AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, DAVIS BUILDING, 3rd FLOOR
MONTPELIER, VT 05620-3522

FACT SHEET FOR DRAFT PERMIT
November 2021

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE

PERMIT NO: 3-1128
PIN: NS94-0008
NPDES NO: VT0000108

NAME AND ADDRESS OF APPLICANT:

Soundview Vermont Holdings, LLC
PO Box 226
Putney, VT 05346

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Soundview Vermont Holdings, LLC
Main Street
Putney, VT 05346

FACILITY COORDINATES: Lat: 42.97571 Long: -72.52090

FACILITY CLASSIFICATION: Grade IV Industrial Paper, Non-Major

RECEIVING WATER: Connecticut River

CLASSIFICATION: All uses Class B(2) with a waste management zone. Class B waters are suitable for swimming and other primary contact recreation; irrigation and agricultural uses; aquatic biota and aquatic habitat; good aesthetic value; boating, fishing, and other recreational uses; and suitable for public water source with filtration and disinfection or other required treatment. A waste management zone is a specific reach of Class B(1) or B(2) waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The Secretary of the Vermont Agency of Natural Resources (hereinafter referred to as "the Secretary") received a renewal application for the permit to discharge into the designated receiving water from the above-named applicant on July 3, 2017. The facility's previous permit was issued on February 22, 2013. The previous permit (hereinafter referred to as the "current

permit") has been administratively continued, pursuant to 3 V.S.A. § 814, as the applicant filed a complete application for permit reissuance within the prescribed time period per the Vermont Water Pollution Control Permit Regulations Section 13.5(b). At this time, the Secretary has made a tentative decision to reissue the discharge permit.

The facility is engaged in the treatment of treated process wastewater from paper manufacturing and is classified as a Grade IV Industrial Paper, Non-Major NPDES Wastewater Treatment Facility (WWTF).

A diagram of the wastewater treatment process is provided in Attachment A. A Reasonable Potential Determination for the facility is provided in Attachment B.

II. Description of Discharge

Soundview Vermont Holdings, LLC operates a paper mill that produces products such as napkins, toilet paper, tissue, and paper towels from a 100% secondary wastepaper de-ink process. The process wastewater treatment facility is an extended aeration treatment plant that consists of a Dissolved Air Flotation (DAF) unit, two aeration tanks, and two clarifiers.

The design flow of the WWTF is 0.275 MGD and the average flow from the facility over the last 5 years is approximately 0.133 MGD.

The WWTF maintains a constant discharge to the Connecticut River.

III. Limitations and Conditions

The draft permit contains limitations for effluent flow, Biochemical Oxygen Demand (BOD_5), Turbidity, Total Suspended Solids (TSS), and pH. It also contains monitoring requirements for Total Phosphorus (TP), Total Nitrogen (TN), Total Kjeldahl Nitrogen (TKN), and Nitrate/Nitrite (NO_x). The effluent limitations of the draft permit and the monitoring requirements may be found on the following pages of the draft permit:

Effluent Limitations:	Page 2 of 19
Monitoring Requirements:	Pages 2-3 of 19

IV. Statutory and Regulatory Authority

A. Clean Water Act and NPDES Background

Congress enacted the Clean Water Act (CWA or Act), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specified permitting sections of the Act, one of which is § 402. CWA §§ 301(a), 402(a). Section 402 establishes one of the CWA's principal permitting programs, the National Pollutant Discharge Elimination System (NPDES). Under this section of the Act, the U.S. Environmental Protection Agency (EPA) may "issue a permit for the discharge of any pollutant, or combination of pollutants" in accordance with certain conditions. CWA § 402(a). The State of Vermont has been approved by the EPA to administer the NPDES Program in Vermont. NPDES permits generally contain discharge limitations and

establish related monitoring and reporting requirements. CWA § 402(a)(1) - (2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: "technology-based" limitations and "water quality-based" limitations. CWA §§ 301, 303, 304(b); 40 C.F.R. Parts 122, 125, 131. Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant-reducing technology available and economically achievable for the type of facility being permitted. CWA § 301(b). As a class, WWTFs must meet performance-based requirements based on available wastewater treatment technology. CWA § 301(b)(1)(B). The performance level for WWTFs is referred to as "secondary treatment." Secondary treatment is comprised of technology-based requirements expressed in terms of BOD_5, TSS, and pH; 40 C.F.R. Part 133.

Water quality-based effluent limits, on the other hand, are designed to ensure that state water quality standards are achieved, irrespective of the technological or economic considerations that inform technology-based limits. Under the CWA, states must develop water quality standards for all water bodies within the state. CWA § 303. These standards have three parts: (1) one or more "designated uses" for each water body or water body segment in the state; (2) water quality "criteria," consisting of numerical concentration levels and/or narrative statements specifying the amounts of various pollutants that may be present in each water body without impairing the designated uses of that water body; and (3) an antidegradation provision, focused on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. CWA § 303(c)(2)(A); 40 C.F.R. § 131.12. The applicable water quality standards for this permit are the 2017 Vermont Water Quality Standards (Environmental Protection Rule, Chapter 29a).

A permit must include limits for any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality standard, including narrative water quality criteria. See 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. A NPDES permit must contain effluent limitations and conditions in order to ensure that the discharge does not cause or contribute to water quality standard violations.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from the State's water quality standards to develop permit limits, both the acute and chronic aquatic life criteria are used and expressed in terms of maximum allowable instream pollutant concentrations. Acute aquatic life criteria are generally implemented through maximum daily limits and chronic aquatic life criteria are generally implemented through average monthly limits.

Where a state has not established a numeric water quality criterion for a specific chemical pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative water quality standards, the permitting authority must establish effluent limits in one of three ways: based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use"; on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant

information; or, in certain circumstances, based on an "indicator parameter." 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

The state rules governing Vermont's NPDES permit program are found in the Vermont Water Pollution Control Permit Regulations (Environmental Protection Rule, Chapter 13).

1. Reasonable Potential Determination

In determining whether this permit has the reasonable potential to cause or contribute to an impairment, Vermont has considered:

1) Existing controls on point and non-point sources of pollution as evidenced by the Vermont surface water assessment database;

2) Pollutant concentration and variability in the effluent as determined from the permit application materials, monthly discharge monitoring reports (DMRs), or other facility reports;

3) Receiving water quality based on targeted water quality and biological assessments of receiving waters, as applicable, or other State or Federal water quality reports;

4) Toxicity testing results based on the Vermont Toxic Discharge Control Strategy, and compelled as a condition of prior permits;

5) Available dilution of the effluent in the receiving water, expressed as the instream waste concentration. In accordance with the applicable Vermont Water Quality Standards, available dilution for rivers and streams is based on a known or estimated value of the lowest average flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (7Q10) for aquatic life and human health criteria for non-carcinogens, or at all flows for human health (carcinogens only) in the receiving water. For nutrients, available dilution for stream and river discharges is assessed using the low median monthly flow computed as the median flow of the month containing the lowest annual flow. Available dilution for lakes is based on mixing zones of no more than 200 feet in diameter, in any direction, from the effluent discharge point, including as applicable the length of a diffuser apparatus; and

6) All effluent limitations, monitoring requirements, and other conditions of the draft permit.

A Reasonable Potential Determination Memo for the facility is provided in Attachment B.

B. Anti-Backsliding

Section 402(o) of the CWA provides that certain effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the current permit. EPA has also promulgated anti-backsliding regulations which are found at 40 C.F.R. § 122.44(l). Unless applicable anti-backsliding exemptions are met, the limits and conditions in the reissued permit must be at least as stringent as those in the current permit.

V. Description of Receiving Water

The receiving water for this discharge is the Connecticut River, a designated Cold-Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 5,724 square miles. The 7Q10 flow of the river is estimated to be 818 cubic feet per second (CFS) and the Low Median Monthly flow is estimated to be 2,415 CFS. The instream waste concentration at the 7Q10 flow is 0.00052 (0.052%) and the instream waste concentration at the Low Median Monthly flow is 0.00018 (0.018%).

VI. Mixing Zone

A Mixing Zone is a length or area within Class B waters required for the dispersion and dilution of waste discharges adequately treated to meet federal and state treatment requirements and within which it is recognized that specific water uses or water quality criteria associated with the assigned classification for such waters may not be realized. A mixing zone shall not extend more than 200 feet from the point of discharge and must meet the terms of 10 V.S.A. § 29A-204. For a mixing zone to be applicable to a discharge it must be authorized within the discharge permit.

In accordance with Section 2-04 of the Vermont Water Quality Standards, this permit establishes a mixing zone (which applies to waters within the borders of the State of Vermont) for turbidity not to exceed 200 feet from the point of discharge. Within the mixing zone, Section 29A-302(4) of the Vermont Water Quality Standards is waived, up to the turbidity discharge limit of 550 NTU. This permit also establishes a mixing zone for BOD5 not to exceed 200 feet from the point of discharge. Within the mixing zone, Section 29A-302(5) of the Vermont Water Quality Standards for Dissolved Oxygen are waived.

VII. Facility History and Background

Soundview Vermont Holdings, LLC operates the Putney, Vermont mill (previously owned by Putney Paper Company), a deink tissue mill, located in Putney, Vermont. The facility is a non-integrated mill involved in the production of tissue and napkin grades from a 100% secondary wastepaper deink process. Wastepaper is stored and segregated into different grades prior to pulping with the addition of sodium hydroxide. The pulp slurry goes through various stages of washing, cleaning, and screening prior to the papermaking process. Soundview converts 80% of the tissue and napkin grades for sale as finished product.

The treatment of process wastewater consists of primary clarification followed by a two-stage high activated sludge treatment process (Zurn-Attischoltz). Sludge from the two-stage aeration/clarification system and from the primary clarifier (Poseidon DAF clarifier - new in 2009) is wasted to a belt filter press for dewatering. The company has a sludge disposal facility which is not being utilized. Sludge is hauled out of state or to an approved Vermont landfill. There is one lined holding lagoon located approximately 300 yards from the mill adjacent to Sackett's Brook. Effluent from the mill may be directed to the lagoon once per year during scheduled treatment system maintenance or during emergency situations. Typical discharge off treated wastewater to the Connecticut River is from the recycle tank following the second stage clarifier.

VIII. Permit Basis and Explanation of Effluent Limitation Derivation

A. Flow – The draft permit maintains the monthly average flow limitation of 0.275 MGD. This facility maintains a constant discharge. Continuous flow monitoring is required.

B. Conventional Pollutants

1. **Biochemical Oxygen Demand (BOD_5)** – The effluent limitations of 548 lbs./day monthly average and 818 lbs./day daily max for BOD_5 remain unchanged from the current permit. The BOD_5 weekly monitoring requirement is unchanged from the current permit.

2. **Total Suspended Solids (TSS)** – The effluent limitations of 200 lbs./day monthly average and 300 lbs./day daily max for TSS remain unchanged from the current permit. The TSS weekly monitoring requirement is unchanged from the current permit.

3. **pH** – The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 29A-303(6) in the Vermont Water Quality Standards. The daily monitoring requirement is unchanged from the current permit.

C. Non-Conventional and Toxics

1. **Total Phosphorus (TP)**

The monthly "monitor only" requirement for TP remains unchanged from the current permit.

Per EPA, excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Historically, nutrient management focused on limiting a single nutrient—phosphorus or nitrogen—based on assumptions that production is usually phosphorus limited in freshwater and nitrogen limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both phosphorus and nitrogen is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs, some are P dependent, others N dependent and others are co-dependent on these two nutrients.

Like N, P promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than N alone. The relative abundance of these nutrients also influences the type of species within the community. Given the dynamic nature of all aquatic ecosystems, for the State to fully understand the degradation to water quality it is necessary to limit or monitor for P and N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

For more information, see:
https://www.epa.gov/sites/production/files/documents/nandpfactsheet.pdf

2. **Total Nitrogen (TN)** – TN is a calculated value based on Total Kjeldahl Nitrogen (TKN) and Nitrate/Nitrite (NOx) Nitrogen. The sum of TKN and NOx shall be used to derive TN and shall be calculated as:

   TN (mg/L) × Total Daily Flow × 8.34
   Where TN (mg/L) = TKN (mg/L) + NO_x (mg/L)

   The monthly "monitor only" requirement remains unchanged from the current permit.

   On November 10, 2011 a letter from the EPA (Region 1) to the Secretary indicted that Vermont must establish TN limitations in municipal discharge permits such that the TN load from facilities in the Connecticut River watershed is consistent with the requirements of the Long Island Sound Total Maximum Daily Load (LIS TMDL). In light of the adoption of numeric water quality criteria for TN in the LIS TMDL, the Secretary is including requirements in discharge permits to monitor for discharges of TN. For future permit reissuance, the criteria will be used to determine the potential of discharges to cause or contribute to eutrophication and/or to adversely impact the aquatic biota downstream of the discharge.

   The Department reserves the right to reopen and amend this permit to include a TN limitation or additional monitoring requirements based on future monitoring data, results of nitrogen optimization, a formal Waste Load Allocation promulgated under Vermont's Waste Load Allocation Rule, and/or the final Long Island Sound TMDL.

3. **Total Kjeldahl Nitrogen (TKN)** – TKN is the sum of nitrogen in the forms of ammonia (un-ionized (NH_3) and ionized (NH_4^+)), soluble organic nitrogen, and particulate organic nitrogen. A monthly "monitor only" requirement has been included in the draft permit.

4. **Nitrate/Nitrite (NO_x)** – Nitrite and nitrate are oxygenated forms of nitrogen. A monthly "monitor only" requirement has been included in the draft permit.

5. **Settleable Solids** – Settleable Solids is the volume of solids in a given volume of water obtained when a well-mixed sample is allowed to stand quiescent for a given period of time. This monitoring requirement was established to support the narrative standard in Vermont Water Quality Standards § 29A-303(2). A daily "monitor only" requirement has been included in the draft permit.

6. **Turbidity** – The Vermont Water Quality Standards lists an effluent turbidity limit of 10 NTU. The Permittee indicated that effluent results were greater than 10 NTU and requested a mixing zone for the facility. The Permittee submitted a mixing zone analysis completed by Aquaterra in November 2005. Results indicated that the Permittee could discharge up to 630 NTU and still meet the water quality standard limit of 10 NTU at the end of the 200' mixing zone. After the primary clarifier was replaced in 2009, the Permittee discharged at lower turbidity levels and both the Agency and the Permittee agreed upon an effluent limit of 550 NTU. The turbidity discharge limit of 550 NTU and the daily monitoring requirement remains unchanged from the current permit.

7. **Toxicity Testing** – 40 C.F.R. Part 122.44(d)(1) requires the Secretary to assess whether the discharge causes or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria. Per these federal requirements, the Permittee shall conduct WET testing according to Condition I.D. outlined in the draft permit. The Permittee shall also conduct toxic pollutant analyses according to Condition I.E. outlined in the draft permit. If the results of these tests indicate a reasonable potential to cause an instream toxic impact, the Secretary may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

D. Special Conditions

1. **Engineering Study –** The Permittee shall conduct an in-depth engineering study of the wastewater treatment facility, effluent pipe, and outfall to address the issue of gas bubbles, foam, floating masses, and other objectionable materials being released in the effluent and potentially causing violation(s) of the Vermont Water Quality Standards (VWQS) is accordance with Condition I.F.1. of the draft permit. A written report of the results of this study shall be submitted to the Secretary by **December 31, 2023.**

2. **Hydraulic Study –** The Permittee shall conduct an in-depth hydraulic study of the interactions of the effluent with the receiving water and Sacketts Brook in accordance with Condition I.F.2. of the draft permit. A report of the results of this study shall be submitted to the Secretary by **December 31, 2023.**

   As outlined in Condition I.F.3. of the draft permit, the Permittee shall conduct weekly visual observations of the effluent plume and maintain a record of the observations. Due to topography conditions in the vicinity of the outfall, visual inspections may be conducted from the Putney Landing fishing access area unless arrangements are made with the landowner to make observations closer to the effluent point. Observations do not need to occur when the fishing access landing is inaccessible due to snow, ice, or flooding. If snow, ice, or flooding preclude an observation, that information shall be included in the record. The observation record shall be included in an attachment to the applicable Discharge Monitoring Report (DMR) form WR-43 along with any corrective actions taken monthly.

3. **Laboratory Proficiency Testing** – To ensure there are adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct an annual laboratory proficiency test for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by their NPDES permit. Proficiency test samples must be obtained from an accredited laboratory or as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by December 31, annually beginning in **2022**.

4. **Annual Outfall Reporting** – The Permittee shall develop a program to track and investigate complaints regarding the presence of excess foaming within the vicinity of outfall S/N 001 to monitor compliance with Vermont Water Quality Standards 29A-306(c)(3). Due to topography conditions in the vicinity of the outfall, visual inspections may be conducted from the Putney Landing fishing access area. Observations do not need to occur when the fishing access landing is inaccessible due to snow, ice, or flooding. If snow, ice, or flooding preclude an observation, that information shall be included in the record. A report

documenting complaints, discharge conditions, and any corrective actions taken to eliminate excess foaming in the receiving water shall be submitted to the Secretary by **January 15**, **annually** with the 2022 annual report due by January 15, 2023.

5. **Electronic Reporting** – The EPA recently promulgated a final rule to modernize the Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires the inclusion of electronic reporting requirements in NPDES permits that become effective after December 21, 2015. The rule requires that NPDES regulated entities that are required to submit discharge monitoring reports (DMRs), including majors and non-majors, individually permitted or covered by a general permit, must do so electronically after December 2016. The Secretary has created an electronic reporting system for DMRs and has recently trained facilities in its use. As of December 2020, these NPDES facilities will also be expected to submit additional information electronically as specified in Appendix A in 40 C.F.R. part 127.

6. **Reopener** – This draft permit includes a reopener whereby the Secretary reserves the right to reopen and amend the permit to implement an integrated plan to address multiple Clean Water Act obligations.

E. Reasonable Potential Analysis

The Secretary has conducted a reasonable potential analysis, which is attached to this Fact Sheet as Attachment B. Based on this analysis, the Secretary has determined the available data indicate that this discharge does not cause, have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria. As such, the development of water quality based effluent limitations (WQBELs) will not be necessary.

IX. Procedures for Formulation of Final Decision

The public comment period for receiving comments on this draft permit was originally scheduled from May 12, 2021 to June 14, 2021 and a public meeting was scheduled on June 3, 2021. A request to extend the public comment period and reschedule the public meeting was received on May 20, 2021. The Secretary agreed to extend the public comment period to May 12, 2021 to July 14, 2021 and the public meeting was rescheduled to June 29, 2021.

Comments were received and considered in the formulation to issue, deny, or modify the draft permit. Those comments and the replies are included below as Attachment C. Due to changes made to the draft discharge permit in response to comments submitted during the public comment period, a second public comment period has been scheduled from **November 17, 2021 to December 17, 2021**.

Written comments should be sent to:

Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
One National Life Drive, Davis Building, 3rd Floor
Montpelier, VT 05620-3522

Comments may be submitted by e-mail to ANR.wsmdwastewater@vermont.gov

For additional information, contact Amy Polaczyk at 802-490-6185.

Any interested person or groups of persons may request or petition for a public meeting with respect to this draft permit. Any such request or petition for a public meeting shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a meeting is warranted.

The Agency will hold a meeting if there is significant public interest in holding such a meeting. Any public meeting brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Agency and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public meeting. The Agency may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public meeting will be retained by the Agency and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

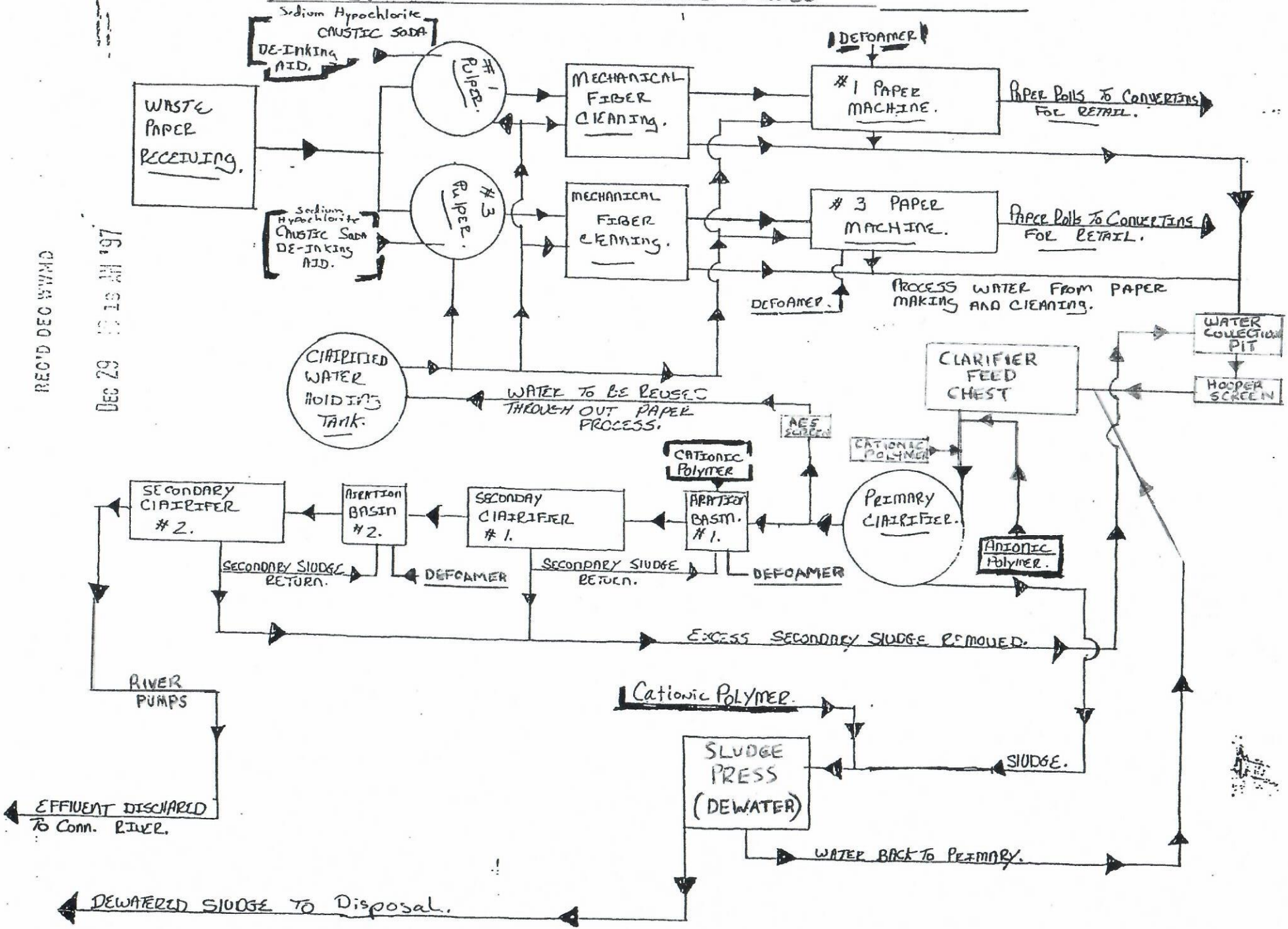
The complete application, draft permit, and other information are on file and may be inspected by appointment on the 3rd floor of the Davis Building at One National Life Drive, Montpelier, Vermont. Copies may be obtained by calling 802-828-1115 from 7:45 AM to 4:30 PM Monday through Friday and will be made at a cost based upon the current Secretary of State Official Fee Schedule for Copying Public Records. The draft permit and fact sheet may also be viewed on the Watershed Management Division's website at:

https://anrweb.vt.gov/DEC/IWIS/ReportViewer2.aspx?Report=WWPublicNotices&ViewParms=False

ATTACHMENT A.

WASTEWATER TREATMENT DIAGRAM

SOUNDVIEW PAPER PROCESS FLOW



ATTACHMENT B.

REASONABLE POTENTIAL DETERMINATION

Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive 2 Main
802-828-1535

MEMORANDUM

Prepared by: John Merrifield, Wastewater Program (WWP)

Cc: Amy Polaczyk, Manager, WWP
Bethany Sargent, Manager, Monitoring and Assessment Program (MAP)
Rick Levey, MAP

Date: February 5, 2021

Subject: Reasonable Potential Determination for the Soundview Paper Company WWTF

I. Facility Information:

Soundview Paper Company
3 Water Street, Putney, VT
Permit No. 3-1128
NPDES No. VT0000108
Facility Location: 42.97571, -72.5209 (NAD 83)
Approximate Outfall Location: 42.96375. -72.51423 (WGS84)

II. Hydrology:

Receiving water: Connecticut River
Facility Design Flow: 0.275 MGD = 0.425 CFS
Estimated 7Q10[1] = 818.0 CFS
Estimated LMM[2] = 2415.5 CFS
Instream Waste Concentration at 7Q10 Flow (IWC-7Q10) = 0.00052 (<1%)
Instream Waste Concentration at Low Median Monthly Flow (IWC-LMM) = 0.00018 (<1%)
Mixing Zone: 200 feet

Soundview Vermont Holdings, LLC owns and operates the Soundview Paper Company, a paper mill (Secondary Fiber De-ink category) which treats the effluent water in the following manner: primary clarification followed by a two-stage high activated sludge treatment process. Sludge from the two-stage aeration/clarifier system and from primary clarifier is wasted to a belt filter press for dewatering. Sludge is currently hauled out of state or to an approved VT landfill.

[1] Using daily mean streamflows, the flow of the receiving water equal to the minimum mean flow for seven consecutive days, that has a 10% probability of occurring in any given year.

[2] "Low median monthly flow". Using daily mean streamflows, the median monthly flow of the receiving water for that month having the lowest median monthly flow.

The receiving water is the Connecticut River. This river forms the boundary between Vermont and New Hampshire in the vicinity of this facility. The majority of the river is located in New Hampshire, but the discharge point is located in Vermont. For the purposes of this document reference will be made to water quality standards and classifications for both states as deemed appropriate. The Connecticut River a Class B (2) water as defined by Vermont and a Class B water as defined by New Hampshire. At the point of discharge, the river has a contributing drainage area of 5724.0 square miles. This facility does not discharge treated human waste and therefore does not have a waste management zone (WMZ). A 200' mixing zone for turbidity is included in the current permit. The receiving water is required to meet water quality standards at the end of the mixing zone for turbidity, and at the end of the pipe for other pollutants.

Vermont Water Quality Standards (VWQS) require that the aquatic biota based toxic pollutants criteria that prevent acute or chronic toxicity shall be applied at 7Q10 flows in rivers, streams, brooks, creeks, and riverine impoundments. Non-toxic pollutants and other water quality standards are applied at all flows, but a mixing zone may be authorized to allow for dilution within the zone before meeting water quality standards.

This facility has an existing 200' mixing zone. Putney Paper Company submitted a mixing zone analysis completed by Aquaterra in November 2005. The results indicated that a dilution factor of 67 was appropriate to apply to turbidity in the mixing zone. The Department concurred with the assumptions in the report in the issuance of the Department's prior permit.

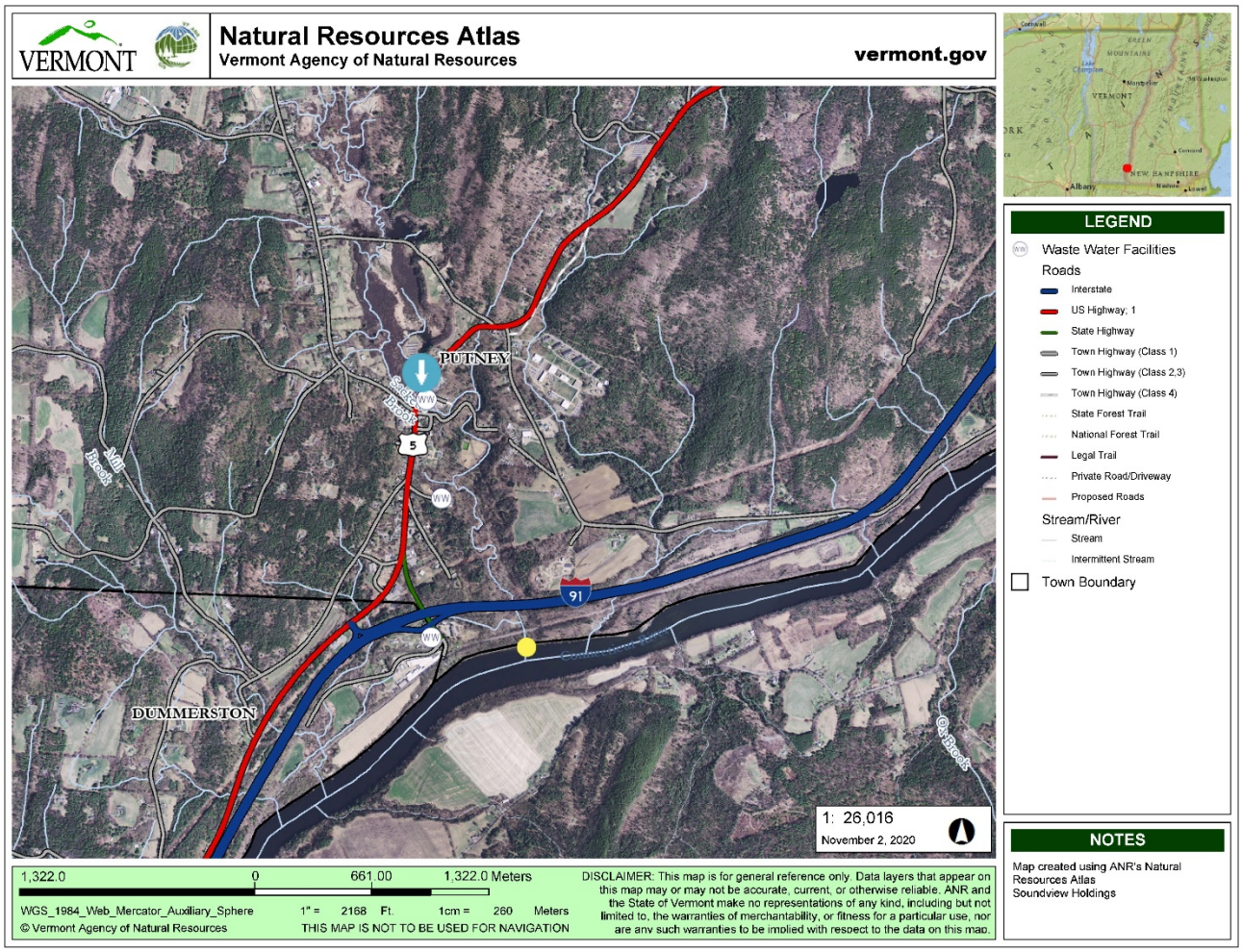


*Figure 1. Connecticut River near the Soundview Paper Company. The facility location is represented by a white dot containing "WW" with a white arrow in a blue circle, the outfall location is represented by a yellow dot, two other wastewater plants (Town of Putney and the Green Mountain Spinnery) are represented by white dots containing "WW". Monitoring stations from NHDES are not shown on this map due to their distance from the facility. They are shown below in Figure 2. Figure produced with the Vermont Agency of Natural Resources Natural Resource Atlas (*https://anrmaps.vermont.gov/websites/anra5/).

This memo is organized into the following sections:

- Summary of Effluent Data for the Soundview Paper Company
- Ambient Chemistry Data for the Connecticut River above, below and near the effluent point for the Soundview Paper Company
- Assessment of Reasonable Potential (RP) of the Soundview Paper Company discharge to exceed Vermont Water Quality Standards (VWQS)

III. Effluent Data for the Soundview Paper Company

A. ***Reported Effluent Data Summary:***

Effluent data reported by the Soundview Paper Company is shown below in Table 1.

Table 1. Effluent Data for the Soundview Paper Company.

Parameter	Current Permit Limit	Minimum Value	Average Value	Maximum Value	n	# of Exceedances
S/N 001						
Annual Flow (MGD) (Monthly Average)	0.275	0.09	0.14	0.19	58	0
Biochemical Oxygen Demand, 5 Day, Monthly Average (lbs)	548	55.73	364.52	1070.68	58	5
Biochemical Oxygen Demand, 5 Day, Daily Max (lbs)	818	130.25	534.68	1419.50	57	6
Total Suspended Solids (lbs) Monthly Average	200	13.14	79.73	171.10	58	0
Total Suspended Solids (lbs) Daily Max	300	22.25	144.44	312.80	58	1
Total Phosphorus (mg/l)	monitor only	0.40	2.97	15.00	58	N/A
Total Nitrogen (mg/L)	monitor only	3.90	16.40	35.10	57	N/A
Turbidity (NTU)	550	92.00	230.19	534.00	58	0
pH	6.5-8.5	6.50	7.28	8.30	116	0

There were several parameters for which permit limit exceedances were reported. These include one exceedance for the Daily Maximum Total Suspended Solids, five exceedances of Monthly Average for BOD5 and six exceedances of the Daily Maximum for BOD5.

These violations were followed up on by DEC Wastewater Staff. They were caused by a change in process chemicals, some mechanical equipment failures, and some weather related high flow incidents. Corrective actions were taken and these violations were disclosed to DEC per their permit requirements.

B. ***Whole Effluent Toxicity Data Summary:***

Results of the Whole Effluent Toxicity (WET) tests performed by this facility for the current and previous permit is shown below in Table 1a.

Table 1a. Whole Effluent Toxicity Data for the Soundview Paper Company Wastewater Treatment Facility.

		Pimephales promelas				Ceriodaphnia dubia			
	Test Start Date	Acute		Chronic		Acute		Chronic	
		NOEC %	LC50 %	NOEC %	LOEC %	NOEC %	LC50 %	NOEC %	LOEC %
Current Permit	8/15/2017	100	>100	6.25	12.5	50	73.5	6.25	12.5
	1/18/2016	50	61.6	<6.25	6.25	50	40.4	12.5	25
	3/16/2015	100	>100	25	50	100	>100	<6.25	6.25
	8/14/2013	50	79.4			100	>100		
Previous Permit	8/13/2012	100	>100			100	>100		
	1/11/2011	100	>100			50	>100		
	8/3/2010	25	>100			100	>100		
	1/21/2009	25	100			50	>100		
	9/30/2008	50	>100	25	50	100	>100	<6.25	6.25

Both Acute and Chronic toxicity can be observed in the test results for the current permit. However, the dilution provided by the receiving water reduces the in-stream concentrations below the measured toxicity thresholds. The two NOEC% values that are <6.25% indicate that the current tests do not have sufficient precision to demonstrate whether the receiving waters contained toxics in toxic amounts. Due to the significant dilution provided by the receiving water, this facility does not appear to pose a significant threat to aquatic biota, but toxicity should continue to be monitored. The requirement for 4 two-species acute and chronic WET tests should be included in the new permit. If technically feasible, WET tests should attempt to quantify toxicity below 6.25% by including an appropriate dilution.

C. ***Ambient Chemistry Data for the Connecticut River above, below and near the Soundview Paper Company***

1. Ambient Chemistry Data:

The Connecticut River is located primarily in the state of New Hampshire and is unwadeable in most locations. As a result, the VT DEC does not routinely collect water quality data in the vicinity of the outfall of this vicinity. Data is collected along Sackett's Brook, but those waters are upstream of the effluent point and not influenced by it.

Data used to characterize the existing water quality in the Connecticut River upstream, downstream and near the effluent point were obtained from the New Hampshire Department of Environmental Services (NH DES). Data for three sampling stations have been included in tables 2a,2b and 2c/2d below.

The upstream NH DES monitoring station is 06-V-03. It is in Walpole, NH and is approximately 10.5 river miles upstream of the effluent point. The downstream NH DES monitoring station is 06-V-02. It is in Chesterfield, NH and is approximately 3.7 river miles downstream of the effluent point. The NH DES monitoring station located near the effluent point is 08G-CNT. Data has been collected at this point both by NH DES and also by volunteers, and is presented in two separate tables. Data for 06-V-02 and 06-V-03 consists of multiple data points collected in order to form a profile of the parameter. This data has been presented as the average, minimum and maximum values for each site visit, i.e. the six (6) measurements for Dissolved Oxygen collected on 6/6/2015 at 06-V-02 between 14:59 and 15:02 have been reported as Average = 9.74 mg/l , Minimum = 9.69 mg/l and Maximum = 9.81 mg/l.

Data contained in Table 2a, 2b and 2c was obtained from NH DES and has been subjected to data review and verification procedures. The data contained in Table 2d has been submitted to NH DES for review and will be reviewed in the future according to the procedures in the NH DES Volunteer River Assessment Program (Quality Assurance Project Plan (QAPP) (https://www.des.nh.gov/organization/divisions/water/wmb/vrap/documents/2017-vrap-qapp.pdf). While this data has not been fully vetted, it is being used in this document to illustrate existing conditions and on inspection does not appear to be outside of the expected data range. This data was collected inside the established mixing zone and is not required to fully meet VWQS.

This section of the Connecticut River is listed on the 2018 NH DES 303(d) list for pH. This is considered to be a low priority for a TMDL and the effluent from this facility does not have potential to significantly impact the pH of the receiving water.

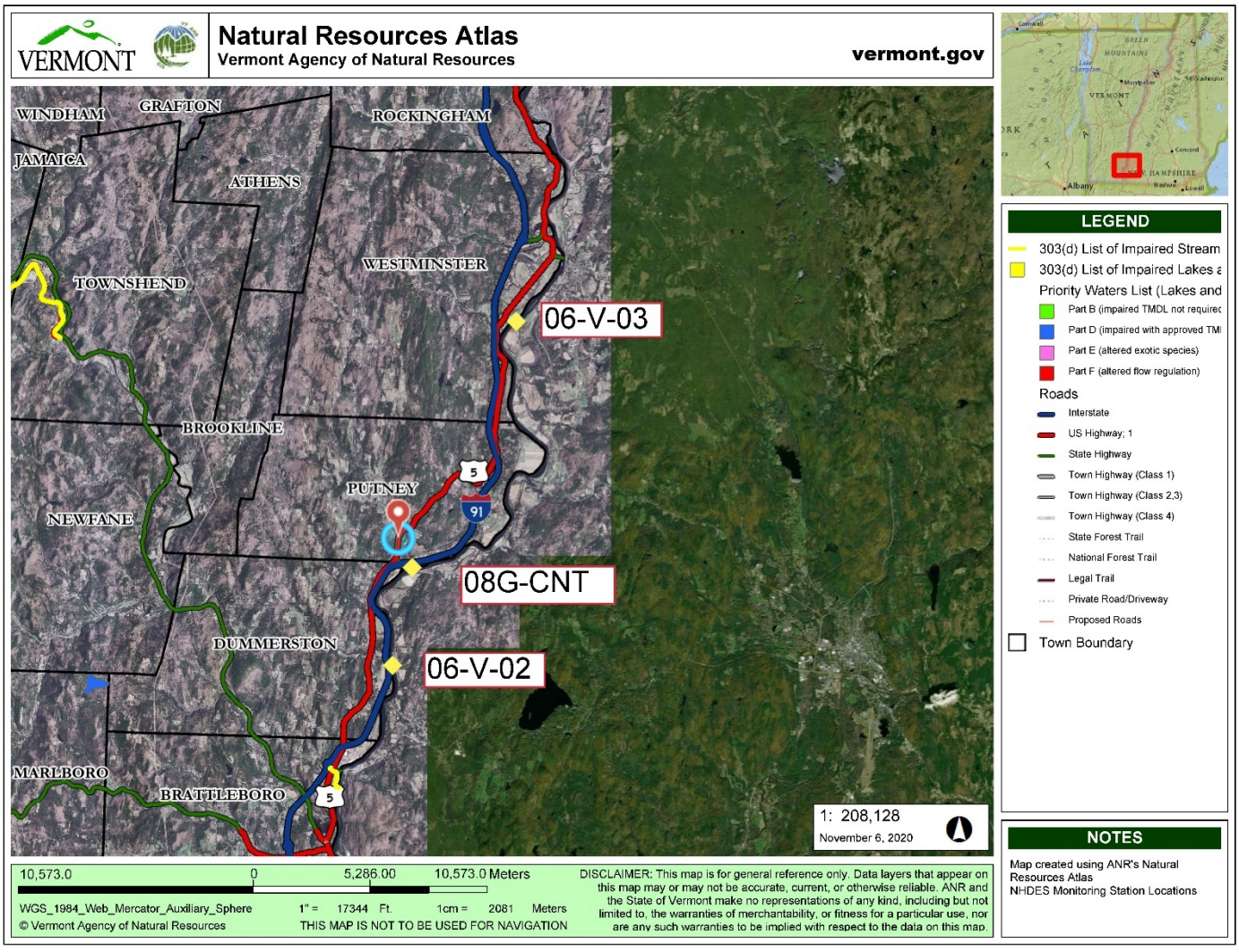


Figure 2. NH DES sampling locations near the Soundview Paper Company. The facility location is represented by a red pin with a blue circle, and the approximate locations of the sampling stations are shown by yellow diamonds. Figure produced with the Vermont Agency of Natural Resources Natural Resource Atlas (https://anrmaps.vermont.gov/websites/anra5/).

Table 2a. Surface-water quality data above the Soundview Paper Company Wastewater Treatment Facility from NHDES.

DATE	UPSTREAM OR DOWNSTREAM	NH DES MONITORING STATION ID	DISSOLVED OXYGEN (MG/L)			DISSOLVED OXYGEN SATURATION (%)			PH			SPECIFIC CONDUCTANCE (US/CM)			TEMPERATURE WATER (DEGREE C)			TURBIDITY (NTU)		
			AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX
6/6/2015	Downstream	06-V-02	9.74	9.69	9.81	99.3	98.7	100.1	7.40	7.38	7.41	92	92	92	16.28	16.27	16.29	0.38	0.00	0.90
6/12/2015	Downstream	06-V-02	8.86	8.82	8.87	93.8	93.4	93.9	7.41	7.36	7.43	99	99	99	18.10	18.09	18.11	1.13	0.00	3.30
6/17/2015	Downstream	06-V-02	9.35	9.33	9.36	98.4	98.1	98.5	7.47	7.46	7.48	92	92	92	17.82	17.80	17.86	0.18	0.00	0.90
6/27/2015	Downstream	06-V-02	9.18	9.16	9.20	100.0	99.8	100.2	7.42	7.39	7.44	85	85	85	19.50	19.49	19.51	2.67	2.30	3.30
7/9/2015	Downstream	06-V-02	8.87	8.81	8.91	101.3	100.3	102.9	7.48	7.45	7.51	113	113	113	21.93	21.71	22.48	0.47	0.30	0.60
7/17/2015	Downstream	06-V-02	8.40	8.35	8.43	99.2	98.6	99.6	7.56	7.54	7.57	143	142	143	23.71	23.68	23.73	0.18	0.10	0.40
7/22/2015	Downstream	06-V-02	8.20	8.16	8.22	95.8	95.3	96.0	7.47	7.45	7.48	128	128	128	23.09	23.08	23.10	1.13	0.90	1.60
7/31/2015	Downstream	06-V-02	8.52	8.37	8.68	103.5	101.0	106.1	7.62	7.60	7.65	127	127	127	25.21	24.86	25.83	1.13	1.10	1.20
8/4/2015	Downstream	06-V-02	8.17	8.01	8.31	98.2	95.8	101.2	7.53	7.51	7.56	137	136	138	24.58	24.36	25.33	1.19	1.10	1.30
8/13/2015	Downstream	06-V-02	8.01	7.98	8.03	95.6	95.3	96.0	7.58	7.57	7.59	144	144	144	24.29	24.28	24.30	1.43	1.40	1.50
8/23/2015	Downstream	06-V-02	7.80	7.63	7.94	93.6	91.3	95.6	7.70	7.68	7.72	157	156	157	24.48	24.34	24.68	0.83	0.80	0.90
8/31/2015	Downstream	06-V-02	8.32	8.03	8.62	100.4	96.2	106.0	7.65	7.56	7.74	145	144	145	24.79	24.43	25.85	0.73	0.60	0.80
9/13/2015	Downstream	06-V-02	7.47	7.37	7.54	88.3	87.2	89.2	7.58	7.56	7.60	154	154	154	23.76	23.74	23.78	0.50	0.50	0.50
9/24/2015	Downstream	06-V-02	8.64	8.45	8.77	97.1	94.7	99.2	7.72	7.68	7.74	153	153	153	21.10	20.92	21.39	0.38	0.10	1.00
10/2/2015	Downstream	06-V-02	10.01	9.98	10.04	102.0	101.7	102.4	7.54	7.50	7.55	120	120	120	16.26	16.26	16.27	23.30	19.40	27.20

Table 2b. Surface-water quality data downstream of the Soundview Paper Company Wastewater Treatment Facility collected by NHDES.

DATE	UPSTREAM OR DOWNSTREAM	NH DES MONITORING STATION ID	DISSOLVED OXYGEN (MG/L)			DISSOLVED OXYGEN SATURATION (%)			PH			SPECIFIC CONDUCTANCE (US/CM)			TEMPERATURE WATER (DEGREE C)			TURBIDITY (NTU)		
			AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX	AVERAGE	MIN	MAX
6/6/2015	Upstream	06-V-03	10.07	10.05	10.08	103.2	103.1	103.3	7.50	7.50	7.50	94	94	94	16.55	16.52	16.57	0.20	0.00	0.40
6/12/2015	Upstream	06-V-03	9.01	9.01	9.02	95.9	95.9	96.0	7.51	7.50	7.51	99	99	99	18.35	18.35	18.36	0.23	0.00	0.40
6/17/2015	Upstream	06-V-03	9.55	9.53	9.56	101.3	101.2	101.5	7.53	7.52	7.55	92	91	92	18.22	18.20	18.23	0.08	0.00	0.10
6/27/2015	Upstream	06-V-03	9.24	9.22	9.24	101.7	101.5	101.8	7.52	7.52	7.52	87	87	87	20.05	20.05	20.06	2.18	2.10	2.30
7/9/2015	Upstream	06-V-03	9.61	9.58	9.63	110.9	110.5	111.1	7.74	7.73	7.74	135	135	135	22.43	22.42	22.43	2.08	1.90	2.20
7/17/2015	Upstream	06-V-03	9.08	9.08	9.09	107.5	107.5	107.5	7.82	7.82	7.83	148	148	148	23.77	23.77	23.77	0.90	0.80	1.00
7/22/2015	Upstream	06-V-03	8.31	8.29	8.33	96.6	96.4	96.9	7.51	7.48	7.53	130	130	130	22.88	22.87	22.89	3.60	3.40	3.80
7/31/2015	Upstream	06-V-03	9.34	9.33	9.35	113.3	113.2	113.4	7.73	7.70	7.77	120	120	120	25.08	25.06	25.09	1.63	1.50	1.70
8/4/2015	Upstream	06-V-03	9.32	9.30	9.32	113.7	113.5	113.7	7.82	7.81	7.82	157	157	157	25.43	25.42	25.44	0.88	0.80	0.90
8/13/2015	Upstream	06-V-03	8.06	8.04	8.07	96.1	95.9	96.2	7.61	7.60	7.62	147	147	147	24.20	24.19	24.20	1.85	1.80	1.90
8/23/2015	Upstream	06-V-03	9.10	9.09	9.11	109.8	109.7	109.9	7.86	7.84	7.87	141	138	143	24.82	24.81	24.82	0.80	0.70	0.90
9/1/2015	Upstream	06-V-03	7.91	7.90	7.93	93.3	93.1	93.4	7.51	7.50	7.52	142	142	142	23.57	23.57	23.57	0.00	0.00	0.00
9/14/2015	Upstream	06-V-03	7.65	7.64	7.66	87.8	87.7	88.0	7.59	7.58	7.60	162	162	162	22.19	22.19	22.20	10.20	9.60	11.30
9/24/2015	Upstream	06-V-03	9.78	9.69	9.81	109.8	108.6	110.3	7.95	7.92	7.97	158	158	158	21.02	20.90	21.13	0.25	0.20	0.30
10/2/2015	Upstream	06-V-03	10.26	10.25	10.27	104.1	104.0	104.2	7.53	7.50	7.55	113	113	113	16.08	16.07	16.09	24.51	23.70	25.20

Table 2c. Surface-water quality data near effluent point for the Soundview Paper Company Wastewater Treatment Facility collected by NHDES.

DATE	LOCATION	NH DES MONITORING STATION ID	CHLORIDE (MG/L)	GRAN ACID NEUTRALIZING CAPACITY (MG/L)	PH	SPECIFIC CONDUCTANCE (US/CM)	PHOSPHORUS AS P (MG/L)	E. COLI MPN/100 ML
7/26/2018	Near Discharge	08G-CNT	25.40	60.40	7.40	189.90	0.15	488.40

Table 2d. Surface-water quality near effluent point for the Soundview Paper Company Wastewater Treatment Facility collected by the Connecticut River Conservancy.

DATE	SPECIFIC SAMPLE SITE DESCRIPTION	DISSOLVED OXYGEN (MG/L)	DISSOLVED OXYGEN SATURATION (%)	PH	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEGREE C)	TURBIDITY (NTU)
	10' d/s of the outfall but only at the surface	-	-	7.47	-	-	1.04
	~ 10' u/s of it at ~ 6" deep	-	-	8.16	-	-	1.74
7/2/2020	at the outfall at ~ 6" deep	-	-	7.45	-	-	1.08
	4 feet below water level at outfall	-	-	7.07	-	-	2.42
	bucket at surface at outfall site	4.07	50.4	7.25	204.8	26.2	1.79
7/21/2020	10' d/s of the outfall but only at the surface	-	-	7.54	-	-	0.99
	4 feet below water level at outfall	4.64	54.9	7.16	240.3	23.8	2.88
	bucket at surface at outfall site	5.13	61.9	7.41	220.8	24.8	2.8
	10' d/s of the outfall at surface	-	-	7.26	-	-	2.04
8/5/2020	20' d/s of the outfall at surface	-	-	7.41	-	-	1.15
	4 feet below water level at outfall	5.61	66.2	7.74	259.9	24.2	1.98
	bucket at surface at outfall site	5.63	67.8	7.76	160.2	26.2	0.44
	10' d/s of the outfall at surface	-	-	7.76	-	-	0.71
8/20/2020	20' d/s of the outfall at surface	-	-	8.03	-	-	0.69
	4 feet below water level at outfall	5.54	62.3	7.52	568	21.1	9.39
	bucket at surface at outfall site	6.68	76.1	7.87	224.8	21.8	1.45
9/11/2020	10' d/s of the outfall at surface	-	-	7.96	-	-	1.19

IV. Assessment of Reasonable Potential of the Soundview Paper Company WWTF discharge to exceed Vermont Water Quality Standards

A. ***Methodology:***

A steady-state mass balance approach was used to assess reasonable potential for the potential pollutants of concern based on the methods described in the Technical Support Document for Water Quality-based Toxics Control (TSD; EPA/505/2-90-001). The expected receiving water concentrations (RWC; C_r) of pollutants were calculated according to Equation 1 at critical conditions. If the expected receiving water concentration determined exceeds the applicable Vermont Water Quality Standard, limits must be included in the permit. Tables 3, 4 and 5 present this analysis for the Soundview Paper Company.

$$\text{Equation 1.} \quad C_r = \frac{(Q_e)(C_e)+(Q_s)(C_s)}{Q_r}$$

Where:
C_r = resultant expected receiving water pollutant concentration (mg/L or ug/L)
Q_e = maximum permitted effluent flow (cfs).
C_e = critical effluent pollutant concentration (mg/L or ug/L)
Q_s = stream flow upstream of the point of discharge (cfs). Low Median Monthly flow for nutrients, 7Q10 for applying toxics criteria. When applicable, 30Q10 is used for chronic Total Ammonia Nitrogen assessments.
C_s = critical background in-stream pollutant concentration (units dependent on parameter, typically mg/L or ug/L).
$Q_r = (Q_s + Q_e)$ = resultant in-stream flow, after discharge (cfs)

NPDES regulations at §122.44(d)(1)(ii) require that permit writers consider the variability of the pollutant in the effluent when determining the need for Water Quality-Based Effluent Limits (WQBELs). EPA guidance for permit writers on how to characterize effluent concentrations of certain types of pollutants using a limited data set and accounting for variability is detailed in the TSD. The current analysis uses the TSD procedure to project a critical effluent concentration (C_{etsd}) of the 95th percentile of a lognormal distribution of observed effluent concentrations over 5 years. The 95th percentile is calculated from the effluent data set using the number of available effluent data points (n) for the measured concentration of the pollutant and the coefficient of variation (CV) of the data set to predict the critical pollutant concentration in the effluent. When less than 10 data points are available, the CV is set to 0.6. For less than 10 items of data, the uncertainty in the CV is too large to calculate a standard deviation or mean with sufficient confidence (TSD). The CV and n are used to determine the factor (TSD pg 54) that is multiplied by the maximum observed effluent concentration (C_e) to determine C_{etsd}.

$$\text{Equation 2.} \quad C_{etsd} = TSD_{factor} \times C_e$$

Where:
C_{etsd} = Effluent concentration adjusted to 95th percentile value (mg/L or ug/L)
TSD_{factor} = Factor based upon EPA TSD Table 3-2, pg 54
C_e = critical (maximum observed) effluent pollutant concentration (mg/L or ug/L)

The Instream Waste Concentration (IWC) is a measure of the effluent dilution and is also used as an estimate of the facility's potential to cause or contribute to an excursion of the VWQS. The IWC equation is the simplification of the flow portion of the mass balance equation (Equation 1) and is shown below in Equation 3:

$$\text{Equation 3.} \quad IWC = \frac{(Q_e)}{(Q_r)}$$

The critical effluent pollutant concentration (C_e) can be multiplied by the IWC to approximate the resultant receiving water concentrations (C_r).

This analysis of reasonable potential used the following data and assumptions:

- Average values of observed upstream and downstream chemical data were used for most calculations; exceptions are described below.
- Effluent pollutant concentrations (C_e) were set to the maximum observed effluent concentrations * TSD 95th percentile multiplier over the last 5 years of data collected except for E. coli which was set at the instantaneous limit. The symbol C_{etsd} is used to represent this value.

The spreadsheet used for these calculations is part of the permit record and available upon request.

B. Chlorine

This facility does not treat sanitary sewage and does not discharge chlorine.

C. Biochemical Oxygen Demand, 5 Day and Total Suspended Solids

This facility is subject to the effluent limitations required by 40 CFR Part 430. The applicable subcategory is Secondary Fiber Deink (Subpart I). The annual production for this facility is listed on the application as 90 tons per day. Using the categorical standards and this production rate, the BOD and TSS limits would be as follows:

Pollutant or Parameter	Daily Max (kg/kkg/day = lb/ 1000 lb/day)	Monthly Average (kg/kkg/day = lb/ 1000 lb/day)	Daily Max (lbs/ton/day)	Monthly Average (lbs/ton/day)	Production (Tons per day)	Daily Max (lbs/day)	Monthly Average (lbs/day)
BOD5	18.1	9.4	36.2	18.8	90	3258	1692
TSS	24.05	12.95	48.1	25.9	90	4329	2331
pH	Between 5 and 9						

Best Practicable Control Technology Limits for secondary deink paper mills from 40 CFR 430.

The current permitted BOD limits are 548 lbs/day, monthly average, and 818 lbs/day, daily maximum. The current permitted TSS limits are 200 lbs/day, monthly average, and 300 lbs/day, daily maximum. These limits are lower than the limits required by 40 CFR Part 430.

This facility has had one violation of TSS in the last five years. There is not a numeric VWQS for TSS, and the existing permit limits are far lower than the Best Practicable Control Technology (BPT) effluent limits required by 40 CFR 430. There does not appear to be reasonable potential for this discharge to violate VWQS for TSS.

There have been complaints about brown, foamy floating masses downstream of the outfall, and videos indicate that bubbles from the outfall pipe create foam at the surface. The composition of the foam is unknown, as is the composition of the gas bubbles. It is possible that fatty acids within the effluent contribute to the foam, but this facility utilizes carefully dosed anti-foam agents in their processes. The treatment

technology is very sensitive to foaming, so it is not likely that the effluent contains significant quantities of foam. In order to gather more information about the occurrence and nature of foam downstream of this facility the permit should contain a requirement that the permittee institute a program to gather, track and investigate aesthetic complaints related to their discharge. Operational changes such as more frequent pipe cleaning, air release valves upstream of the effluent point or other engineering controls should be considered.

This section of the Connecticut River is not impaired for oxygen as shown in Tables 2a and 2b. Additionally, this section is not on either the Vermont of the New Hampshire 303(d) list for oxygen. As shown in Table 2d, oxygen levels are depressed in the immediate vicinity of the outfall. Some of these measurements are below the VWQS for Cold Water Fish Habitat and the NHWQS for a Class B river.

VWQS require that the receiving water contain 6 mg/l of Dissolved Oxygen with a saturation of 70% at all times. NHWQS require an instantaneous minimum of 5 mg/l and daily average of 75% saturation. It is noted that the water temperatures are high for a Cold Water Fish Habitat, and that compliance with Warm Water Fish Habitat limits may be more realistic.

The VWQS requirements can be waived in a mixing zone.

Based upon the dissolved oxygen values in the receiving water, the lack of 303(d) listing for the receiving water, the existing permit limits which are considerably under the Federal limits, and the general compliance with those limits for BOD5, this facility does not have a reasonable potential to violate VWQS for this parameter once an initial dilution has occurred.

The existing mixing zone language should be updated to include BOD/dissolved oxygen. Due to the limited extent of the mixing zone and the reaeration provided by the river this mixing zone will not pose a barrier to aquatic life.

D. pH

This facility consistently meets their effluent pH limits. The receiving water does not seem to be impaired for pH near the discharge point, although it is on the 2018 NH DES 303(d) list. This reach is listed for Aquatic Life Integrity, with the last exceedance observed in 2004 and the priority for this reach to have a TMDL developed is Low. As currently operated this facility does not pose a reasonable potential for exceeding the water quality standards for pH.

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E. Turbidity

The results of mass balance calculation for Turbidity calculated using Equation 1 are presented in Table 3 below.

Table 3. Reasonable Potential Calculation for Turbidity near the Soundview Paper Company

	Turbidity TSD RPD Calculation	Notes
Qs (cfs)	817.96	Estimated 7Q10 flow
Qe (cfs)	0.425	permitted effluent discharge
Qr = Qs + Qe (cfs)	818.39	Qs+Qe
7Q10 IWC	0.0005	Qe/(Qs+Qe)
Cs (NTU)	1.78	average of upstream dry weather pollutant concentrations. Data from 10/2/2015 has been excluded due to precipitation upstream of the station within the 48 hours prior to the sample collection.
C_{etsd} (NTU)	694	effluent pollutant concentration adjusted by TSD factor
Cr = (CsQs+CetsdQe)/Qr (NTU)	2.13	resultant pollutant concentration in receiving water assuming full mix.
VWQS Criteria (NTU)	10.00	Turbidity Criteria for Cold Water fish habitat. (NHWQS for Class B River is an increase of 10 NTU over ambient turbidity. VWQS is more protective).
Exceedance Calculated?	NO	No Reasonable Potential.

This facility does not have reasonable potential to violate VWQS for turbidity when fully mixed. There is an existing mixing zone and limit which was instituted in order to prevent the effluent from exceeding 10 NTU. This facility currently has a turbidity limit and mixing zone which should be retained.

The permit includes a turbidity limit and daily monitoring requirement. The Vermont Water Quality Standards cite a limit of 10 NTU. However, during a previous permit renewal, the previous facility owner indicated that effluent monitoring results are significantly greater than the 10 NTU and requested a mixing zone as part of the permit application. The permittee conducted a dilution study in order to determine: 1) whether there was sufficient dilution in the Vermont portion of the receiving water to establish a mixing zone; and 2) if the outfall would need to be modified to insure that the mixing zone would remain in Vermont waters.

Putney Paper Company submitted a mixing zone analysis completed by Aquaterra in November 2005. The results indicated that the permittee could discharge up to 630 NTU and still meet the WQS limit of 10 NTU at the end of a 200 foot mixing zone without modifying the outfall. The Department concurred with the assumptions in the report in the issuance of the Department's prior permit which held a discharge limit of 630 NTU maximum. A more restrictive limit of 550 NTU was included in the previous permit.

Multiple complaints have been received regarding the turbidity of the effluent from this facility. A review of the discharge data and application of the conservative dilution factor indicate that this facility has excellent compliance with their turbidly limit, and that the turbidity in the receiving waters meets the water quality standard of 10 NTU (VWQS) at the end of the mixing zone and meets the NHWQS of not contributing more than 10 NTU above ambient conditions outside the mixing zone.

Water quality samples, including turbidity, have been collected at near discharge point by members of the Connecticut River Conservancy. This data is presented above in Table 2d; however, it has not been verified to meet the requirements of their QAPP by NH DES. For discussion purposes that data is being treated as valid in this document.

The maximum value of the turbidity samples collected at the outfall is 9.39 NTU collected on September 11, 2020. This is less than the permitted limit of 550 NTU and meets water quality standard of 10 NTU without the additional dilution provided by the mixing zone, or the further dilution into the flow of the river beyond the mixing zone.

Ambient turbidity in this section of the Connecticut River is lower than that of the effluent, and the contrast in turbidity between the effluent plume and the unmixed flows is visible. However, the calculated turbidity values from the effluent data are well within both exiting permit limits and water quality standards, and the turbidity measured within the mixing zone also meets the water quality standards.

As currently operated this facility does not pose a reasonable potential for exceeding the water quality standards for turbidity outside of the established mixing zone. This mixing zone and existing permit limit should be retained.

F. Total Metals

This facility has an IWC of 0.0005 at 7Q10. Based upon the Reasonable Potential Determination Decisions Trees prepared by the VT DEC Wastewater Program in conjunction with the MAPP program it has been determined that this facility does not have a reasonable potential to cause or contribute to exceedances of water quality standards for metals in the receiving water.

G. Nutrients

The potential Total Phosphorus and Total Nitrogen effluent loads for Soundview Vermont Holdings using Equation 1 are presented in Table 5 below.

Table 5. Assessment of Potential Total Phosphorus and Total Nitrogen Daily Effluent Load from the Soundview Paper Company

	Total Phosphorus	Total Nitrogen	Notes
Qe (MGD)	0.275		*permitted effluent discharge*
Cetsd (mg/L)	22.5	42.1	*effluent pollutant concentration adjusted by TSD method.*
Daily Load (lbs/day) = 8.34 * Flow (MGD)* Nutrient Concentration (mg/l)	51.6	96.6	*Potential Daily Load from Soundview Paper Company*

1. Total Nitrogen (TN):

TN is the sum of nitrate, nitrite, ammonia, soluble organic nitrogen, and particulate organic nitrogen.

TN is a calculated value based on the sum of NOx and TKN, and, shall be reported as pounds, calculated as:

Average TN (mg/L) x Total Daily Flow (MGD) x 8.34 = Pounds TN/day
where, TN (mg/L) = TKN (mg/L) + NOx (mg/L)

Per EPA excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Historically nutrient management focused on limiting a single nutrient—phosphorus or nitrogen—based on assumptions that production is usually phosphorus limited in freshwater and nitrogen limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both phosphorus and nitrogen is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs, some are P dependent, others N dependent and others are co-dependent on these two nutrients.

Like P, N promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than P alone. The relative abundance of these nutrients also influences the type of species within the community. Furthermore, a high N-to-P ratio may exacerbate the growth of cyanobacteria, while elevated levels of nitrogen increase toxicity in some cyanobacteria species. Given the dynamic nature of all aquatic ecosystems, for the State to fully understand the degradation to water quality it is necessary to limit P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

This facility discharges to the Connecticut River which ultimately discharges to the Long Island Sound. Target TN goals have been established for municipal wastewater plants along the Connecticut River in Vermont, but this facility has not been assigned a goal. As shown in Table 5, the probable maximum TN load in the effluent at the full design flow is 96.6 lbs/day. The current monitor only conditions for TN should be retained.

2. Total Phosphorus (TP):

The Connecticut River is not subject to Total Phosphorus limitations. As shown in Table 5, the probable maximum TP load in the effluent at the full design flow is 51.6 lbs/day. A monitor only condition is recommended for continued inclusion in the draft permit.

V. Summary of Reasonable Potential Determinations

The analysis of available data does not clearly indicate any Reasonable Potential to cause an exceedance of VWQS as this facility is currently operated. However, very limited data was available for use in the analysis. The VT DEC MAP program should establish upstream and downstream monitoring locations for this facility and collect water quality parameters at a minimum frequency of once every five years. This monitoring could also be conducted by volunteer groups under an approved QAPP. This monitoring should include Dissolved Oxygen, Dissolved Oxygen Saturation, Temperature, Turbidity, BOD5, TP, TN, NOx, TKN, TAN, priority metals, hardness, pH, turbidity and an assessment of aesthetic conditions. Additional monitoring is recommended so that these analyses can be repeated with increased robustness during the next permit issuance cycle.

Recommended Biological and Water Quality Monitoring:

No additional instream monitoring by this facility is recommended.

A. ***Recommended Effluent Monitoring:***

In addition to the monitoring required in the current permit, the following monitoring is suggested for inclusion in the renewed permit to provide additional data to support future Reasonable Potential Determinations:

- This facility has been subject to several complaints regarding the presence of foam downstream of the discharge point. It is recommended that the facility develop a program to track these complaints, correlate them with discharge conditions and develop measures to minimize the entrainment of air within the effluent. Engineering controls should be considered.
- The effluent has a reasonable potential to depress oxygen levels below VWQS in the vicinity of the effluent point. This reasonable potential disappears when the dilution from the existing mixing zone is applied. The mixing zone language should be expanded to include BOD and dissolved oxygen. The existing limit is protective of VWQS once mixing has occurred. The requirement for 4 two-species acute and chronic WET tests should be included in the new permit. If technically feasible, WET tests should attempt to quantify toxicity below 6.25% by including an appropriate dilution.

B. ***Conclusion***:

After review of all available information, it has been determined that there is not a reasonable potential for the discharge to cause or contribute to a water quality violation. Given the dilution (IWC at 7Q10 is = 0.0005 (<1%)), this discharge does not appear to cause, have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria.

ATTACHMENT C.

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
NPDES Discharge Permit No. 3-1128
Soundview Vermont Holdings, LLC
Wastewater Treatment Facility

The Vermont Agency of Natural Resources (Agency) placed the above referenced permit on public notice from May 12, 2021 to June 14, 2021 and scheduled a public meeting on June 3, 2021. A request to extend the public comment period and reschedule the public meeting was received on May 20, 2021. The Agency extended the public comment period from May 12, 2021 to July 14, 2021 and rescheduled the public meeting to June 29, 2021.

Comments on the draft permit were received during the public notice period. The following is a summary of the comments and the Agency's responses to those comments. A copy of any or all comments received can be obtained by contacting the Agency's Watershed Management Division at (802) 828-1115.

All comments received during the comment period are attached.

COMMENT 1:
General Comments
Section VII. Facility History and Background in the Fact Sheet provides a very brief description of the treatment process. CRC would encourage the VT Department of Conservation to include a treatment diagram and more detail as to what chemicals and / or coagulants are added during the treatment process for this and other facilities in the Fact Sheet for NPDES permits. The more information that is provided creates an easier pathway for the public to participate in commenting in these public processes.

RESPONSE 1:
The Fact Sheet has been revised to include a diagram of the wastewater treatment process (Attachment A to the Fact Sheet). Amerfloc 485, Charge-pac 55, and Drewfloc 2250 are coagulants that are added to the treatment process and MAP (Phosphoric acid) and Urea are two nutrients that are added to aid in the treatment process at Soundview Vermont Holdings, LLC (Soundview). The Agency appreciates this comment and continually seeks to improve the information included in permitting decisions.

COMMENT 2:
Under this section, the Fact Sheet states, "Effluent from the mill may be directed to the lagoon once per year during scheduled treatment system maintenance or during emergency situations." How is this effluent handled once in the lagoon? What ultimately happens with this discharge to the lagoon?

RESPONSE 2:
According to the facility operators, the lagoon water, which is mainly comprised of rainwater and snowmelt, is pumped back up to the mill a couple times a year and is used for maintenance or emergency flow and is treated through the waste treatment system before discharge.

COMMENT 3:
Effluent Limits and Monitoring Requirements
CRC is grateful that the State has established a mixing zone and maintained limits for BOD in this draft permit, but the monitoring requirements in the draft permit do not explain how the State will assess the dissolved oxygen in the mixing zone. The discharge pipe is in the middle of the mouth of Sacketts Brook,

which has a very narrow confluence. Lack of DO that results from high biochemical oxygen demand may create an anoxic wall for species attempting to move into or out of this tributary to the Connecticut River. CRC would suggest that in addition to BOD limits monitored in the effluent sampled at the valve in the discharge line, that Soundview be required to periodically monitor DO, pH, and conductivity at the end of the discharge pipe to assess the effect that the mixing zone has on the mouth of Sacketts Brook.

RESPONSE 3:
In response to these comments, the permit has been modified to include Condition I.F.2, requiring the completion of an updated hydraulic study to reevaluate available dilution within the mixing zone under various conditions. It is the Agency's intent that the study will determine if an "anoxic wall" is created by the discharge preventing aquatic biota from moving freely between Sacketts Brook and the Connecticut River. The report is required to include hydraulic modeling and monitoring results for temperature, dissolved solids, dissolved oxygen, BOD, and turbidity.

COMMENT 4:
CRC notes that the 2013 permit required that BOD, TSS, TN, and TP be monitored using a 24-hour composite sample. The 2021 draft permit requires these parameters be collected in an 8-hour composite between the hours of 6 AM and 6PM. The Fact Sheet does not explain the rationale for this change. If the facility had no discharges overnight, this change would be more conservative, but the Fact Sheet section II states, "The WWTF maintains a constant discharge to the Connecticut River." We believe that the 8-hour composite may be less conservative and miss 16 hours of discharges. We would appreciate an explanation.

RESPONSE 4:
Based on correspondence from the operators of the WWTF, BOD_5 samples are taken as a 24-hour composite that is flow proportioned set at every 100 gals of discharge. To align the permit with the practice of the facility and address this comment, the draft permit has been changed to specify a 24-hour composite sample for BOD_5, TSS, TKN, NO_x, and TP.

COMMENT 5:
The Vermont Water Quality Standards (VWQS) lists an effluent turbidity limit of 10 NTU. The draft permit fact sheet indicates that the Permittee submitted a mixing zone analysis completed by Aquaterra in November 2005 which indicated that the Permittee could discharge up to 630 NTU and still meet the water quality standard limit of 10 NTU at the end of the 200' mixing zone. The draft fact sheet goes on to explain that the Permittee discharged at lower turbidity levels after the primary clarifier was replaced in 2009 and that the Agency and the Permittee agreed upon an effluent limit of 550 NTU. This decision was made 12 years ago. In 2020 the max turbidity reported based on monitoring was 376 NTU; in 2019 the max turbidity was 534 NTU and in 2018 the max turbidity reported was 322 NTU with an average of ~230 NTU over these years. The facility is clearly able to process the effluent in a way that reduces turbidity to well below the 550 NTU limit most of the time. Given this, CRC requests that the turbidity discharge limit of 550 NTU be reduced to 400 NTU to more closely reflect the parameters that the facility can clearly function within. The goal of the NPDES program is to "eliminate" discharges by continual process improvements. It is appropriate that limits be consistently constrained to help us all meet the goals of the Federal Clean Water Act.

RESPONSE 5:
The 550 NTU turbidity limit within the mixing zone was established in accordance with Section 29A-204 of the Vermont Water Quality Standards. The 95th percentile value represents the effluent concentrations consistently achievable through proper operation and maintenance of the treatment works. The 95th percentile value for effluent turbidity discharged by the facility between October 2015 and July 2021 was ~467 NTU. While it may be true the facility could consistently achieve a lower limit than 550 NTU, it is not clear the facility can consistently discharge below 400 NTU.

Permit Condition I.F.2. has been modified to include an updated dilution study to evaluate operating conditions of the Permittee's WWTF in conjunction with process wastewater effluent within the mixing zone. The following parameters will be monitored in the mixing zone: turbidity, temperature, dissolved solids, dissolved oxygen, and BOD. These analyses may provide a basis to reduce the turbidity limit in future permitting decisions.

COMMENT 6:
The draft permit indicates that, "i. The effluent shall not cause visible discoloration of the receiving waters and j. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result…"

> Additionally, §29A-204 of the Vermont Water Quality Standards state that,
> "The Secretary shall ensure that conditions due to discharges of waste within any mixing zone shall: (D) Protect and maintain the existing uses of the waters; (E) Be free from materials in concentrations that settle to form objectionable deposits; (F) Be free from floating debris, oil, scum, and other material in concentrations that form nuisances; (G) Be free from substances in concentrations that produce objectionable color, odor, taste, or turbidity…"

Given this, CRC contends that the discharge is not currently meeting the Vermont Water Quality Standards. CRC has received numerous complaints about the color, smell, and appearance of the discharge at the mouth of Sacketts Brook from alarmed community members who are boating and swimming in the Connecticut River below and around the discharge area. Our CRC River Steward has documentation of the foam from the discharge flowing more than 1,770 feet downstream of the discharge pipe, well outside of the mixing zone. While we understand that Soundview may be in compliance with monitoring limits from testing done on effluent from the pipe at the plant, something is clearly happening as the effluent travels through the pipe to the discharge point at the mouth of Sacketts Brook. Changes need to be made over this permit term to ensure that the discharge will meet Vermont Water Quality Standards going forward.

RESPONSE 6:
Permit Condition I.F.1. has been revised to require an in-depth engineering study to determine the source of foam, bubbles, and floating masses in the vicinity of the outfall and implement any necessary operational changes to the Permittee's WWTF to prevent violations with the aesthetic narrative conditions of the VWQS (Environmental Protection Rules, Chapter 29A, §§ 29A-204, 29A-303, and 29A-306(c)(3). The Permittee shall conduct weekly inspections of the effluent plume and submit all findings along with any corrective actions taken as an attachment to the applicable monthly Discharge Monitoring Report (DMR) WR-43 form. Observations do not need to occur when the fishing access landing is inaccessible due to snow, ice, or flooding. If snow, ice, or flooding preclude an observation, that information shall be included in the record. In addition to requiring the facility to develop a program to track and investigate complaints (Condition I.G.),

the requirement to clean the outfall pipe based on the recommendations of the engineering evaluation is included in the draft permit.

COMMENT 7:
Whole Effluent Toxicity (WET) Testing

Under Section D.6., CRC appreciates the inclusion of four WET tests during the permit period. Language should be added to the WET testing requirement to indicate that the test needs to be done annually in case the permit needs to be administratively continued beyond 2026.

RESPONSE 7:
It is the Agency's practice to require additional testing during administrative continuance only if toxicity is detected within the current permit term. Condition I.D.5. states "In the event this permit is administratively continued pursuant to 3 V.S.A. § 814, and WET tests conducted during the permit term indicated any acute or chronic toxicity, the Permittee shall maintain the WET testing frequency established in Condition I.D.6. during such continuance". Previous WET tests indicate that some toxicity may be observed, and if so, this condition will require continued WET testing should this permit be administratively continued.

COMMENT 8:
Additionally, CRC is confused why there is no toxicity limit associated with the WET test. We recommend some toxicity limit be included to ensure protection of aquatic species in the receiving waters.

RESPONSE 8:
At critical flows (maximum facility design flow and lowest seven-day average flow likely to be observed every 10 years) this facility comprises 0.052% of the river. This is a very high level of dilution and WET test methods are not currently sensitive enough to be conducted at this level, therefore a WET limit is not included in the permit.

Additionally, the data available does not indicate that this facility has reasonable potential for toxics in toxic amounts. In order to evaluate toxicity present in an effluent, Toxic Units are used. Toxic Units are defined as the inverse of the LC50 ("LC" being lethal concentration) for acute toxicity and No Observable Effect Concentration (NOEC) for chronic toxicity adjusted for the percentage notation. In other words, the acute toxicity of an effluent sample is expressed as 100/LC50 where LC50 is the concentration at which 50 percent of the test organisms died expressed as a percentage. Chronic toxicity is expressed as 100/NOEC where NOEC is the concentration at which no observable chronic effects were found expressed as a percentage. Reasonable Potential for acute toxicity is defined as 1 acute toxic unit when evaluated against 7Q10 flows (lowest 7-day average flow that occurs (on average) once every 10 years**)**. Reasonable potential for chronic toxicity is defined as 0.3 acute toxic units when evaluated against 7Q10 flows.

Due to the high dilution provided by the Connecticut River near this facility an effluent would require 1923 acute toxic units to be considered acutely toxic (1/0.00052 = 1923.4) and 577 acute toxic units to be considered chronically toxic. The highest acute toxicity value for this facility was 2.48 toxic units and therefore no reasonable potential for acute toxicity exists. The highest observed chronic toxicity value was >400 acute toxic units. This value cannot be said to exceed the chronic toxicity threshold of 577 acute toxic units and more testing with increased precision is included in the draft permit to further investigate chronic toxicity.

COMMENT 9:
Given the importance of migratory species to the Connecticut River, and that the US Fish and Wildlife Service and NOAA are actively supporting the restoration of sea lamprey, American shad, and American eel, CRC requests that at least one of the WET tests take place during the fish migration season between May and July. We are not sure why January-February and August to October are chosen, but perhaps it would make sense to stagger these WET tests across all four seasons.

RESPONSE 9:
WET test periods for publicly owned treatment works (POTWs) have been set for the winter and summer periods in order to examine seasonal changes in the effluent quality while avoiding time periods with high precipitation that could dilute any toxics in the effluent. The time periods for this facility, which is not a POTW, mirror those. Effluent data for this facility does not exhibit any obvious seasonal trends, which is what would be expected from an industrial treatment process with constant production. Therefore, WET testing dates were changed in the final permit to represent each of the four seasons over the permit cycle.

COMMENT 10:
Annual Outfall Reporting
CRC understands that the discharge at the end of the pipe has to be correlated with processes in the plant in order to understand what is causing the burping of the discharge. But it is incumbent upon Soundview Vermont Holdings to identify and rectify the issue. It is not reasonable to base the company's compliance with Water Quality Standards on establishing a process to respond to complaints from the public. Most people would not know where to complain or might be reluctant to complain because of the nature of the small towns that we live in. Additionally, many river users who see the pipe may be from other towns who are encountering the discharge while on the river. CRC received complaints from residents of NH towns who boat in the vicinity of the pipe. While Soundview can provide some contact information on the Fish and Wildlife billboard at the Putney and Dummerston Boat launch sites, more needs to be done to provide a transparent process for communication between the local and surrounding communities and the company. As we heard at the public meeting, the community does seem willing to help Soundview by trying to notify them in real time about the nature of the discharge when it is occurring, but, ultimately, Soundview needs to establish some engineering analysis to ascertain what is happening in the pipe. Responsibility for meeting water quality standards rests solely on the permittee, not the public, and the permit should be revised to reflect that.

RESPONSE 10:
The Agency acknowledges these points and has added a requirement for an engineering analysis for the facility to examine the WWTF, effluent discharge pipe, and outfall to determine the cause of potential violations of the aesthetic condition of the VWQS in the receiving water (see Condition I.F.1.). Weekly inspections of the effluent plume shall be conducted by the Permittee (unless access to the discharge point is precluded by snow, ice, or flooding) for visible turbidity, foam, floating masses, or other potential violations of the VWQS and reported to the Agency as an attachment to the applicable DMR form WR-43.

COMMENT 11:
The draft permit states, "Engineering controls to reduce the accumulation of foam in the receiving water shall be considered and submitted to the Secretary for review." CRC feels that this language in the permit is too loose. The permit should establish a specific timeline for steps to address issues related to the discharge. For example, a deadline and specific process should be established for targeted public outreach to solicit

real time information from river users on discharges from the pipe over the remainder of the 2021 and 2022 boating seasons outlining how the communities will be notified of contact information for Soundview representatives that are collecting this detailed information; how community members should collect and document the information; and how it should be transmitted. Can Soundview establish a phone number that texts and images can be sent to? Additionally, the Permittee should contract for an engineering analysis to be completed by 2023 to establish possible engineering controls that can be implemented in 2024-2025. CRC would expect that significant progress be made during this next five-year permit period to eradicate or significantly reduce turbidity, smell and foaming from this discharge before the subsequent NPDES permit is drafted in 2026.

RESPONSE 11:
Permit Condition I.F.1 contains a requirement for the Permittee to conduct an engineering analysis of facility operations and effluent conditions in the receiving water. The report shall identify all necessary changes to the operation of the WWTF to prevent violations of VWQS at the outfall. A maintenance program along with a schedule of required facility modifications shall be submitted for approval by the Secretary by December 31, 2023.

COMMENT 12:
The annual outfall report should be required on December 31 of each year until a new permit is issued in case the permit has to be administratively continued.

RESPONSE 12:
Condition I.G. was amended to include the following language: In the event this permit is administratively continued pursuant to 3 V.S.A. § 814, the Permittee shall continue annual outfall monitoring and report by January 15 each year.

COMMENT 13:
CRC is aware of an example from Erving, MA where the effluent from a recycled paper making facility and the municipal treatment facility is combined. In this example, the waste from the paper facility makes up 95% of the total effluent flow. Given that the Putney WWTF discharges directly to Sacketts Brook, the WWTF NPDES permit will expire in September, and the towns may have access to American Rescue Plan Act (ARPA) Federal funding for wastewater treatment, CRC wonders if there may be any benefit or efficiency to combining treatment processes between these two adjacent facilities. The current draft permit for the Erving, MA facility can be found here https://www.epa.gov/sites/production/files/2021-06/documents/draftma0101052permit.pdf in case this example is useful to Soundview and the VT DEC.

RESPONSE 13:
Combining the wastewater treatment facilities is not within the Secretary's jurisdiction unless the municipality and industry enter into an agreement and apply for permit coverage as co-permittees. While this may be an allowable use of ARPA funds awarded to municipalities, a project of this type would fall outside the current funding scope of the State of Vermont ARPA programs.

COMMENT 14:
Brian of Soundview suggested that hydrogen sulfide, now being used in paper processing instead of chlorine, might be bubbling at the outlet pipe in the Connecticut River. The Connecticut River Conservancy

should collect a water sample which the state then tests for hydrogen sulfide. If it is present: Does the state think this is the answer to the foam? Do levels of hydrogen sulfide meet state requirements?

RESPONSE 14:
The State of Vermont does not have water quality standards for hydrogen sulfide. Hydrogen sulfide is generated by decaying organic matter. Such matter may be present in the effluent pipe, in the mass of cat tails at the mouth of Sacketts Brook, and in the wetland immediately upstream of the railroad tracks over Sacketts Brook. Passing any gas bubbles through the water, whether they be oxygen, hydrogen sulfide, nitrogen, etc., will produce foam if the surface tension is high enough. The surface tension of the water can be affected by a variety of chemicals both natural and artificial. Foam can be observed in many waterways where turbulence mixes gas with water.

COMMENT 15:
Can water samples at appropriate locations near the discharge pipe also be tested for other paper processing chemicals to assure state standards are being met?

RESPONSE 15:
The Vermont Water Quality Standards do not include values for all the paper processing chemicals that are available for use, though Standards may exist for derivatives of these chemicals. Moreover, there are not methods that can detect individual paper processing chemicals and are accepted for compliance with the Clean Water Act under 40 CFR part 136. However, pollutants of concern that do have acceptable methods can be detected through a Priority Pollutant Scan. These scans have been added to the draft permit in conjunction with the first and third WET tests.

COMMENT 16:
In regard to a mechanical situation causing foam: In addition to random reports and photographs being submitted to Soundview whenever foam is noticed, I think the state should set up a one week observation period during which a camera takes photos of the discharge coming from the pipe. I think even a game camera, set to take a photo every so many minutes, would work. This should be done when no Bellows Falls or Vernon dam releases are anticipated. Perhaps Fish and Wildlife or volunteers could set up the camera(s). During the same week, Soundview should keep track of activities at the plant, and calculate when those activities would create an excessive discharge, or some other event which would create foam at the discharge pipe. Soundview's part in this sounds difficult to me--what with settling ponds, etc., but perhaps it can be done. Should these investigations take place before or after the permit is issued?

RESPONSE 16:
This investigation approach could be considered as part of the engineering analysis required by the Permittee. This response to comments will be part of the permit record and should be shared with the engineer hired by the Permittee to carry out the required engineering analysis of the facility.

COMMENT 17:
<u>Discharge</u>
The testing and the collection of samples at the discharge end seems to be very limited and dependent on public observation and complaints, rather than any active, regular monitoring. While the testing at the point of entry to the discharge pipe at the plant is useful in determining the content of the discharge as it enters the pipe, it provides no information, of course, regarding

the spread of the discharge once it hits the Connecticut River. Is it within the allowed diffusion zone? Is it indeed becoming dilute enough that it's impact is safe; and within what range? It seems no one knows. The notion that Vermont doesn't test the waters in the Connecticut because the river is in New Hampshire makes no sense, since this is a Vermont industrial site, and a Vermont permit that is being applied for. While I can understand the thinking, surely it is obvious that this merely creates a 'dead zone' of oversight that Vermont A.N.R. should correct. Random sampling with G.P.S. coordinates indicating where the sample was taken, under contract with an engineering company, the Conservancy, or even by A.N.R. itself, (or as a last resort by members of the public,) with the results going to A.N.R to be plotted and tracked, should be folded into the permit requirements.

RESPONSE 17:
The Agency acknowledges there is a gap in the monitoring of the water quality around this facility and anticipates this issue will be addressed in part by the engineering assessment and instream monitoring requirement discussed in the responses to comments above. Moreover, this site will be added to the list of new sites to be included in the Agency's rotating sampling schedule.

COMMENT 18:
Enforcement
I got the impression listening to the information session and the hearing that there is no significant enforcement, even of the existing permit. It seems that Soundview has done an admirable job of correcting when things exceed limits or otherwise go wrong, within the areas that they maintain their own oversight. However, this should not mean that the oversight that the public expects from A.N.R. And the State of Vermont should not be active and reliable. That is, there should be a check that the data being provided is accurate, and that amelioration measures are rapid and successful. In any industry where the safety of the public is at stake, government has an obligation to provide independent oversight and enforcement.

RESPONSE 18:
The Permittee has an obligation to comply with federal, state, and local statutes. Self-reported monitoring data is required monthly and compliance reviews are conducted quarterly by the Watershed Management Division. Condition I.H. is included in the permit and requires annual proficiency testing to ensure that analyses performed by the Permittee and their contract laboratory are accurate.

The discharge permit requires non-compliance with the permit to be communicated to the Wastewater Program within 24-hours of discovery. If the Permittee is found to be significantly noncompliant, the violations may be transferred to the Environmental Compliance Division and assigned an Environmental Enforcement Officer for investigation and when determined to warrant it, a case referral is sent to the Agency's legal team to initiate legal action and assess penalties and other appropriate remedies. In review of compliance records, the facility was recently determined to be in significant noncompliance for effluent BOD_5 violations and the Wastewater Management Program is following up on this. A list of permit limit violations during the current permit term is included as Attachment B. of the Responsiveness Summary.

A laboratory evaluation inspection was conducted in November 2008 and the facility received an "Acceptable" rating, which is the second highest rating in the Agency Wastewater Program's rating system. In addition, a Reconnaissance Inspection was conducted in July 2013 and a Compliance Evaluation Inspection (CEI) was conducted in December 2019. The facility received an "Excellent" rating on both

inspections, which is the highest rating in the Wastewater Program's rating system. The Permittee's next inspection is due in 2024, which is within the upcoming permit term.

COMMENT 19:
Methodology
As I understood the presentation at the hearing, there are a number of specific measures that are used to provide the analysis of the discharge, primarily derived from regulation and guidelines from the E.P.A., with Vermont's adjustments. Because the E.P.A. regulations tend to be minimalist in the first place, and because the E.P.A.'s effectiveness has been so hobbled over the years, it is hard to have confidence that the testing requirements are sufficient to ensure public safety. While Soundview may well be meeting the terms required by the testing, the more important question is, is the testing indeed testing what needs to be tested to ensure that the waters of the Connecticut are clean?

As a lay member of the public, the meaningful questions do not center around the level of this or that chemical in the effluent, or in the rate of minnow death. These are meant to be indicators, but it is not clear that they are addressing the underlying question. The important question is is the River safe for the people of the state? Is it safe for our kids to swim in? Can we have confidence that the fish caught in it are safe to eat? If, in order to answer these questions, alternative or additional testing or procedures need to be developed and implemented, then that should happen. There are always balances to be found, and competing interests to be weighed, between the legitimate needs of Soundview to produce a good product economically enough to be competitive in the marketplace, and the legitimate needs of the public to have a clean Connecticut river. The issues presented by these interests are not insurmountable, but they must be addressed in a forthright, clear, thorough, and thoughtful manner.

RESPONSE 19:
Designated uses for the waters of the State have been established in the Vermont Water Quality Standards (VWQS) with supplemental information and suggested changes incorporated through the Tactical Basin Plan program. In order to manage the waters of the State so that these uses can be achieved and/or maintained, numeric and narrative criteria have been developed based upon the water body classification. Environmental monitoring data is analyzed by the VT DEC's Monitoring and Assessment Program (MAP), and the Vermont Surface Water Assessment and Listing Methodology is used to determine 303(d) (impaired water) listing and the development of a total maximum daily load (TMDL) as necessary to achieve the designated uses. New Hampshire has a similar set of water quality standards, designated uses and assessment/listing procedures. The Tactical Basin Planning program is an important source of citizen concerns, environmental data that supplements data collected by MAP, and information about the watershed. This section of the Connecticut River is listed on the NH 303(d) list for pH. However, it is not listed as a priority for TMDL development, as pH values collected in the last 20 years have been in compliance with water quality standards, and the listing is based upon historic acid rain influenced data. It is also listed for mercury and is subject to the Northeast Regional Mercury TMDL. Fish consumption advisories remain in effect, but as with pH, this TMDL is largely based upon historical Midwest smokestack emissions that have been greatly reduced due to treatment requirements. Information about the current fish consumption advisories, as well as other links relevant to the discussion above, are included below.

VWQS
https://dec.vermont.gov/sites/dec/files/documents/wsmd_water_quality_standards_2016.pdf

VT Surface Water Assessment and Listing Methodology
https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/WSMD_AssessmentAndListingMethodology.pdf

Tactical Basin Plans
https://dec.vermont.gov/water-investment/watershed-planning/tactical-basin-planning

VT 2018 303(d) list
https://www.epa.gov/sites/default/files/2019-02/documents/2018-vt-303d-list-report.pdf
NH 303(d) list 010801070505_2018.pdf (state.nh.us)

Northeast Regional Mercury TMDL
https://dec.vermont.gov/sites/dec/files/documents/WSMD_mapp_TMDL_Northeast_Mercury.pdf

Vermont Fish Consumption Advisory
https://www.healthvermont.gov/sites/default/files/documents/2016/11/Env_RW_mercury_fish_alert.pdf

New Hampshire Fish Consumption Advisory
https://www.wildlife.state.nh.us/fishing/consume-fresh.html

COMMENT 20:
I have left the question of how some of the proposed permit requirements I discussed should be paid for for a different discussion. Is additional staffing needed at A.N.R.? Who should pay for the engineering and the development of up-to-date regulations? A good argument can be made that it should be part of the oversight that government provides, and the expense should be borne by the taxpayer as part of general government operations. An equally good argument can be made that if an industrial entity is to have permission to (potentially) adversely affect or degrade the environment, that it should be part of 'the cost of doing business' to ensure that such risks are minimized or eliminated, and that the taxpayer should not bear the burden of private profit making. I do not know that I personally come down on one side or the other of that question; in any event it seems that it will be better sorted out in the halls of Montpelier than in this letter.

RESPONSE 20:
This comment is included here to be part of the permit record but does not have direct bearing on the permit under formulation.

COMMENT 21:
Soundview Vermont Holdings, LLC operates a paper mill that produces products such as napkins, toilet paper, tissue, and paper towels from a 100% secondary wastepaper de-ink process. The process wastewater treatment facility is an extended aeration treatment plant consisting of a Dissolved Air Flotation (DAF) unit, two aeration tanks, and two clarifiers. The design flow of the facility is 275,000 gallons of water per day with an average water consumption over the last 5 years of 133,000 gallons per day. Soundview discharges effluent continuously into the Connecticut River.

The used paper that is deinked and recycled may contain a variety of chemicals and contaminants, including inks, glues, lacquers, synthetics, dioxins, furans, heavy metals, polychlorinated biphenyls (PCBs),

pathogens, PFOS, and micro-plastics (see Putney Lab message in "Nick Gianetti 9/12/18", attached). A variety of additional chemicals are then added to the slurried paperstock and water to de-ink and reconstitute the paper (see "Process Chemicals Soundview" spreadsheet, attached). Other than allowing the suspended solids to settle (clarify), the resulting effluent is discharged directly into the Connecticut River without additional filtration or purification (verified at public hearing on 6/29/21).

It is well known that adults, children and pets frequently swim in the river immediately downstream of the discharge pipe (also see Marie Caduto email from 10/18/18 in "2019.01.07 Marie Caduto", attached). Given the constant rate of effluent discharge, which is presumably more than 5500 gallons per hour (133,000 day/24) or 92 gallons per minute (133,000/24/60), it is reasonable to assume that swimmers are routinely and directly exposed to the Soundview effluent, which, in addition to the chemicals and pathogens present in the original paperstock, contains a variety of caustic substances added by the mill in the course of de-inking. At least 10 of these added chemicals cause skin irritation and 9 cause eye irritation and damage. Swimmers, especially young children and pets, may also be ingesting small amounts of the effluent, which likely contains poisonous and carcinogenic substances added by the mill, including1,3-Dichloro-2-propanol, aliphatic petroleum naphtha, and petroleum distillates (see "Soundview Chemicals", attached).

Some of the chemicals being used at the paper mill are also toxic or very toxic to aquatic life, including BIOSPERSE MICROBIOCIDE (“Prevent product from entering drains. Very toxic to aquatic life with long lasting effects"), DPC-625 CLEANING AGENT ("The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Very toxic to aquatic life with long lasting effect."), REZOSOL RELEASE AGENT ("If the product contaminates rivers and lakes or drains inform respective authorities. Harmful to aquatic life with long lasting effects. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container"), and others.

The effluent was last evaluated for its potential to negatively affect human health or aquatic life in 2017. This test, however, was probably not for all of the chemicals currently in use at Soundview, as the paper mill changed their treatment recipe sometime in 2017 and may have been using different chemicals since the last wet test was conducted (see "Nick Giannetti 1/30/2018" email, also email from Rick Levey 3/12/2018 in "NIck Gianetti 3/12/2018", both attached). Further, none of the particular hazardous chemicals known to be present in the settling tanks have ever been measured or looked for in the effluent, and so there is no data on the types or amounts of hazardous chemicals present in the effluent being discharged into the Connecticut River. There is also no data or modeling on the uptake of carcinogenic and other hazardous substances by fish and other organisms that are being harvested and consumed by people.

From the above, I do not believe it is reasonable for the Vermont Watershed Management Division to conclude that the discharged effluent is safe to release into the CT River, or that people and animals are not already being harmed. Without more specific data on the types and amounts of irritants and carcinogens being discharged by Soundview into the Connecticut River, the safer course of action would be to delay the granting of this permit until a constituent analysis of the untested effluent can be completed.

If possible, please provide me with answers to the following questions:

1)Does the public have the right to access the Connecticut River without risking their health from exposure to industrial chemicals?

RESPONSE 21:

This comment inaccurately states that the facility only provides primary treatment (settling) to effluent prior to discharge. As shown in the treatment system schematic furnished in response to Comment 1, treatment includes screening, polymer-aided clarification and aeration/biological treatment. This biological treatment is where organic material and chemicals are degraded by an assemblage of micro-organisms that are adapted to feeding on the constituents of this particular waste stream. This is a widely used approach for wastewater treatment. Filtration and purification are not commonly used to treat wastewater unless it is being directly used for drinking following discharge.

Based on the use classification by the State of Vermont, this reach of the CT river is classified as B(2) suitable for the uses of swimming and other primary contact recreation; irrigation and agricultural uses; aquatic biota and aquatic habitat; good aesthetic value; boating, fishing, and other recreational uses; and suitable for public water source with filtration and disinfection or other required treatment.

Vermont Water Quality Standards and the Clean Water Act require the Agency Secretary to manage discharges to assure no toxics in toxic amounts are present in the receiving water. § 29A-303(7). Toxicity from the chemicals listed above would be noted as toxicity in the Whole Effluent Toxicity tests that are required annually in Condition I.D. of the discharge permit.

The renewal of this permit allows the Secretary to update and include additional enforceable requirements in the permit, while suspending renewal would delay these updates. The renewed permit requires more frequent WET testing, priority pollutant analysis, a complaint logging system, and an engineering evaluation and implementation of recommendations made in that evaluation; all requirements that at this time the Agency expects will best be implemented through renewal of the discharge permit.

COMMENT 22:
2) What amounts of the following chemicals, in terms of parts per million or billion, are deemed by the State of Vermont to be safe for human skin contact and ingestion?:
1,3-Dichloro-2-propano
3-chloropropane-1 2-diol
aliphatic hydrocarbon
polyoxyethylene isodecyl ether
petroleum distillates
quaternary amide
alcohol alkoxylates

RESPONSE 22:
The State of Vermont does not have promulgated human heath exposure criteria for these chemicals.

COMMENT 23:
3) If this permit is issued prior to any additional testing of the effluent for toxicity, shouldn't the public at least be made aware of the potential health risks from swimming near the discharge pipe and consuming fish or other organisms contaminated with carcinogenic and other harmful chemicals? Shouldn't signs be installed in the vicinity of the pipe alerting the public to these risks?

RESPONSE 23:
There is no rule that requires discharge points to have signs indicating their locations. This permit was noticed in accordance with Vermont law and the permit record is available on request. Moreover, based on available data, the permit as written ensures the Vermont Water Quality Standards will be met. Should the data required to be collected in the renewed permit indicate this is not that case, the Agency reserves the right to amend the permit as needed to protect public health and the environment.

COMMENT 24:
4) In the absence of any public warning signs, should the Putney Landing Boat Ramp and Rowing Club Dock be relocated to protect the public, given that these structures (which are immediately downstream of the discharge pipe), are regularly used by swimmers?

RESPONSE 24:
The Putney Landing Boat Ramp and Dummerston Landing Boar Ramp are both Vermont Fish and Game Fishing Access Areas. Swimming from these areas is prohibited by law to protect the safety of swimmers given the dangers of boats and fishing in the vicinity. The Putney Rowing Club is a private entity, and the Wastewater Management Program has no jurisdiction over their dock location.

COMMENT 25:
5) Would anyone reading this knowingly pour even a very small amount of industrial chemicals that cause skin and eye irritation, eye damage, cancer, damaged fertility, reduced fetal weight, increased fetal deaths and skeletal malformations, intestinal upset, nose/throat/passageway irritation, lung irritation, irregular heartbeat, convulsions, dermatitis, nausea, vomiting and diarrhea into their bathtub and bathe with it? If not, how can it be reasonable to authorize the ongoing and continuous exposure of people, pets and wildlife to these chemicals, especially in the absence of public notices, warnings, or targeted strategies to measure and manage known health hazards?

RESPONSE 25:
The Agency cannot speculate about personal chemical exposure tolerances and the correlation with the Agency's authority and obligation to regulate discharges to State waters pursuant to the Clean Water Act and Vermont Water Quality Standards. The Agency does note that the chemicals listed in Comment 22 are all used in production of or found in consumer products and foodstuffs.

ATTACHMENT A.

PUBLIC COMMENTS

Connecticut River Conservancy

Clean water. Healthy habitat. Thriving communities.

PO Box 6219, Brattleboro, VT 05301
802.258.0413 · www.ctriver.org

July 13, 2021

Amy Polaczyk, Wastewater Program Manager
Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
1 National Life Drive
David Bldg 3rd Floor,
Montpelier, Vermont 05620-3522

Via email: anr.wsmdwastewater@vermont.gov;
ANR.WSMDWastewaterComments@vermont.gov

Re: Soundview Holdings NPDES Permit # 3-1128

Ms. Polaczyk,

Connecticut River Conservancy (CRC) is a nonprofit citizen group established in 1952 to advocate for the protection, restoration, and sustainable use of the Connecticut River and its four-state watershed. The interests and goals represented by CRC include, but are not limited to, improving water quality, enhancing habitat for fish and other aquatic biota, safe-guarding and improving wildlife habitat, enhancing public recreation, protecting aesthetic values, and fostering sustainable economic development. The Soundview Draft Permit #3-1128 affects certain tributaries and the Connecticut River directly and in doing so affects the interests of our members.

CRC has been involved in commenting on previous permits for this facility and we participated in the public meeting held on June 29, 2021. We have reviewed the draft permit and provide the following comments.

General Comments
Section VII. Facility History and Background in the Fact Sheet provides a very brief description of the treatment process. CRC would encourage the VT Department of Conservation to include a treatment diagram and more detail as to what chemicals and / or coagulants are added during the treatment process for this and other facilities in the Fact Sheet for NPDES permits. The more information that is provided creates an easier pathway for the public to participate in commenting in these public processes.

Under this section, the Fact Sheet states, "Effluent from the mill may be directed to the lagoon once per year during scheduled treatment system maintenance or during emergency situations." How is this effluent handled once in the lagoon? What ultimately happens with this discharge to the lagoon?

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS
CRC is grateful that the State has established a mixing zone and maintained limits for BOD in this draft permit, but the monitoring requirements in the draft permit do not explain how the State will assess the

dissolved oxygen in the mixing zone. The discharge pipe is in the middle of the mouth of Sacketts Brook, which has a very narrow confluence. Lack of DO that results from high biochemical oxygen demand may create an anoxic wall for species attempting to move into or out of this tributary to the Connecticut River. CRC would suggest that in addition to BOD limits monitored in the effluent sampled at the valve in the discharge line, that Soundview be required to periodically monitor DO, pH, and conductivity at the end of the discharge pipe to assess the effect that the mixing zone has on the mouth of Sacketts Brook.

CRC notes that the 2013 permit required that BOD, TSS, TN, and TP be monitored using a 24-hour composite sample. The 2021 draft permit requires these parameters be collected in an 8-hour composite between the hours of 6 AM and 6PM. The Fact Sheet does not explain the rationale for this change. If the facility had no discharges overnight, this change would be more conservative, but the Fact Sheet section II states, "The WWTF maintains a constant discharge to the Connecticut River." We believe that the 8-hour composite may be less conservative and miss 16 hours of discharges. We would appreciate an explanation.

The Vermont Water Quality Standards lists an effluent turbidity limit of 10 NTU. The draft permit fact sheet indicates that the Permittee submitted a mixing zone analysis completed by Aquaterra in November 2005 which indicated that the Permittee could discharge up to 630 NTU and still meet the water quality standard limit of 10 NTU at the end of the 200' mixing zone. The draft fact sheet goes on to explain that the Permittee discharged at lower turbidity levels after the primary clarifier was replaced in 2009 and that the Agency and the Permittee agreed upon an effluent limit of 550 NTU. This decision was made 12 years ago. In 2020 the max turbidity reported based on monitoring was 376 NTU; in 2019 the max turbidity was 534 NTU and in 2018 the max turbidity reported was 322 NTU with an average of ~230 NTU over these years. The facility is clearly able to process the effluent in a way that reduces turbidity to well below the 550 NTU limit most of the time. Given this, CRC requests that the turbidity discharge limit of 550 NTU be reduced to 400 NTU to more closely reflect the parameters that the facility can clearly function within. The goal of the NPDES program is to "eliminate" discharges by continual process improvements. It is appropriate that limits be consistently constrained to help us all meet the goals of the Federal Clean Water Act.

The draft permit indicates that, "i. The effluent shall not cause visible discoloration of the receiving waters and j. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result…"

Additionally, §29A-204 of the Vermont Water Quality Standards state that,

> "The Secretary shall ensure that conditions due to discharges of waste within any mixing zone shall: (D) Protect and maintain the existing uses of the waters; (E) Be free from materials in concentrations that settle to form objectionable deposits; (F) Be free from floating debris, oil, scum, and other material in concentrations that form nuisances; (G) Be free from substances in concentrations that produce objectionable color, odor, taste, or turbidity…"

Given this, CRC contends that the discharge is not currently meeting the Vermont Water Quality Standards. CRC has received numerous complaints about the color, smell, and appearance of the discharge at the mouth of Sacketts Brook from alarmed community members who are boating and swimming in the Connecticut River below and around the discharge area. Our CRC River Steward has

documentation of the foam from the discharge flowing more than 1,770 feet downstream of the discharge pipe, well outside of the mixing zone. While we understand that Soundview may be in compliance with monitoring limits from testing done on effluent from the pipe at the plant, something is clearly happening as the effluent travels through the pipe to the discharge point at the mouth of Sacketts Brook. Changes need to be made over this permit term to ensure that the discharge will meet Vermont Water Quality Standards going forward.

D. WHOLE EFFLUENT TOXICITY (WET) TESTING

Under Section D.6., CRC appreciates the inclusion of four WET tests during the permit period. Language should be added to the WET testing requirement to indicate that the test needs to be done annually in case the permit needs to be administratively continued beyond 2026.

Additionally, CRC is confused why there is no toxicity limit associated with the WET test. We recommend some toxicity limit be included to ensure protection of aquatic species in the receiving waters.

Given the importance of migratory species to the Connecticut River, and that the US Fish and Wildlife Service and NOAA are actively supporting the restoration of sea lamprey, American shad, and American eel, CRC requests that at least one of the WET tests take place during the fish migration season between May and July. We are not sure why January-February and August to October are chosen, but perhaps it would make sense to stagger these WET tests across all four seasons.

E. ANNUAL OUTFALL REPORTING

CRC understands that the discharge at the end of the pipe has to be correlated with processes in the plant in order to understand what is causing the burping of the discharge. But it is incumbent upon Soundview Vermont Holdings to identify and rectify the issue. It is not reasonable to base the company's compliance with Water Quality Standards on establishing a process to respond to complaints from the public. Most people would not know where to complain or might be reluctant to complain because of the nature of the small towns that we live in. Additionally, many river users who see the pipe may be from other towns who are encountering the discharge while on the river. CRC received complaints from residents of NH towns who boat in the vicinity of the pipe. While Soundview can provide some contact information on the Fish and Wildlife billboard at the Putney and Dummerston Boat launch sites, more needs to be done to provide a transparent process for communication between the local and surrounding communities and the company. As we heard at the public meeting, the community does seem willing to help Soundview by trying to notify them in real time about the nature of the discharge when it is occurring, but, ultimately, Soundview needs to establish some engineering analysis to ascertain what is happening in the pipe. Responsibility for meeting water quality standards rests solely on the permittee, not the public, and the permit should be revised to reflect that.

The draft permit states, "Engineering controls to reduce the accumulation of foam in the receiving water shall be considered and submitted to the Secretary for review." CRC feels that this language in the permit is too loose. The permit should establish a specific timeline for steps to address issues related to the discharge. For example, a deadline and specific process should be established for targeted public outreach to solicit real time information from river users on discharges from the pipe over the remainder of the 2021 and 2022 boating seasons outlining how the communities will be notified of contact information for Soundview representatives that are collecting this detailed information; how community members should collect and document the information; and how it

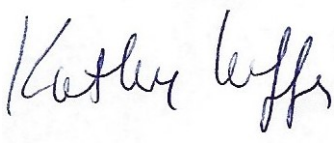
should be transmitted. Can Soundview establish a phone number that texts and images can be sent to? Additionally, the Permittee should contract for an engineering analysis to be completed by 2023 to establish possible engineering controls that can be implemented in 2024-2025. CRC would expect that significant progress be made during this next five-year permit period to eradicate or significantly reduce turbidity, smell and foaming from this discharge before the subsequent NPDES permit is drafted in 2026.

The annual outfall report should be required on December 31 of each year until a new permit is issued in case the permit has to be administratively continued.

CRC is aware of an example from Erving, MA where the effluent from a recycled paper making facility and the municipal treatment facility is combined. In this example, the waste from the paper facility makes up 95% of the total effluent flow. Given that the Putney WWTF discharges directly to Sacketts Brook, the WWTF NPDES permit will expire in September, and the towns may have access to American Rescue Plan Act (ARPA) Federal funding for wastewater treatment, CRC wonders if there may be any benefit or efficiency to combining treatment processes between these two adjacent facilities. The current draft permit for the Erving, MA facility can be found here https://www.epa.gov/sites/production/files/2021-06/documents/draftma0101052permit.pdf in case this example is useful to Soundview and the VT DEC.

Thank you for the opportunity to comment on this Draft Discharge Permit.

Sincerely,



Kathy Urffer
River Steward

Cc: Soundview Vermont Holdings (rparent@marcalpaper.com and bgauthier@marcalpaper.com)

Comments Regarding the 2021 Discharge Permit re-up for Putney Paper

The information presented at the hearing was helpful, and I thank you. You repeatedly suggested that comments be submitted in writing for the hearing, so I am doing so.

1. Discharge
   The testing and the collection of samples at the discharge end seems to be very limited and dependent on public observation and complaints, rather than any active, regular monitoring. While the testing at the point of entry to the discharge pipe at the plant is useful in determining the content of the discharge as it enters the pipe, it provides no information, of course, regarding the spread of the discharge once it hits the Connecticut River. Is it within the allowed diffusion zone? Is it indeed becoming dilute enough that it's impact is safe; and within what range? It seems no one knows. The notion that Vermont doesn't test the waters in the Connecticut because the river is in New Hampshire makes no sense, since this is a Vermont industrial site, and a Vermont permit that is being applied for. While I can understand the thinking, surely it is obvious that this merely creates a 'dead zone' of oversight that Vermont A.N.R. should correct. Random sampling with G.P.S. coordinates indicating where the sample was taken, under contract with an engineering company, the Conservancy, or even by A.N.R. itself, (or as a last resort by members of the public,) with the results going to A.N.R to be plotted and tracked, should be folded into the permit requirements.

2. Enforcement
   I got the impression listening to the information session and the hearing that there is no significant enforcement, even of the existing permit. It seems that Soundview has done an admirable job of correcting when things exceed limits or otherwise go wrong, within the areas that they maintain their own oversight. However, this should not mean that the oversight that the public expects from A.N.R. And the State of Vermont should not be active and reliable. That is, there should be a check that the data being provided is accurate, and that amelioration measures are rapid and successful. In any industry where the safety of the public is at stake, government has an obligation to provide independent oversight and enforcement.

3. Methodology
   As I understood the presentation at the hearing, there are a number of specific measures that are used to provide the analysis of the discharge, primarily derived from regulation and guidelines from the E.P.A., with Vermont's adjustments. Because the E.P.A. regulations tend to be minimalist in the first place, and because the E.P.A.'s effectiveness has been so hobbled over the years, it is hard to have confidence that the testing requirements are sufficient to ensure public safety. While Soundview may well be meeting the terms required by the testing, the more important question is, is the testing indeed testing what needs to be tested to ensure that the waters of the Connecticut are clean?
   As a lay member of the public, the meaningful questions do not center around the level of this or that chemical in the effluent, or in the rate of minnow death. These are meant to be indicators, but it is not clear that they are addressing the underlying question.
   The important question is is the River safe for the people of the state? Is it safe for our kids to swim in? Can we have confidence that the fish caught in it are safe to eat?
   If, in order to answer these questions, alternative or additional testing or procedures need to be developed and implemented, then that should happen

There are always balances to be found, and competing interests to be weighed, between the legitimate needs of Soundview to produce a good product economically enough to be competitive in the marketplace, and the legitimate needs of the public to have a clean Connecticut river. The issues presented by these interests are not insurmountable, but they must be addressed in a forthright, clear, thorough, and thoughtful manner.

I have left the question of how some of the proposed permit requirements I discussed should be paid for for a different discussion. Is additional staffing needed at A.N.R.? Who should pay for the engineering and the development of up-to-date regulations? A good argument can be made that it should be part of the oversight that government provides, and the expense should be borne by the taxpayer as part of general government operations. An equally good argument can be made that if an industrial entity is to have permission to (potentially) adversely affect or degrade the environment, that it should be part of 'the cost of doing business' to ensure that such risks are minimized or eliminated, and that the taxpayer should not bear the burden of private profit making. I do not know that I personally come down on one side or the other of that question; in any event it seems that it will be better sorted out in the halls of Montpelier than in this letter.

Thank you for your work and your time.

From: Polaczyk, Amy
To: Parrish, Kathleen
Cc: Caduto, Marie
Subject: FW: Confusion over commenting on Soundview Permit
Date: Thursday, July 15, 2021 9:22:10 AM

Hi Katie,

Please include these comments to the others to be addressed in the responsiveness summary.

Amy

Amy L. Polaczyk, PhD | Program Manager (she/her)
Vermont Department of Environmental Conservation
Watershed Management Division, Wastewater
Management Program
Davis 3, 1 National Life Dr | Montpelier, VT 05620-3522
802-490-6185 (cell)
https://dec.vermont.gov/watershed/wastewater

From: Caduto, Marie <Marie.Caduto@vermont.gov>
Sent: Thursday, July 15, 2021 8:00 AM
To: Polaczyk, Amy <Amy.Polaczyk@vermont.gov>
Subject: FW: Confusion over commenting on Soundview Permit

HI Amy,

I am passing this on in hopes that you can still accept comment.
Marie

From: ann kerrey <akerrey@yahoo.com>
Sent: Wednesday, July 14, 2021 3:19 PM
To: Caduto, Marie <Marie.Caduto@vermont.gov>
Subject: Confusion over commenting on Soundview Permit

Hi Marie -

I messed up a step trying to submit comments, and now I am shut out of commenting. Is it possible for you to forward my following thoughts based on Amy's ANR Hearing?

(1) Brian of Soundview suggested that hydrogen sulfide, now being used in paper processing instead of chlorine, might be bubbling at the outlet pipe in the Connecticut River. The Connecticut River Conservancy should collect a water sample which the state then tests for hydrogen sulfide. If it is present: Does the state think this is the answer to the foam? Do levels of hydrogen sulfide meet state requirements?

(2) Can water samples at appropriate locations near the discharge pipe also be tested for other paper

processing chemicals to assure state standards are being met?

(3) In regard to a mechanical situation causing foam: In addition to random reports and photographs being submitted to Soundview whenever foam is noticed, I think the state should set up a one week observation period during which a camera takes photos of the discharge coming from the pipe. I think even a game camera, set to take a photo every so many minutes, would work. This should be done when no Bellows Falls or Vernon dam releases are anticipated. Perhaps Fish and Wildlife or volunteers could set up the camera(s). During the same week, Soundview should keep track of activities at the plant, and calculate when those activities would create an excessive discharge, or some other event which would create foam at the discharge pipe. Soundview's part in this sounds difficult to me--what with settling ponds, etc., but perhaps it can be done.

Should these investigations take place before or after the permit is issued? Hope these comments are helpful.

Ann Kerrey
Putney, VT

From:	Lionel Chute
To:	ANR - WSMD Wastewater
Subject:	Comment on the Soundview wastewater discharge permit
Date:	Wednesday, July 14, 2021 12:11:10 AM
Attachments:	Nick.Giannetti@vermont.gov_01.30.2018_RE BOD Violations.pdf Nick.Giannetti@vermont.gov_03.12.2018_RE Amres Ultra 25 Wet Strength Resin -Putney Pape.pdf Nick.Giannetti@vermont.gov_09.12.2018_RE Discharge Permit_001.pdf 2019.01.07.Marie.Caduto@vermont.gov_RE Sacketts Brook wastewater discharge.pdf Process Chemicals Soundview Paper.xlsx Soundview Chemicals.docx

Vermont Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division,

Thank you for the opportunity to provide comment on the wastewater discharge permit sought by Vermont Soundview Holdings in Putney, Vermont. The following opinion draws from 3 sources of information, namely: the recently released fact sheet and draft permit, a public hearing on June 29, 2021, and documents obtained in a freedom of information request made on August 5, 2020.

Soundview Vermont Holdings, LLC operates a paper mill that produces products such as napkins, toilet paper, tissue, and paper towels from a 100% secondary wastepaper de-ink process. The process wastewater treatment facility is an extended aeration treatment plant consisting of a Dissolved Air Flotation (DAF) unit, two aeration tanks, and two clarifiers. The design flow of the facility is 275,000 gallons of water per day with an average water consumption over the last 5 years of 133,000 gallons per day. Soundview discharges effluent continuously into the Connecticut River.

The used paper that is deinked and recycled may contain a variety of chemicals and contaminants, including inks, glues, lacquers, synthetics, dioxins, furans, heavy metals, polychlorinated biphenyls (PCBs), pathogens, PFOS, and micro-plastics (see Putney Lab message in "Nick Gianetti 9/12/18", attached). A variety of additional chemicals are then added to the slurried paperstock and water to de-ink and reconstitute the paper (see "Process Chemicals Soundview" spreadsheet, attached). Other than allowing the suspended solids to settle (clarify), the resulting effluent is discharged directly into the Connecticut River without additional filtration or purification (verified at public hearing on 6/29/21).

It is well known that adults, children and pets frequently swim in the river immediately downstream of the discharge pipe (also see Marie Caduto email from 10/18/18 in "2019.01.07 Marie Caduto", attached). Given the constant rate of effluent discharge, which is presumably more than 5500 gallons per hour (133,000 day/24) or 92 gallons per minute (133,000/24/60), it is reasonable to assume that swimmers are routinely and directly exposed to the Soundview

effluent, which, in addition to the chemicals and pathogens present in the original paperstock, contains a variety of caustic substances added by the mill in the course of de-inking. At least 10 of these added chemicals cause skin irritation and 9 cause eye irritation and damage. Swimmers, especially young children and pets, may also be ingesting small amounts of the effluent, which likely contains poisonous and carcinogenic substances added by the mill, including1,3-Dichloro-2-propanol, aliphatic petroleum naphtha, and petroleum distillates (see "Soundview Chemicals", attached).

Some of the chemicals being used at the paper mill are also toxic or very toxic to aquatic life, including BIOSPERSE MICROBIOCIDE (“Prevent product from entering drains. Very toxic to aquatic life with long lasting effects"), DPC-625 CLEANING AGENT ("The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Very toxic to aquatic life with long lasting effect."), REZOSOL RELEASE AGENT ("If the product contaminates rivers and lakes or drains inform respective authorities. Harmful to aquatic life with long lasting effects. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container"), and others.

The effluent was last evaluated for its potential to negatively affect human health or aquatic life in 2017. This test, however, was probably not for all of the chemicals currently in use at Soundview, as the paper mill changed their treatment recipe sometime in 2017 and may have been using different chemicals since the last wet test was conducted (see "Nick Giannetti 1/30/2018" email, also email from Rick Levey 3/12/2018 in "NIck Gianetti 3/12/2018", both attached). Further, none of the particular hazardous chemicals known to be present in the settling tanks have ever been measured or looked for in the effluent, and so there is no data on the types or amounts of hazardous chemicals present in the effluent being discharged into the Connecticut River. There is also no data or modeling on the uptake of carcinogenic and other hazardous substances by fish and other organisms that are being harvested and consumed by people.

From the above, I do not believe it is reasonable for the Vermont Watershed Management Division to conclude that the discharged effluent is safe to release into the CT River, or that people and animals are not already being harmed. Without more specific data on the types and amounts of irritants and carcinogens being discharged by Soundview into the Connecticut River, the safer course of action would be to delay the granting of this permit until a constituent analysis of the untested effluent can be completed.

If possible, please provide me with answers to the following questions:

1) Does the public have the right to access the Connecticut River without risking their health from exposure to industrial chemicals?

2) What amounts of the following chemicals, in terms of parts per million or billion, are deemed by the State of Vermont to be safe for human skin contact and ingestion?:
1,3-Dichloro-2-propano
3-chloropropane-1 2-diol
aliphatic hydrocarbon
polyoxyethylene isodecyl ether
petroleum distillates
quaternary amide
alcohol alkoxylates

3) If this permit is issued prior to any additional testing of the effluent for toxicity, shouldn't the public at least be made aware of the potential health risks from swimming near the discharge pipe and consuming fish or other organisms contaminated with carcinogenic and other harmful chemicals? Shouldn't signs be installed in the vicinity of the pipe alerting the public to these risks?

4) In the absence of any public warning signs, should the Putney Landing Boat Ramp and Rowing Club Dock be relocated to protect the public, given that these structures (which are immediately downstream of the discharge pipe), are regularly used by swimmers?

5) Would anyone reading this knowingly pour even a very small amount of industrial chemicals that cause skin and eye irritation, eye damage, cancer, damaged fertility, reduced fetal weight, increased fetal deaths and skeletal malformations, intestinal upset, nose/throat/passageway irritation, lung irritation, irregular heartbeat, convulsions, dermatitis, nausea, vomiting and diarrhea into their bathtub and bathe with it? If not, how can it be reasonable to authorize the ongoing and continuous exposure of people, pets and wildlife to these chemicals, especially in the absence of public notices, warnings, or targeted strategies to measure and manage known health hazards?

thank you, sincerely,

Lionel Chute
PO Box 420
Putney, VT 05346

ATTACHMENT B.

DISCHARGE PERMIT VIOLATION TABLES

Soundview Vermont Holdings, LLC
Discharge Permit Violation Tables
Permit No. 3-1128

Maximum Day Biochemical Oxygen Demand (BOD_5) Violations	
Date	**Sample Result**
November 15, 2016	826 lbs.
July 6, 2017	925 lbs.
October 5, 2017	901 lbs.
October 19, 2017	1,419 lbs.
October 26, 2017	1,355 lbs.
November 2, 2017	1,209 lbs.
November 9, 2017	1,102 lbs.
December 27, 2017	1,032 lbs.
January 3, 2018	1,162 lbs.
June 21, 2018	1,136 lbs.
June 27, 2018	1,380 lbs.
February 18, 2021	1,096 lbs.
March 2, 2021	864 lbs.
March 10, 2021	1,055 lbs.
March 25, 2021	1,033 lbs.
May 28, 2021	1,338 lbs.
June 4, 2021	1,396 lbs.
June 11, 2021	1,110 lbs.
June 18, 2021	906 lbs.
June 28, 2021	904 lbs.
June 30, 2021	942 lbs.
September 30, 2021	976 lbs.

** Date Range: January 2013 to September 2021*

** Discharge Permit Limit: 818 lbs.*

Monthly Average BOD_5 Violations	
Date	**Monthly Average**
October 2017	1,070 lbs.
November 2017	794 lbs.
December 2017	800 lbs.
May 2018	593 lbs.
June 2018	961 lbs.
February 2021	646 lbs.
March 2021	663 lbs.
May 2021	756 lbs.
June 2021	984 lbs.

** Date Range: January 2013 to September 2021*

** Discharge Permit Limit: 548 lbs.*

Maximum Day Turbidity Violations	
Date	**Sample Result**
January 23, 2021	2,772 NTU
January 28, 2021	6,020 NTU
January 29, 2021	2,330 NTU
February 11, 2021	580 NTU
February 26, 2021	3,540 NTU

** Date Range: January 2013 to September 2021*

** Discharge Permit Limit: 550 NTU*

Maximum Day Total Suspended Solids (TSS) Violations	
Date	**Sample Result**
June 7, 2018	312 lbs.

** Date Range: January 2013 to September 2021*

** Discharge Permit Limit: 300 lbs.*