



Memorandum

Date: September 25, 2017
From: Charles Andrews
Subject: **Request for Additional Information for White Pine Springs Well PW-101
MDEQ Letter of June 21, 2017 – Item No. 4**

The Michigan Department of Environmental Quality (MDEQ) requested on June 21, 2017 additional information for the Permit Application under Section 17 of the Michigan Safe Drinking Water Act for White Pine Springs Well PW-101. Item No. 4 of the additional information stated:

“The source and data used to determine the higher precipitation rates between Holtschlag’s base period of 1951 to 1980 and the period 1981 to 2010 as indicated in the SSPA report dated July 2016 noted above.”

The precipitation data used in our analyses were the data collected at the Big Rapids, Michigan Waterwork station. This station has the National Oceanographic and Atmospheric Administration (NOAA) identification number GHCND:USC00200779. The period of record for this station is April 1, 1896 to the present. Precipitation data from Evart, Michigan were also considered. This station has the NOAA identification number GHCND:USC00202671. The period of record for this station is September 1, 1891 to February 28, 1994.

Based on the annual precipitation data summaries from the NOAA database, the average annual precipitation at Big Rapids from 1951 to 1980 was 31.5 inches. The average annual precipitation between 1981 and 2010 was 37.2 inches. This represents an increase of approximately 22 percent from the preceding period.

The attached file “*Big Rapids annual and daily precip from NOAA 1951 to 2016 and Evart annual.xls*” contained the data we used in our evaluations. These data were all downloaded from the NOAA’s climatic online data base (<https://gis.ncdc.noaa.gov/maps/ncei/cdo/daily>).