



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Robert R. Scott, Commissioner**

EMAIL ONLY

July 31, 2018

Christopher S. Angier  
Senior Environmental Project Manager  
Saint-Gobain Performance Plastics  
14 McCaffrey Street  
Hoosick Falls, NY 12090

**Subject: Merrimack** – Saint-Gobain Performance Plastics, 701 Daniel Webster Highway  
DES Site #199712055, Project #36430

**2017 Annual Groundwater Monitoring Summary Volumes I and II**, prepared  
by Golder Associates Inc., dated February 7, 2018

**December 2017 Groundwater Validated Data Submittal**, prepared by Golder  
Associates Inc., dated March 2, 2018

**April 2018 Groundwater Validated Data Submittal**, prepared by Golder  
Associates Inc., dated July 5, 2018

**May 2018 Unvalidated Groundwater Data Submittal**, prepared by Golder  
Associates Inc., dated July 13, 2018

Dear Mr. Angier:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced submittals prepared on behalf of Saint-Gobain Performance Plastics (Saint-Gobain) by Golder Associates, Inc. (Golder) for Saint-Gobain's facility located at 701 Daniel Webster Highway in Merrimack (facility). The submittals document the findings from routine groundwater quality monitoring to evaluate the release of per- and polyfluoroalkyl substances (PFAS) from the facility.

Eleven groundwater monitoring wells (MW-01/-01S, MW-02/-02S, MW-03/-03S, MW04/-04S, MW-05 and MW-06/-06S) were installed on the facility property in 2016 as part of the Initial Site Characterization to evaluate the release of PFAS from the facility. These monitoring wells were sampled in March, June, October and December 2017 and April 2018, as summarized in the Annual Groundwater Monitoring Summary and subsequent data transmittals referenced above. In addition, three monitoring wells on the abutting Flatley property to the east of the Saint-Gobain facility (GZ-1, GZ-2, and GZ-3) were sampled in May 2018.

NHDES notes that the extent of the "Site" as defined in Env-Or 600 has yet to be defined, but is anticipated to include the facility property, as well as properties around the facility that have been impacted by releases of PFAS from the facility. Based on the detections of PFAS in samples collected by NHDES from private drinking water supply wells in the areas surrounding

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the facility, the "Site" will most likely include portions of the communities of Bedford, Litchfield, Manchester, and Merrimack. A preliminary Groundwater Management Zone (pre-GMZ) boundary was included in the March 2017 Consent Decree between NHDES and Saint-Gobain, and will likely be modified to some extent following completion of additional site investigations (SI) both on the facility (on-facility), on abutting properties, and in the larger area around the facility (off-facility).

The GMZ eventually will be included in a Groundwater Management Permit (GMP) to be issued to Saint-Gobain by NHDES. The GMP will establish routine water quality monitoring and reporting requirements. Until such time, groundwater quality monitoring at on-facility monitoring wells has been completed in accordance with NHDES' October 16, 2017 letter regarding interim groundwater quality monitoring. In anticipation of a future GMP, NHDES expects that Saint-Gobain will continue interim monitoring at select locations, as discussed below. In addition, on-facility SI activities are anticipated this fall, pending NHDES approval of a final work plan (NHDES is currently reviewing the On-Property Site Investigation Work Plan submitted by Golder on June 8, 2018 and will submit comments in a separate letter). Pending completion of these activities and review of these data, modifications to the interim monitoring program will likely be needed.

Based on NHDES' review of the above-referenced submittals we have the following comments:

1. To date, Saint-Gobain has connected over 400 properties to public water in areas with PFAS-impacted groundwater. As part of the March 2017 Consent Decree, an additional 300 properties will also be provided with public water or point of entry treatment systems. Connection of existing well users inside the pre-GMZ to public water will change local groundwater withdrawal rates. Groundwater flow (and PFAS migration) in the vicinity of the pre-GMZ boundary has the potential to be altered by such changes in groundwater use. As such, the interim water quality monitoring program should be expanded to include additional water supply wells located at the perimeter of those areas being connected to public water and those areas that have already been connected. The purpose of the additional sampling is to ensure groundwater outside the pre-GMZ boundary used for drinking water continues to meet AGQS as defined in Env-Or 600. Portions of this monitoring program can overlap with the well-resampling underway at properties in Bedford and Merrimack<sup>1</sup>. *Please provide a work plan for expansion of the supply well sampling program within 45 days.*
2. Existing domestic wells inside the pre-GMZ may need to be monitored in the future as part of the off-facility SI, in lieu of installation of monitoring wells in this area.
3. Data from the monitoring wells on the adjacent Flatley Property indicate the presence of perfluorooctanoic acid (PFOA) in groundwater at concentrations up to 19,000 ng/L in monitoring well GZ-3, which is the highest concentration detected to-date in groundwater around the facility. These results suggest a potential source area near the location of

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<sup>1</sup> As described in the *Work Plan for Residential Well Sampling*, dated December 22, 2017, prepared by Golder, and NHDES' *Response to Work Plan for Residential Well Sampling*, dated April 17, 2018.

monitoring well GZ-3. As such, GZ-3 should be added to the list of wells included in the interim sampling program beginning with the next sampling event.

4. Significant concentrations of PFAS were detected in all the monitoring wells both upgradient and downgradient of the buildings and activities at the facility, a pattern consistent with a release from an air source. However, higher concentrations were detected in samples from wells east of the facility (MW-04/MW-04S, MW-05, MW-06/MW-06S, GZ-1, GZ-2, and GZ-3), which suggest additional source(s)/releases of PFAS. These areas will be further investigated as part of the upcoming SI. Pending review of these data, inclusion of additional monitoring locations may be warranted.
5. Limited discussion of the results was provided in the above-referenced Annual Groundwater Monitoring Summary. Although the report discussion was limited to the occurrence of PFOA and perfluorooctane sulfonic acid (PFOS), which have Ambient Groundwater Quality Standards (AGQS), a total of eleven PFAS were detected in the monitoring wells. This suite is consistent with other data collected at the facility and nearby vicinity, which suggests that multiple PFAS have been released. An expanded analyte list will be included in the upcoming SI. Pending review of these data, inclusion of additional analytical parameters in the interim monitoring program may be warranted.

NHDES also makes the following comments with regards to future submittals to be provided for the monitoring program and other SI activities:

1. Data transmittals should continue to be submitted within 45 days of sampling, and periodic summary reports should be submitted following completion of the last sampling event of the year, within 45 days of that sampling event. The report should include the elements as listed in Env-Or 606.18 and at a minimum, should include the following:
  - a. A narrative discussion of the specific PFAS detected, including frequencies of detections and ranges of concentrations.
  - b. Trend analyses, which may be based on a qualitative evaluation of the time series graphs, or a more quantitative statistical analysis (e.g. Mann-Kendall).
  - c. Discussion of the spatial distribution of PFAS with the distribution of PFAS analytes illustrated on the groundwater contour map and on geologic cross sections.
2. In future data submittals, please clarify whether the groundwater samples were submitted for laboratory analysis of sulfonic acids or sulfonates. The lab reports indicate sulfonates, but the data validation reports indicate sulfonic acids, and the CAS numbers reported in both locations are the same. Please clarify which compounds were analyzed and reported, as there may be slight differences in the conversion from one form to the other based on the standards used by the laboratory.
3. NHDES recommends the summary table present PFAS compounds listed by family, e.g., perfluoroalkyl carboxylic acids (PFCAs) and perfluoroalkyl sulfonic acids (PFASs),

and presented in order of chain length or number of carbon atoms. CAS numbers should be included on the table for each analyte.

4. According to the Initial Site Characterization Report (C.T. Male, Associates, Inc., dated May 14, 2018), samples collected prior to March 2017 were analyzed for linear isomers only. Please note on future data tables any lab results that do not quantify both linear and branched isomers.
5. NHDES notes that several analytes were included in the 1<sup>st</sup> and/or 2<sup>nd</sup> quarter sampling events that were not discussed or tabulated in the Annual Groundwater Monitoring Summary, but were included in a previous data transmittal dated August 7, 2017. These analytes included volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinated biphenyls, metals, total organic carbon, cyanide, and indicator ions. A discussion of these analytes should be incorporated into the forthcoming site investigation report as part of the discussion of the site conceptual model.

Please contact me should you have questions regarding this letter.

Sincerely,



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