



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Robert R. Scott, Commissioner

EMAIL ONLY

February 17, 2021

John Gay
Casella Waste Management, Inc.
1855 VT Route 100
Hyde Park, VT 05655

Subject: **Bethlehem** – North Country Environmental Services (NCES) Landfill,
581 Trudeau Road, DES Site #**198704033**, Project #1737

November 2020 Tri-Annual Water Quality Monitoring Results, prepared by
Sanborn, Head & Associates, Inc. (SHA), dated December 21, 2020

December 2020 Supplemental Water Quality Monitoring Results, prepared by
SHA, dated January 25, 2021

Dear Mr. Gay:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced documents for the NCES Landfill, as submitted on your behalf by SHA. The November Data Transmittal was prepared to comply with the ongoing monitoring and reporting requirements of the site Groundwater Management and Release Detection Permit **GWP-198704033-B-007** (the Permit). Based on our review of the most-recent water quality data provided, we note that the monitoring results generally remain consistent with recent prior findings, with the exception of the results discussed below.

Based on our review of the above submittals, we developed the comments that follow below. Comments requiring a response from Casella and/or SHA are summarized in ***bold/italicized font***.

1. As discussed within the [November 2020 Data Transmittal](https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4893156)¹, dated December 21, 2020, NHDES notes that concentrations of 1,4-dioxane at monitoring wells B-304UR and B-304DR continue to be detected above Ambient Groundwater Quality Standard (AGQS). As recommended within the November Data Transmittal and discussed as part of NHDES' December 15, 2020 phone call with NCES and SHA, monthly supplemental sampling of B-304UR and B-304DR and surface water sampling locations S-1 (Main Seep), SF-1, S-108, and S-109 is being conducted to more closely track 1,4-dioxane concentrations over time. NHDES concurred with the recommendation and directed NCES to proceed with the monthly sampling. The [December 2020 Supplemental Data Transmittal](https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4898695)², dated January 25, 2021, is the first round of said sampling which was proposed to run through April 2021. ***Monthly sampling of the above listed-locations shall continue through April 2021, at which time the need for continued monthly sampling should be re-evaluated.***

¹ <https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4893156>

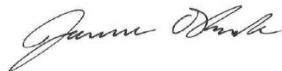
² <https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4898695>

2. As most recently discussed within the November Data Transmittal, Permit monitoring results for sampled locations upgradient of the B-304 monitoring wells point to the excavation work completed to modify Storm Water Pond No. 4 as the likely cause of residual 1,4-dioxane impacts to groundwater, and not a new impact from landfill operations. This excavation work has resulted in a downgradient extension of the 1,4-dioxane groundwater plume, as monitored by the B-304 wells. The increase in 1,4-dioxane concentrations at the B-304 wells, along with the lowering of the 1,4-dioxane AGQS, has caused the B-304 wells to no longer be entirely adequate to monitor the downgradient extent of the 1,4-dioxane impact. We note that 1,4-dioxane has not been detected at the further-downgradient seep locations since the pond work was completed; as such it appears that the observed 1,4-dioxane impact is constrained to within the site Groundwater Management Zone (GMZ). However, as originally discussed in our [March 23, 2020 letter](#)³ (inadvertently dated 2019) and during our December 15, 2020 phone call, the existing network of monitoring locations is not adequate to characterize the full extent of the 1,4-dioxane plume downgradient of the B-304 wells, and one or more similarly-constructed additional monitoring wells installed downgradient of this area is warranted. **A Supplemental Site Investigation is required to delineate the downgradient extent of groundwater impacts in the area of the B-304 wells. A Work Plan to outline the investigation shall be submitted to NHDES within 30 days of the date of this letter.**

3. The November Data Transmittal also transmits Assessment Monitoring results for release detection monitoring wells MW-701 and B-918M, as required by [NHDES' October 21, 2019 letter](#)⁴. We note the total per- and polyfluoroalkyl substances (PFAS) concentrations detected at MW-701 have continued to decrease in comparison to the November 2019 Permit monitoring round results. We note only three PFAS were detected above method detection limits at MW-701 during the November 2020 round. The November 2020 results at B-918M indicate increased PFAS concentrations as well as an increased number of PFAS detected versus the two previous rounds. We note perfluorooctanoic acid (PFOA) was detected at a concentration of 25.1 nanograms per liter (ng/L) at B-918M, above the AGQS of 12 ng/L, during the November 2020 round. **Assessment Monitoring shall continue as outlined in NHDES' October 21, 2019 letter at this time.**

If you have any questions with regard to our comments, please contact me directly at NHDES' Waste Management Division.

Sincerely,



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Timothy White, P.G., Sanborn, Head & Associates, Inc.
Board of Selectmen, Town of Bethlehem
Attention Health Officer, Town of Bethlehem

³ <https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4832728>

⁴ <https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4813101>