Engineer's Recommendation for BLSMWC Well 1

June 15, 2012

Re: Recommendations for BLSMWC Well 1

The objective is to develop back-up capacity in the event that Well 3 is lost to service for an extended time during the current high demand season. We decided to focus on Well 1 so as to avoid taking Well 2 out of service and because work on that well might be more risky considering the cave-in that occurred at the end of last year (in other words, let's wait until the fall to do work on Well 2). Eventually, we will provide a long-term plan/recommendation for the White Pines well field that addresses the stability of the well structures (for example, installing inner liners or replacing Wells 1 and/or 2 with a gravel packed liner completions), optimum spacing (to spread out pumping influences), tailoring individual well capacities to current conditions (including optimizing pumps and motors so as to avoid valving off excessive head), and give consideration to any off-site capacity that might be needed in the long term to supplement the White Pines supply wells.

For now, we propose to have Canepa & Sons return Well 1 to service with a 40 hp x 150 gpm pump. With this equipment, source capacity with Well 3 out of service would nominally be 220 gpm (70 gpm from Well 2 and 150 gpm from Well 1). This is within 10 percent of the 2011 maximum day usage and, given the available horsepower and pump head, the aggregate capacity of these wells could be increased to meet max day in excess of the 2011 max day, if needed. The rationale for equipping Well 1 in this manner is to be conservative (we recognize that it used to be equipped to pump 200 gpm) since it has been inactive for a long period – from experience, a conservative approach is appropriate given that the well is needed to perform under emergency circumstances and therefore risk should be minimized to the extent that is practical.

Thomas D. Elson
Luhdorff and Scalmanini
Consulting Engineers