an excessive quantity of organic matter and that it is often objectionable for drinking and other domestic purposes on account of a disagreeable taste and odor. The objectionable quality of the water of the reservoir is evidently due principally to the character of the reservoir, which is very shallow and contains much organic matter in its bottom.

The water of the filter gallery contains less organic matter than water taken directly from the reservoir, but this water, which is derived largely from the pond by filtration through the ground, is generally affected by an excessive quantity of iron, due to the imperfect filtration of the water, and by a disagreeable taste and odor which render it objectionable for domestic purposes.

The water of the filter gallery cannot probably be improved by any changes that it is practicable to make either in the reservoir or in the gallery itself. The waters of other filter galleries

in the state which have been constructed, like this one, beneath, or in very close proximity to, the shores of a pond, stream or reservoir, have in all cases been found to be objectionable on account of the presence of an excessive quantity of iron, as in this case, and the only means of improving the water of the filter gallery, if it is to be continued in use, will be to filter it through sand in such a way as to remove the excessive quantity of iron.

The water of the reservoir can doubtless be considerably improved by a thorough cleaning of the bottom and the removal of all mud, stumps and other organic matter from the area covered by water and by the drainage of swamps on the watershed, but the cost of removing a sufficient portion of the organic matter in this reservoir to have a noticeable effect in improving the quality of the water would doubtless be very much greater, judging from the information available to the Board, than the sum mentioned in your application.

It will be impossible to clean the reservoir without drawing out the water, and the flow of the brook above the reservoir would not be sufficient during the summer season to supply the village while the improvement was being made, so that a temporary supply from some other source would be necessary.

The Board has also considered the suggestion of extending the works so as to supply the central village of Wayland. It appears from such information as is available to the Board as to the capacity of your storage reservoir, the size of its watershed and the quanti-

ty drawn from the source at present, that the capacity of this source in a very dry season is but little, if any, in excess of the quantity now being used by the village of Cochituate alone, and if the supply should be extended to the central village of Wayland it is likely that an additional quantity of water would soon be required from some other source to meet the requirements of the town in a dry season, especially since a considerable quantity of water is liable to be used from your present source for running the pumps to increase the pressure needed for fire purposes.

Considering the probability that the present source would soon prove insufficient for the supply of Wayland should the extension now proposed be made, and considering that, even if the reservoir should be thoroughly cleaned and the swamps on its watershed drained, the quality of the water of this source would still be likely to be objectionable, the Board would advise that you make investigations of the feasibility and probable cost of obtaining a supply of ground water from some source in the neighborhood of the village. A good ground water supply would be far more satisfactory for all domestic purposes than the water of your present source, even if all the improvement practicable had been made therein, on account of the freedom of ground water at all times from color, taste and odor and its lower temperature in the summer season.

The Board would advise that, in making further investigations you secure the assistance of an engineer of experience in mat-

relating to water supplies, and when you have made further investigations the Board will, if you so request, give you further advice in this matter.

By order of the Board,

A handwritten signature in cursive script, appearing to read "E. H. M. DeBorja".

Secretary.