



August 11, 2022

Ronald L. LaRose, LS
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P.O. Box 388 – 25 West St.
Bristol, VT 05443

RE: Proposed MacFadden Subdivision, 625 VT Route 30, Cornwall – Water Availability Analysis

Dear Ron:

As you have noted, the Town of Cornwall is requesting an analysis of water availability related to proposed drilled bedrock wells for two proposed lots in the 3 – lot MacFadden subdivision. Based upon the proposed subdivision plat, the two new wells would be roughly 500' apart. In this regard, the State of Vermont would only have concerns about water availability and well interference, if the proposed wells were within 100' of each other.

Water supply requirements are defined by the terms Average Daily Demand (ADD), Maximum Daily Demand (MDD), and Instantaneous Peak Demand (IPD). The ADD is the gallons per day (gpd) water requirement that is associated with 24 hour usage and it is based on the bedroom count. The MDD is gallon per minute (gpm) requirement that is associated with a normal 12 hour period of usage. It is considered the long term yield requirement of the well. The IPD is the gpm instantaneous use requirement which is based upon fixture units in the residence served. The IPD of an individual dwelling unit is 5 gpm which is supplied by yield and storage in the well.

Four bedroom single family residence have an ADD of 490 gpd, an MDD of 0.68 gpm and an IPD of 5 gpm. There is not a great density of wells in this area of Cornwall and review of well completion reports indicate all wells have adequate yields for their related single family residences. The bedrock aquifer dominantly consists of limestones and dolomites with some slates which are fracture prone and associated with a great deal of faulting which provides open space for water storage and water transmission. The overall demand of the two new residences located approximately 500' from each other is 1.36 gpm, which is very low. The individual MDD flow can easily be achieved from two wells drilled to a depth of 300 to 500' with no ability to interfere with each other, which is typical in this area of Cornwall.