



To: Jay Peak Resort  
WQRP Project File

Date: August 31, 2023

Memorandum

Project #: 57201.19

From: Ryan Colarusso  
Robert Wildey, PE, CPESC

Re: Jay Peak Resort  
2023 Water Quality Remediation Plan Update

In accordance with the terms of the 2015 Settlement Agreement with the Vermont Natural Resources Council ("VNRC") and the Vermont Department of Environmental Protection ("DEC"), Jay Peak Resort ("Jay Peak" or "Resort") is required to periodically update the Jay Peak Water Quality Remediation Plan ("WQRP"). The purpose of these updates is to identify any new proposed development activities, proposed sediment reduction measures and other best management practices ("BMPs") required if stream segments identified in the Settlement Agreement did not meet interim or attainment biocriteria targets, and any proposed changes to the water chemistry and biomonitoring program. No additional development is proposed at the Resort at this time. However, as described below, the 2022 monitoring results trigger the need for the WQRP to be amended through the implementation of additional BMPs. In addition, changes to the monitoring program are proposed in recognition of locations where attainment has been reached. This document describes the proposed amendment components and provides the required information for consideration and review under the ANR Procedure for Water Quality Remediation Plans (2015).

### 2022 Monitoring Results

As reported in the 2022 Performance Report of the Water Quality Monitoring Plan report dated July 26, 2023, biomonitoring results at all streams other than the Tributary 9 to Jay Branch ("Tributary 9") and Tributary 3 to South Mountain Branch ("Tributary 3") continued to meet the biomonitoring criteria for aquatic biota in 2022. The Tributary 9 monitoring station ("JB-T9-0.1") previously met the biomonitoring criteria for 4 years prior to the replacement in 2020 (by VAST volunteers) of an undersized bridge that was retaining sediment upstream from the monitoring station. Since the bridge was replaced with a larger channel-spanning structure, sediment that was previously retained by the former structure has been migrating through the sampling reach, resulting in macroinvertebrate densities below the Vermont Water Quality Standards ("VWQS") for Class B(2) waters in 2020 and 2021. In 2022, while the density metric did meet the standard, the percent Oligochaeta metric was above its threshold, likely a result of Oligochaetes colonizing remaining sediment at the station. These impacts are not associated with Resort operations and this temporary condition is anticipated to resolve itself without further intervention as the sediment is naturally transported downstream. The Tributary 3 compliance station that is referenced in the Settlement Agreement ("SMB-T3-0.1") was not in attainment with the Vermont Water Quality Standards for Class B(2) waters due to the low density of macroinvertebrates when it was sampled during the 2022 index period. For this reason, additional measures are proposed to be implemented within the Tributary 3 watershed. These measures are described in more detail below.

### 2023/2024 Remediation Projects

With respect to reaching attainment results at Tributary 3 of South Mountain Branch, VHB recommends the following BMPs as measures to continue improving water quality in the South Mountain Branch.

- *Continued implementation of sediment-control BMPs, including cleaning swales and catch basins, managing runoff from the winter sand storage area, and evaluating paving options for parking lots and roadways within the watershed (ongoing).*

- *Implementation of a "Large Scale BMP" in the South Mountain Branch Tributary 3 Watershed, as required by the Settlement Agreement. VHB recommends that this BMP be comprised of an upgraded stormwater management practice for the 242 Parking Lot that is compliant with DEC General Permit 3-9050. Timing of the construction of the practice is to be determined based on the necessary design, permitting and funding considerations, as outlined in Table 1 below:*

**Table 1. Timeline and Steps to Compliance under General Permit**

<b>Milestone</b>	<b>Deadline</b>	<b>Description</b>
Initial Notice of Intent ("NOI")	June 1, 2022 (submitted and currently under review by DEC)	File "Initial NOI" consisting of an estimate of the impervious surface, identification of any existing stormwater permit authorizations, identification of any existing Act 250 Permits, and map of approximate existing impervious surfaces.
Final Notice of Intent	January 31, 2024	The Final NOI will consist of all required technical supporting information, including site plans, EFA, stormwater system design, and any applicable stormwater impact fees. A licensed engineering consultant is required to prepare the EFA. The analysis that has been done by VHB and is summarized in this memo will provide a foundation for the EFA.
Construction of Stormwater Treatment	December 1, 2028	Construction of stormwater treatment measures with 5 years of acceptance of the EFA (prior to the next renewal).

**Proposed Monitoring Program Modifications**

Winter Snow Melt Monitoring has been conducted at several stations throughout the Jay Peak monitoring network since 2009. As of 2022, seven stations were slated for sampling two times during March or April for winter snow melt monitoring. While the data collected during winter snow melt monitoring provides representative data for the Jay Branch and South Mountain Branch watershed during early spring conditions, it has not been a valuable diagnostic tool for assessing non-attainment of the VWQS, particularly at SMB-T3-0.1. Therefore, it is proposed to discontinue the winter snow melt monitoring component of the Water Quality Monitoring Plan as of the fall 2023 index period.

Jay Branch stations JB-P1-0.1 (Phase I tributary) and JB-P2-0.1 (Phase II tributary) are located downstream of the Village development area and associated stormwater management system infrastructure and contribute streamflow to Tributary 9 of the Jay Branch. These sites have had water chemistry sampling and substrate analysis conducted annually by the Resort since 2004. Since sampling began at these sites, both stations have remained in compliance with the VWQS. Because no additional development activities are proposed within the Jay Branch watershed at this time, it is proposed to discontinue monitoring for water chemistry and substrate analysis at these stations as of the fall 2023 index period. Monitoring is proposed to continue within Tributary 9 (JB-T9-0.1) and at JB-8.3 (downstream from the confluence of Tributary 9 with the Jay Branch) until Tributary 9 has returned to attainment with the VWQS.

South Mountain Branch station SMB-1.8 (DEC Site ID #427807000018) is located on the main stem of the South Mountain Branch approximately 530 feet downstream of the Old Jay-Montgomery Road crossing. This location integrates flows from the Resort, Route 242, and headwater contributions to South Mountain Branch. This site has had

water chemistry sampling and substrate analysis conducted annually by the Resort since 2012. Since sampling began at this site, the station has remained in compliance with the VWQS. Since the data collected as SMB-1.8 has shown consistent attainment of the VWQS, it is proposed to discontinue monitoring for water chemistry and substrate analysis at SMB-1.8 as of the fall 2023 index period. Monitoring is proposed to continue at the compliance reach within Tributary 3 (SMB-T3-0.1) and on the main stem of South Mountain Branch (SMB-2.4) until Tributary 3 has reached attainment with the VWQS.

### Summary

As required by the terms of the Settlement Agreement, this proposed update to the Jay Peak WQRP update identifies the adaptive management measures that have been or are proposed to be implemented by the Resort, as well as presenting monitoring modifications that will be undertaken moving forward. If approved, these improvements will be implemented in 2023 and 2024 with the goal of meeting attainment in Tributary 3 and the other streams at the Resort.