SOUTHERN ENVIRONMENTAL LAW CENTER

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November 7, 2019

Via Email, Registered Mail, and U.S. Certified Mail – Return Receipt Requested

The Honorable Ian Baltutis
Mayor
City of Burlington
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Mr. Hardin Watkins
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Mr. Darrin Allred,
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Chief Operator
South Burlington Wastewater Treatment Plant
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RE: Notice of Intent to Sue the City of Burlington for Violations of the Clean Water Act and the Resource Conservation and Recovery Act

Dear Mayor Baltutis, Mr. Watkins, Mr. Allred, and Mr. Andrews:

This letter is to notify the City of Burlington, the United States Environmental Protection Agency, and the Secretary of the North Carolina Department of Environment Quality ("DEQ") that Haw River Assembly intends to file suit against Burlington for violations of the Clean Water Act and the Resource Conservation and Recovery Act.

Unless the violations described below are fully redressed, Haw River Assembly will file a lawsuit under the citizen suit provisions of the Clean Water Act, 33 U.S.C. § 1365 and 40 C.F.R. §§ 135.1 to 135.5, and the Resource Conservation and Recovery Act, 42 U.S.C. § 6972(b)(2)(A) and 40 C.F.R. § 254, after the applicable notice periods have expired. Haw River Assembly will seek injunctive relief, appropriate monetary penalties, fees and costs of litigation, and such other relief as the court deems appropriate to address and correct the ongoing violations described below.

I. Summary of Violations

The City of Burlington is in violation of 33 U.S.C. § 1311(a) of the Clean Water Act because it is discharging per- and polyfluoroalkyl substances ("PFAS") and 1,4-dioxane from

point sources into the Haw River and its tributaries without a National Pollutant Discharge Elimination System permit. Those point sources include its East and South Wastewater Treatment Plant outfalls, spray devices used to apply its sludge onto fields, and ditches and drainage channels that flow from these fields into the Haw River and its tributaries. The City is likewise violating several requirements in its National Pollutant Discharge Elimination System permits, including the Removed Substances and Duty to Mitigate provisions, and its Non-Discharge Permit.[1] Burlington is also failing to properly manage its pretreatment program, in further violation of the Clean Water Act.

Burlington is in violation of 42 U.S.C. § 6972(a)(1)(B) of the Resource Conservation and Recovery Act because it is causing toxic PFAS and 1,4-dioxane pollution to enter surface waters from the land application of its sludge in a manner that may present an imminent and substantial endangerment to health and the environment. Finally, the City is violating the Resource Conservation and Recovery Act, 42 U.S.C. § 6945(a), by disposing solid waste in a manner that constitutes open dumping under the statute.

Burlington's wastewater treatment plants are illegally releasing toxic chemicals from their wastewater and their sludge into the Haw River and its tributaries, and they will continue to do so unless the waste that they are receiving from industrial facilities no longer contains these chemicals or adequate pollution control technology is installed at the treatment plants.

Burlington must take immediate steps to redress these violations, including, but not limited to:

- Preventing the direct discharge of PFAS and 1,4-dioxane from its wastewater treatment plants by:
    - Managing its pretreatment program to require industrial facilities to disclose and remove these chemicals before their industrial wastewater enters Burlington's treatment plants; *and/or*
    - Installing treatment technology at its treatment plants that is capable of removing PFAS and 1,4-dioxane; *and*
    - Monitoring its wastewater to ensure these chemicals are not present prior to discharge into surface waters.

- Managing its sludge disposal so that contaminated sludge does not harm human health or the environment.

[1] Upon information and belief, Burlington is also violating Permit No. WQ0021632 for its Distribution of Class A Compost and Water Treatment Plant Residuals, issued by the N.C. Department of Environmental Quality on August 18, 2017. Like Burlington's Non-Discharge Permit, its Permit No. WQ0021632 requires that Burlington prevent discharges to surface waters and violations of North Carolina's groundwater and surface water standards. N.C. DEQ, Permit No. WQ0021632 for Distribution of Class A Compost and Water Treatment Plant Residuals, Aug. 18, 2017, included as Attachment 1. The allegations in this notice letter, and all of Burlington's actions described, regarding Burlington's land application of contaminated sludge apply equally to Burlington's violation of Permit No. WQ0021632.

II. Persons Responsible for Violations

Burlington owns and operates the East Burlington Wastewater Treatment Plant and South Burlington Wastewater Treatment Plant, which are the sources of the violations set forth in this Notice Letter. Pursuant to 40 C.F.R. § 135.3 and 40 C.F.R. § 254.3, Burlington is identified as the person[2] responsible for all violations described in this letter.

III. Persons Giving Notice

In accordance with 40 C.F.R. § 135.3 and 40 C.F.R. § 254.3, the Haw River Assembly provides the names, addresses, and telephone numbers of the persons giving notice of intent to sue.

Haw River Assembly
P.O. Box 187
Bynum, NC 27228
(919) 542-5790

The Haw River Assembly is a non-profit corporation organized under the laws of the State of North Carolina that seeks to protect, restore, and preserve the Haw River, its tributaries, and Jordan Lake through education, advocacy, and pollution prevention. The Haw River Assembly is a member organization with approximately 890 dues paying members, including individuals, families and businesses—many of whom live and work near; swim, fish, and boat in; and drink water from the Haw River downstream of Burlington's pollution sources. These members are harmed by Burlington's Clean Water Act and Resource Conservation Recovery Act violations and the ongoing violations that will occur unless and until the city takes action to prevent them.

IV. Legal Counsel

Pursuant to 40 C.F.R. § 135.3 and 40 C.F.R. § 254.3, the following legal counsel, who will be representing the Haw River Assembly, are identified:

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[2] Under the Clean Water Act, "person" includes municipalities. 33 U.S.C. § 1362(5). The City of Burlington, incorporated and chartered by the State in 1893, is responsible for the local wastewater collection system and is therefore a "person" under the meaning of the Act. *See id.* § 1362(4) (defining "municipality" to include any "city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes . . . .").

V. Background

A. Burlington's wastewater treatment plants

The City of Burlington operates two 12 million gallon-per-day wastewater treatment plants ("WWTP" or "treatment plant")—the East Burlington treatment plant and the South Burlington treatment plant.[3]

The East Burlington WWTP treats domestic waste and industrial wastewater from at least seven industrial facilities, including from textile manufacturing facilities, a metal finishing facility, and a manufacturer of polymer emulsions and resins.[4] It then discharges the wastewater into the Haw River, classified as a WS-IV water supply water under 15A N.C. Administrative Code 2B .0101(c).[5] In 2018, the East Burlington WWTP's annual average daily flow rate was 4.5 million gallons per day, and its maximum daily flow rate was 28.3 million gallons per day.[6] The most recent National Pollutant Discharge Elimination System ("NPDES") permit for the East Burlington WWTP—NPDES Permit No. NC0023868—was issued by DEQ in June 2014.[7] Burlington applied for renewal of this NPDES permit on December 31, 2018.[8] None of the NPDES permit applications or permits for the East Burlington WWTP disclose or authorize the discharge of PFAS or 1,4-dioxane.

The South Burlington WWTP treats domestic waste and industrial wastewater from at least eight industrial facilities, including from textile manufacturing facilities.[9] It then discharges its wastewater into Big Alamance Creek, classified as a WS-V water supply water, which then flows into the Haw River, a WS-IV water supply water.[10] In 2018, the South Burlington WWTP's annual average daily flow rate was 6.7 million gallons per day, and its maximum daily flow rate was 26.6 million gallons per day.[11] The most recent NPDES permit for the South Burlington WWTP—NPDES Permit No. NC0023876—was issued by DEQ in June 2014.[12] Burlington also applied for renewal of this NPDES permit on December 31, 2018.[13] None of the NPDES permit applications or permits for the South Burlington WWTP disclose or authorize the discharge of PFAS or 1,4-dioxane.

In addition to the direct discharge of wastewater, both the East and South Burlington treatment plants produce sludge, or semi-solid waste (also known as "biosolids"), as a byproduct of their treatment processes. Burlington arranges for its sludge to be applied on nearby fields in

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[3] N.C. DEQ, NPDES Permit No. NC0023868 for the East Burlington Wastewater Treatment Plant (2014) ("East Burlington NPDES Permit"), included as Attachment 2; N.C. DEQ, NPDES Permit No. NC0023876 for the South Burlington Wastewater Treatment Plant (2014) ("South Burlington NPDES Permit"), included as Attachment 3.
[4] East Burlington Wastewater Treatment Plant Application for NPDES Permit No. NC0023868 (2018) ("East Burlington NPDES Application"), included as Attachment 4.
[5] East Burlington NPDES Application.
[6] *Id.* at 3.
[7] East Burlington NPDES Permit.
[8] East Burlington NPDES Application.
[9] South Burlington Wastewater Treatment Plant Application for NPDES Permit No. NC0023876 (2018) ("South Burlington NPDES Application"), included as Attachment 5.
[10] *Id.*
[11] *Id.* at 3.
[12] South Burlington NPDES Permit.
[13] South Burlington NPDES Application.

Alamance, Caswell, Chatham, and Orange Counties.[14] In its most recent NPDES application, the East Burlington WWTP reported that it produces 10.4 million gallons of sludge annually for land application.[15] The South Burlington WWTP similarly reported that it produces 15.3 million gallons of sludge annually for land application.[16] The treatment plants are permitted to apply their sludge on a total of 2,995 acres of land.[17] Burlington's sludge application is governed by its Non-Discharge Permit, No. WQ0000520, issued on August 1, 2017 by the N.C. Division of Water Resources for the Land Application of Class B Residuals, which, among other things, requires that Burlington manage its land application of sludge so that the sludge is not discharged into surface waters. [18] Burlington contracts with a company called EMA Resources, Inc., to apply the sludge onto fields.[19]

From 2016 to 2018, Burlington land-applied more than 11,000 tons of sludge from its wastewater treatment plants.[20] In all three years, the sludge from Burlington was applied using the surface spray method, and was applied near Cane Creek, which drains into the Haw River; near the Cane Creek Reservoir; and in other locations.[21]

Neither of Burlington's treatment plants is equipped to remove PFAS or 1,4-dioxane from their wastewater or from their sludge.

B. The Haw River watershed

The Haw River travels 110 miles through central North Carolina to the Cape Fear River just below the Jordan Lake Reservoir. The Haw River, its tributaries, and downstream waters provide drinking water for nearly one million people in North Carolina.

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[14] Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520, included as Attachment 6; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520, included as Attachment 7; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520, included as Attachment 8.

[15] East Burlington NPDES Application, Sludge Management Plan. The East Burlington WWTP also sends some of its waste to Republic Services, Inc.'s Upper Piedmont Landfill near Roxboro, North Carolina. *Id*.

[16] South Burlington NPDES Application, Sludge Management Plan.

[17] East Burlington NPDES Application, Sludge Management Plan; South Burlington NPDES Application, Sludge Management Plan.

[18] N.C. DEQ, Non-Discharge permit No. WQ0000520, Aug. 1, 2017, included as Attachment 9. Burlington's Non-Discharge permit No. WQ0000520 was improperly issued by the N.C. Division of Water Resources pursuant to regulations under the Clean Water Act, 40 C.F.R. § 503. Those regulations only govern sludge "generated during the treatment of domestic sewage in a treatment works." 40 C.F.R. § 503.1. Sludge "generated during the treatment of industrial wastewater combined with domestic sewage" is expressly excluded. 40 C.F.R. § 503.6.

[19] East Burlington NPDES Application at 7, Sludge Management Plan; South Burlington NPDES Application at 7, Sludge Management Plan; s*ee* Screenshots from EMA Resources, Inc.'s website, http://www.emaresourcesinc.com/gallery.php (last visited Sept. 23, 2019), included as Attachments 10, 11, 12, and 13. The subtitles from those photos read: "Ferric Sulfate WTP Residuals being Land Applied," "Land Applying WTP Residuals," and "Liquid Surface Application on Fescue."

[20] Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land Application Certification Form; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land Application Certification Form; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land Application Certification Form.

[21] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.

Downstream of Burlington's treatment plants, the Haw River supplies drinking water for over 4,000 people served by the Town of Pittsboro.[22] Within the Town of Pittsboro, the Haw River also supplies drinking water for an elementary school, middle school, and high school, and numerous restaurants, churches and businesses.

The Haw River flows into Jordan Lake, which supplies the drinking water for over 230,000 people in Cary, Apex, Morrisville, and elsewhere.[23] Downstream of Jordan Lake, the Haw River flows into the Cape Fear River Basin, and is also a source of drinking water for over 217,000 people served by the Fayetteville Public Works Commission; over 21,000 people served by Pender County Utilities; over 139,000 people served by the Cape Fear Public Utility Authority; and over 97,000 people served by the Brunswick County Water System.[24]

The Haw River is also home to a variety of fish and wildlife, including blue heron, bald eagle, beaver, largemouth and smallmouth bass, bowfin, and bluegill. Local residents appreciate the Haw for its outdoor recreational opportunities, including hiking, paddling, and fishing.

VI. PFAS and 1,4-Dioxane Are Harmful to Human Health.

A. PFAS

PFAS, a group of man-made chemicals that have been used in manufacturing since the 1940s,[25] are known to be dangerous to human health. Two of the commonly studied PFAS, perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS"), have been found to cause developmental effects to fetuses and infants, kidney and testicular cancer, liver malfunction, hypothyroidism, high cholesterol, ulcerative colitis, lower birth weight and size, obesity, decreased immune response to vaccines, reduced hormone levels and delayed puberty.[26]

EPA established a lifetime health advisory of 70 parts per trillion ("ppt") for the combined concentrations of two types of PFAS, PFOA and PFOS, in drinking water.[27] Since then, in June 2018, the Agency for Toxic Substances and Disease Registry released an updated Draft Toxicological Profile for PFOA, PFOS, and other PFAS. The report suggested that many of the chemicals are much more harmful than previously thought. For instance, the minimum risk levels, or the amount of a chemical a person can eat, drink, or breathe each day without a detectable risk to health, was determined to be only 11 ppt for PFOA, and 7 ppt for PFOS.[28]

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[22] Public Water Supply Search Database, https://www.pwss.enr.state.nc.us/NCDWW (last visited Sept. 24, 2019).
[23] Tyler Dukes, *Elevated levels of unregulated chemicals found in Jordan Lake, Cary drinking water*, WRAL.COM, Dec. 21, 2017, included as Attachment 14.
[24] Public Water Supply Search Database, https://www.pwss.enr.state.nc.us/NCDWW (last visited Sept. 24, 2019).
[25] EPA, *Basic Information on PFAS*, included as Attachment 15.
[26] Arlene Blum et al., *The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs)*, 123 ENVTL. HEALTH PERSPECTIVES 5, A 107 (2015) ("The Madrid Statement"), included as Attachment 16; EPA, *Fact Sheet: PFOA & PFOS Drinking Water Health Advisories*, 2, included as Attachment 17.
[27] EPA, *Fact Sheet: PFOA & PFOS Drinking Water Health Advisories* at 2.
[28] Cape Fear Public Utility Authority (CFPUA), *CFPUA Statement on Recently Released DHHS Report* (June 21, 2018), included as Attachment 18; *see also* ATSDR, *Toxicological Profile for Perfluoroalkyls, Draft for Public Comment* (June 2018) ("Draft 2018 Toxicological Profile for Perfluoroalkyls"), included as Attachment 19.

Epidemiological studies show that many of these same health outcomes result from exposure to other PFAS,[29] including but not limited to:

- Perfluorobutyric acid ("PFBA") (CAS # 375-22-4)[30]
- Perfluorobutanesulfonic acid ("PFBS") (CAS # 375-73-5)[31]
- Perfluorohexanoic acid ("PFHxA") (CAS # 307-24-4)
- Perfluoroheptanoic acid ("PFHpA") (CAS # 375-85-9)
- Perfluorononanoic acid ("PFNA") (CAS # 375-95-1)
- Perfluorodecanoic acid ("PFDA") (CAS # 335-16-2)
- Perfluoroundecanoic acid ("PFUA") (CAS # 2058-94-8)
- Perfluorohexane sulfonic acid ("PFHxS") (CAS # 355-46-4) [32]

For instance, PFHxA has been found to be "as persistent as" PFOA and PFOS, "while being mobile in soil and groundwater."[33] Exposure to high levels of PFBA "induce[] increased thyroid and liver weight and cellular changes in both organs, changes in thyroid hormones, decreased cholesterol, and delayed development and decreased red blood cells and hemoglobin."[34] Exposure to PFBS "result[s] in lower body weight, delayed development and adverse female reproductive effects on offspring mothers as well as changes in thyroid hormone levels and cellular changes in kidneys."[35]

Given these harms, states like Michigan, New York, New Hampshire, New Jersey, and Vermont have acknowledged the dangers of these compounds and have either proposed or finalized drinking water standards for various PFAS at 6 ppt (PFNA), 8 ppt (PFOA), 10 ppt (PFOA/PFOS), 11 ppt (PFNA), 12 ppt (PFOA), 13 ppt (PFOS/PFNA), 14 ppt (PFOA), 15 ppt (PFOS), 16 ppt (PFOS), 18 ppt (PFHxS), and 20 ppt (PFOA/PFOS).[36] Some states have combined standards and guidance values for PFAS—for instance, the Massachusetts Department of Environmental Protection recommends a level of 70 ppt in drinking water for: PFOA, PFOS, PFHxS, PFNA, and PFHpA, individually or added together.[37]

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[29] Draft 2018 Toxicological Profile for Perfluoroalkyls at 5-6, 25-26.
[30] *Id*. at 1.
[31] *See generally*, Minn. Dep't of Health, *Toxicological Summary for: Perfluorobutane sulfonate* (Dec. 2017), included as Attachment 20.
[32] Draft 2018 Toxicological Profile for Perfluoroalkyls at 1.
[33] Fan Li et al., *Short-chain per- and polyfluoroalkyl substances in aquatic systems: Occurrence, impacts and treatment*, 380 CHEMICAL ENGINEERING J., 3 (Aug. 2019), included as Attachment 21.
[34] *Id*. at 5.
[35] *Id*.
[36] Press Release, Mich. Dep't of Env't, Great Lakes, and Energy, *Michigan moves forward on PFAS in drinking water rules* (June 27, 2019), included as Attachment 22; *New York to set limits for industrial chemicals in water*, AP, July 8, 2019, included as Attachment 23; Annie Ropeik, *N.H. Approves Unprecedented Limits for PFAS Chemicals in Drinking Water*, NHPR, July 18, 2019, included as Attachment 24; Press Release, Vt. Agency of Nat. Res., *Agency Of Natural Resources Initiates Rulemaking Process To Adopt Maximum Contaminant Level For PFAS Compounds*, included as Attachment 25; James M. O'Neill, *NJ proposes strict new drinking water standards for cancer-linked chemicals*, NORTH JERSEY RECORD, Apr. 1, 2019, included as Attachment 26; Interstate Tech. Regulatory Council, PFAS Fact Sheets, Section 4 Tables (Aug. 2019), included as Attachment 27.
[37] Mass. Dep't of Envtl. Prot., *Per- and Polyfluoroalkyl Substances (PFAS) in drinking water*, included as Attachment 28.

B. 1,4-dioxane

Like PFAS, 1,4-dioxane is dangerous to humans.[38] It causes liver and kidney damage.[39] EPA classified 1,4-dioxane as "likely to be carcinogenic to humans."[40] California has listed 1,4-dioxane on its official registry of chemicals known to cause cancer.[41]

In light of 1,4-dioxane's toxicity and the risks it poses to human health, federal and state agencies have limited the amount of 1,4-dioxane that can be in our drinking water. EPA has established a drinking water health advisory with an associated estimated lifetime cancer risk of one in one million at a concentration of 0.35 parts per billion ("ppb").[42] North Carolina has a calculated human health criterion for 1,4-dioxane of 0.35 ppb in water supplies and 80 ppb in all other waterbodies.[43]

VII. PFAS and 1,4-Dioxane Travel Far, Are Not Easily Treated, and End up in Drinking Water.

PFAS and 1,4-dioxane are extremely resistant to breaking down in the environment, can travel long distances,[44] and are not removed by conventional treatment technologies.[45] Once PFAS and 1,4-dioxane are in the environment, they end up in our drinking water, coming into the taps in our homes.[46]

As we saw in southeastern North Carolina, when the companies DuPont and Chemours released PFAS-contaminated wastewater from their Fayetteville Works facility, PFAS from the facility reached drinking water intakes more than 50 miles downstream in the Cape Fear River, contaminating the drinking water for more than 250,000 people.[47]

Based on monitoring for 1,4-dioxane in public drinking water systems throughout the country as part of the Third Unregulated Contaminant Monitoring, the Cape Fear River Basin was found to have "some of the highest measured concentrations of 1,4-dioxane in finished

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[38] EPA, *Technical Fact Sheet – 1,4-Dioxane* (2017), included as Attachment 29 (last visited on Aug. 29, 2019).
[39] *Id.*; EPA, *Integrated Risk Information System, Chemical Assessment Summary: 1,4-Dioxane*, 2, included as Attachment 30 (last visited on Aug. 29, 2019).
[40] EPA, *Technical Fact Sheet – 1,4-Dioxane* at 1.
[41] California Water Boards, *1,4-Dioxane*, included as Attachment 31 (last visited on Nov. 1, 2019).
[42] EPA Office of Water, *2018 Edition of the Drinking Water Standards and Health Advisories*, 4 (2018), included as Attachment 32 (last visited on Nov. 1, 2019).
[43] N.C. Surface Water Quality Standards Table, updated on July 10, 2019, included as Attachment 33.
[44] Draft 2018 Toxicological Profile for Perfluoroalkyls at 2, 534; *see also* EPA, *Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)*, 3 (2017), included as Attachment 34; EPA, *1,4-Dioxane Occurrence*, included as Attachment 35 (last visited on Nov. 1, 2019).
[45] Interstate Tech. Regulatory Council, *PFAS Fact Sheets, Remediation Technologies and Methods for Per- and Polyfluoroalkyl Substances (PFAS)*, included as Attachment 36 ("These compounds have unique chemical properties that require new remediation technologies or innovative combinations of existing technologies."); EPA, *Technical Fact Sheet – 1,4-Dioxane* at 1-2.
[46] See EPA, *The Third Unregulated Contaminant Monitoring Rule (UCMR3): Data Summary* (2017), included as Attachment 37; Xindi C. Hu et al., *Detection of Poly- and Perflouoroalkyl Substances (PFASs) in U.S. Drinking Water Linked to Industrial Sites, Military Fire Training Areas, and Wastewater Treatment Plants*, 3 ENVTL. SCI. & TECH. LETTERS 344, 345-46 (2016), included as Attachment 38.
[47] Vaughn Hagerty, *Toxin Taints CFPUA Drinking Water*, STAR NEWS, June 7, 2017, included as Attachment 39.

drinking water" in North Carolina and the United States.[48] The North Carolina Division of Water Resources has concluded that "the most potent approaches to reducing 1,4-dioxane concentrations in surface water and drinking water are likely to be reduction, elimination, and/or capture and treatment at industrial sources using or generating the compound."[49] The same is true for protecting the public from PFAS contamination.

PFAS and 1,4-dioxane not only get into rivers, streams, and drinking water from wastewater discharges—the land application of polluted sludge causes toxic PFAS (and possibly 1,4-dioxane) to reach drinking water supplies. Studies have shown that PFAS-contaminated sludge that is land-applied can runoff into surface waters that supply drinking water for communities downstream, and leach into groundwater.[50] 1,4-dioxane has also been found in sludge in North Carolina,[51] and the land application of sludge contaminated with 1,4-dioxane could also be polluting drinking waters.

VIII. Burlington Has Been Polluting Rivers, Streams, and Drinking Water From Its Wastewater and Sludge, Since at Least 2013.

Since as early as 2013, Burlington has polluted the Haw River and its tributaries with PFAS and 1,4-dioxane from both of its treatment plants. PFAS and 1,4-dioxane are in the wastewater that the treatment plants discharge. PFAS has been documented in the sludge that they produce—sludge that is sprayed onto fields that are close to surface waters. The PFAS and 1,4-dioxane from Burlington's treatment plants then contaminate drinking water downstream, endangering the communities who drink that water.

A. Burlington's historical PFAS and 1,4-dioxane pollution

Burlington's PFAS pollution was first documented in August and September 2013, when scientists from North Carolina State University tested the effluent from both the East and South Burlington treatment plants for 11 different types of PFAS, including PFBS, PFHxS, and PFOS.[52] On August 1, 2013, East Burlington's effluent was measured at 13,465 ppt for total PFAS concentrations and South Burlington's effluent was measured at 108 ppt for total PFAS concentrations.[53] On September 6, 2013, East Burlington's effluent was measured at 15,952 ppt

[48] N.C. DEQ, 1,4-Dioxane Monitoring in the Cape Fear River Basin of North Carolina: An Ongoing Screening, Source Identification, and Abatement Verification Study at 2 (2017), included as Attachment 40.
[49] *Id.* at 5.
[50] Andrew B. Lindstrom et al., *Application of WWTP Biosolids and Resulting Perfluorinated Compound Contamination of Surface and Well Water in Decatur, Alabama, USA*, 45 ENVTL. SCI. & TECH. 8015 (2011), included as Attachment 41; Jennifer G. Sepulvado et al., *Occurrence and Fate of Perfluorochemicals in Soil Following the Land Application of Municipal Biosolids*, 45 ENVTL. SCI. & TECH. A, (2011), included as Attachment 42; Janine Kowalczyk et al., *Transfer of Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) From Contaminated Feed Into Milk and Meat of Sheep: Pilot Study*, 63 ARCHIVES ENVTL. CONTAMINATION & TOXICOLOGY 288 (2012), included as Attachment 43; Holly Lee et al., *Fate of Polyfluoroalkyl Phosphate Diesters and Their Metabolites in Biosolids-Applied Soil: Biodegradation and Plant Uptake in Greenhouse and Field Experiments*, 48 ENVTL. SCI. & TECH. 340 (2014), included as Attachment 44.
[51] Lisa Sorg, *What is your compost made of? Use public records to find out.*, NC POLICY WATCH, Apr. 26, 2019, included as Attachment 45.
[52] Detlef Knappe, Presentation, "Perfluorinated compounds in Treated Wastewater and Biosolids from Burlington," ("Knappe 2013 Presentation"), included as Attachment 46.
[53] *Id.* at slide 5.

for total PFAS concentrations and South Burlington's effluent was measured at 151 ppt for total PFAS concentrations.[54]

These same scientists also documented high levels of PFAS, including PFBS, PFHxS, and PFOS, in Burlington's WWTP sludge,[55] as high as 11,953 ppt in the East Burlington sludge[56] and as high as 4,781 ppt in the South Burlington sludge.[57] Sampling conducted by Duke University in July 2018 further demonstrates that Burlington is a source of PFAS pollution in the Haw River.[58]

Scientists at North Carolina State University detected 1,4-dioxane in the Haw River downstream of Burlington as early as October 2014. Samples taken over the next three years documented average concentrations of 1,4-dioxane in the Haw River at Bynum, North Carolina intake 15.6 ppb (2014), 17.1 ppb (2015), and 7.5 ppb (2016).[59] In addition, 1,4-dioxane was consistently detected in Pittsboro's raw and finished drinking water from August 2018 through August 2019.[60] Given that Burlington was receiving industrial waste during this time and it lacks the ability to remove 1,4-dioxane through its treatment process, it is likely a source of this 1,4-dioxane pollution.

B. Burlington's own data indicates that Burlington is receiving wastewater contaminated with PFAS and 1,4-dioxane, which it is incapable of removing.

In response to its Public Records Act Request, Haw River Assembly received data that Burlington has been gathering in response to a DEQ inquiry[61] on the presence of PFAS and 1,4-dioxane in its influent (*i.e.*, the wastewater entering the treatment plant from industrial facilities).[62]

Burlington measured total PFAS in its East Burlington influent, as high as 2,114 ppt on July 16, 2019 and 2,417 ppt on August 6, 2019.[63] On those days, the PFAS detected in East Burlington treatment plant's influent included:[64]

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[54] *Id.*
[55] *Id.*
[56] *Id*.
[57] *Id*.
[58] Heather Stapleton and Lee Ferguson, Duke University Research Proposal, "Drinking Water Contamination in NC: Water Use, Human Health and Going Beyond GenX," *3 (describing preliminary data as showing that PFAS concentrations "decrease moving downstream from the city of Burlington," that there are "point source discharges from wastewater treatment plants," and proposing additional research to "determine the magnitude of PFAS discharges from WWTPs in Burlington.") ("Stapleton Research Proposal"), included as Attachment 47.
[59] Heather Stapleton and Detlef Knappe, Presentation to Town of Pittsboro, Board of Commissioners Meeting on Sept. 23, 2019, "Per- and Polyfluorinated Alkyl Substances (PFAS) in the Haw River," slide 21 ("Stapleton Presentation"), included as Attachment 48.
[60] *Id.* at slide 22. Burlington's treatment plants are one of several sources of 1,4-dioxane into Pittsboro's drinking water.
[61] *See* N.C. Div. of Water Res., *State takes action to manage emerging compounds in wastewater* (May 6, 2019), included as Attachment 49 (last visited Nov. 1, 2019).
[62] Email and Attachments from Darrin Allred, Chief Operator of East Burlington WWTP, to Jean Zhuang, Nov. 1, 2019, included as Attachment 50.
[63] *Id*. at *2.

Type of PFAS	**July 2019**	**August 2019**
PFHpA	873 ppt	845 ppt
PFHxA	511 ppt	706 ppt
PFPeA	374 ppt	523 ppt
PFBA	116 ppt	141 ppt
PFOA	73.0 ppt	64.6 ppt
PFDA	20.8 ppt	25.3 ppt
PFNA	11.7 ppt	10.6 ppt
PFOS	49.8 ppt	56.4 ppt
PFBS	49.5 ppt	Not detected
PFDoA	4.86 ppt	7.47 ppt
N-EtFOSAA	8.37 ppt	Not detected
N-MeFOSAA	16.6 ppt	16.1 ppt
PFUnA	4.97 ppt	5.28 ppt
PFHxS	Not detected	16.1 ppt
Total PFAS	**2,113.6 ppt**	**2,416.85 ppt**

Similarly, the PFAS detected in South Burlington treatment plant's influent included:[65]

Type of PFAS	**July 2019**	**August 2019**	**September 2019**
PFHpA	4.62 ppt	7.29 ppt	24.7 ppt
PFHxA	13.9 ppt	27.7 ppt	73.1 ppt
PFPeA	35.6 ppt	107 ppt	Not detected
PFOA	13.2 ppt	22.9 ppt	29.7 ppt
PFDA	Not detected	7.20 ppt	4.7 ppt
PFOS	20.2 ppt	6.57 ppt	23.7 ppt
PFHxS	Not detected	Not detected	8.92 ppt
Total PFAS	**87.52 ppt**	**178.66 ppt**	**164.82 ppt**

[64] *Id*.
[65] *Id*. at *12, *16.

Burlington also detected 1,4-dioxane in its treatment plant influent:[66]

WWTP	July 2019	August 2019	September 2019
East Burlington	21.3 ppb	15.6 ppb	18.7 ppb
South Burlington	4.91 ppb	3.8 ppb	5.8 ppb

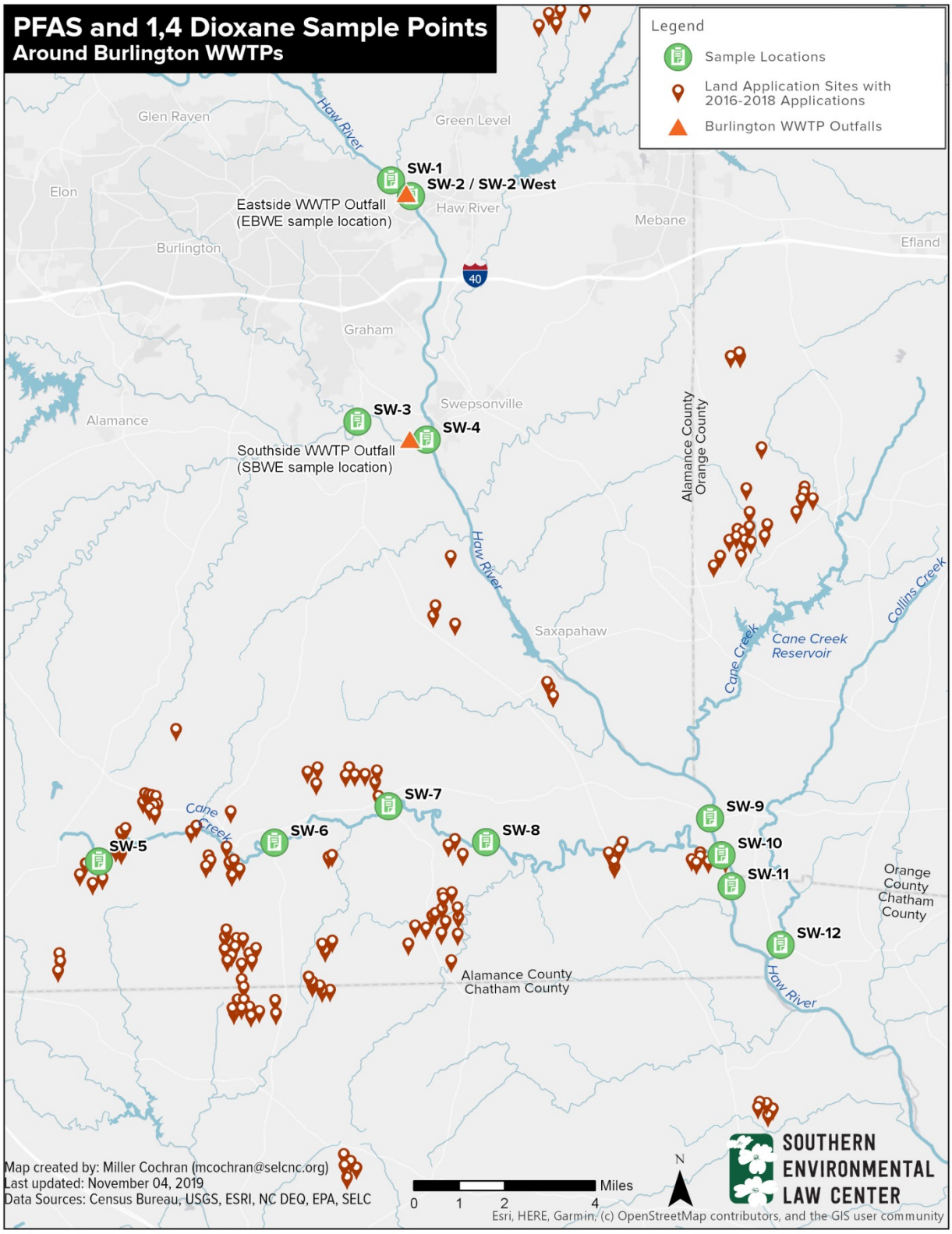
Because Burlington does not yet have the capability to remove these chemicals through its treatment process, the presence of PFAS and 1,4-dioxane in its influent from industrial facilities indicates that Burlington's WWTPs discharge these chemicals into surface waters. The sampling data discussed below confirms that they continue to do so.

C. Sampling data confirms that Burlington's direct discharges of PFAS and 1,4-dioxane into surface water continue.

Haw River Assembly investigated Burlington's ongoing PFAS and 1,4-dioxane pollution during July, August, and October, 2019. In this investigation, Haw River Assembly conducted sampling at several locations in the Haw River and its tributaries, as well as of the effluent from Burlington's treatment plants. The sample locations, as shown on the map below, included:

- Upstream of the East Burlington WWTP's discharge outfall (SW-1) and downstream of the East Burlington WWTP's outfall—in the middle of the Haw River (SW-2) and closer to the bank where the treatment plant's outfall is located (SW-2West);
- The effluent from the East Burlington WWTP's outfall (EBWE);
- Upstream and downstream of the South Burlington WWTP's discharge outfall (SW-3 and SW-4) in Big Alamance Creek, a tributary of the Haw River;
- The effluent from the South Burlington WWTP's outfall (SBWE);
- In Cane Creek, a tributary of the Haw River, along the land that received sludge from both the East and South Burlington treatment plants (SW-5, SW-6, SW-7, and SW-8);
- Upstream of Cane Creek's confluence with the Haw River (SW-9);
- Just downstream of Cane Creek's confluence with the Haw River (SW-10);
- Further downstream of the Cane Creek's confluence with the Haw River (SW-11); and
- In Collins Creek, a tributary of the Haw River (SW-12), in an area removed from Burlington's sludge fields.

[66] *Id.* at *3-8.


PFAS and 1,4 Dioxane Sample Points
Around Burlington WWTPs
Legend
Sample Locations
Land Application Sites with 2016-2018 Applications
Burlington WWTP Outfalls
SW-1
SW-2 / SW-2 West
Eastside WWTP Outfall
(EBWE sample location)
SW-3
SW-4
Southside WWTP Outfall
(SBWE sample location)
SW-5
SW-6
SW-7
SW-8
SW-9
SW-10
SW-11
SW-12
Glen Raven
Green Level
Elon
Haw River
Mebane
Efland
Burlington
Graham
Swepsonville
Alamance
Alamance County
Orange County
Saxapahaw
Cane Creek
Cane Creek Reservoir
Collins Creek
Orange County
Chatham County
Alamance County
Chatham County
Map created by: Miller Cochran (mcochran@selcnc.org)
Last updated: November 04, 2019
Data Sources: Census Bureau, USGS, ESRI, NC DEQ, EPA, SELC
0 1 2 4 Miles
N
SOUTHERN ENVIRONMENTAL LAW CENTER
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

In addition, Haw River Assembly sampled the drinking water fountain in the Chatham County Public Library in the Town of Pittsboro.

Since June 2019, scientists from Duke University also investigated the PFAS pollution in the Haw River by taking samples in the River and along Cane Creek where Burlington applies its sludge.[67] As described below, the samples collected by Haw River Assembly and Duke University confirm Burlington's ongoing pollution of the Haw River, its tributaries, and downstream drinking water.

1. PFAS

As part of Haw River Assembly's sampling, PFAS was detected just downstream of the treatment plants' outfalls on July 9, 2019; July 22, 2019; August 6, 2019; and August 21, 2019; and PFAS was detected in the effluent from the treatment plants on October 21, 2019. This sampling confirms that the South and East Burlington treatment plants continue to discharge large amounts of PFAS directly into surface waters through their outfalls. It also confirms that PFAS from these discharges are polluting Big Alamance Creek, the Haw River, and downstream waters.

On July 9, 2019; August 6, 2019; and August 21, 2019, total PFAS concentrations increased directly downstream of East Burlington WWTP's outfall. On August 21, 2019, sampling was also conducted closer to the bank where the East Burlington WWTP's outfall is located. On that date, the total PFAS concentrations increased from 88 ppt upstream of the plant to over 3,700 ppt downstream of the plant, as demonstrated by the table below:

Type of PFAS	**Upstream of the East Burlington WWTP (SW-1)**	**Downstream of the East Burlington WWTP (SW-2West)**
PFHpA	4.66 ppt	1,340 ppt
PFHxA	17.9 ppt	1,290 ppt
PFPeA	16.4 ppt	796 ppt
PFBA	9.29 ppt	184 ppt
PFOA	7.03 ppt	48.9 ppt
6:2 FTS[68]	1.11 ppt[69]	27.8 ppt
PFDA	2.43 ppt	15.2 ppt
PFNA	2.25 ppt	10.7 ppt
PFOS	18 ppt	26.2 ppt
Total PFAS	**88 ppt**	**3,763 ppt**

[67] Stapleton Presentation at slides 7-10.
[68] 6:2 Fluorotelomer sulfonate (6:2 FTS).
[69] This compound was not detected above the stated method detection limit, so the concentration could have been less than 1.11 ppt.

On October 21, 2019, Haw River Assembly sampled the effluent from East Burlington treatment plant's outfall. The total PFAS concentration from that sampling event was 647 ppt.

Haw River Assembly's sampling just downstream of the South Burlington WWTP outfall likewise demonstrates the discharge of PFAS from the WWTP. On July 22, 2019; August 6, 2019; and August 21, 2019, total PFAS concentrations increased directly downstream of South Burlington treatment plant's outfall. On October 21, 2019, sampling was conducted from the effluent of South Burlington treatment plant's outfall. The total PFAS concentration from that sampling event was 135 ppt.

Burlington's ongoing PFAS discharges have also been documented by sampling conducted by scientists from Duke University. That data shows increased PFAS levels just downstream of the East Burlington WWTP for every weekly sampling event from July 10, 2019 to August 19, 2019.[70] As this data confirms, Burlington's treatment plants are discharging PFAS into downstream surface waters.

2. 1,4-dioxane

On July 22, 2019, sampling conducted by the Haw River Assembly revealed an increase of 1,4-dioxane below the South Burlington WWTP. The upstream sample was measured at 0.214 ppb, and the downstream sample measured at 54.4 ppb. 1,4-dioxane was also detected in the effluent from the East and South Burlington treatment plants on October 21, 2019 at levels far in excess of North Carolina's human health criterion for water supply waters, which is 0.35 ppb: 3.83 ppb (East Burlington WWTP) and 5.81 ppb (South Burlington WWTP).

Together, this data shows that Burlington has been responsible for discharging PFAS and 1,4-dioxane in the Haw River and its tributaries, since at least August 1, 2013. Yet Burlington likely has been discharging PFAS and 1,4-dioxane from its wastewater treatment plant outfalls since it first started accepting industrial wastewater.

D. Sampling data confirms that Burlington's WWTP sludge continues to contain PFAS, and that Burlington's land application of its sludge is polluting downstream waters.

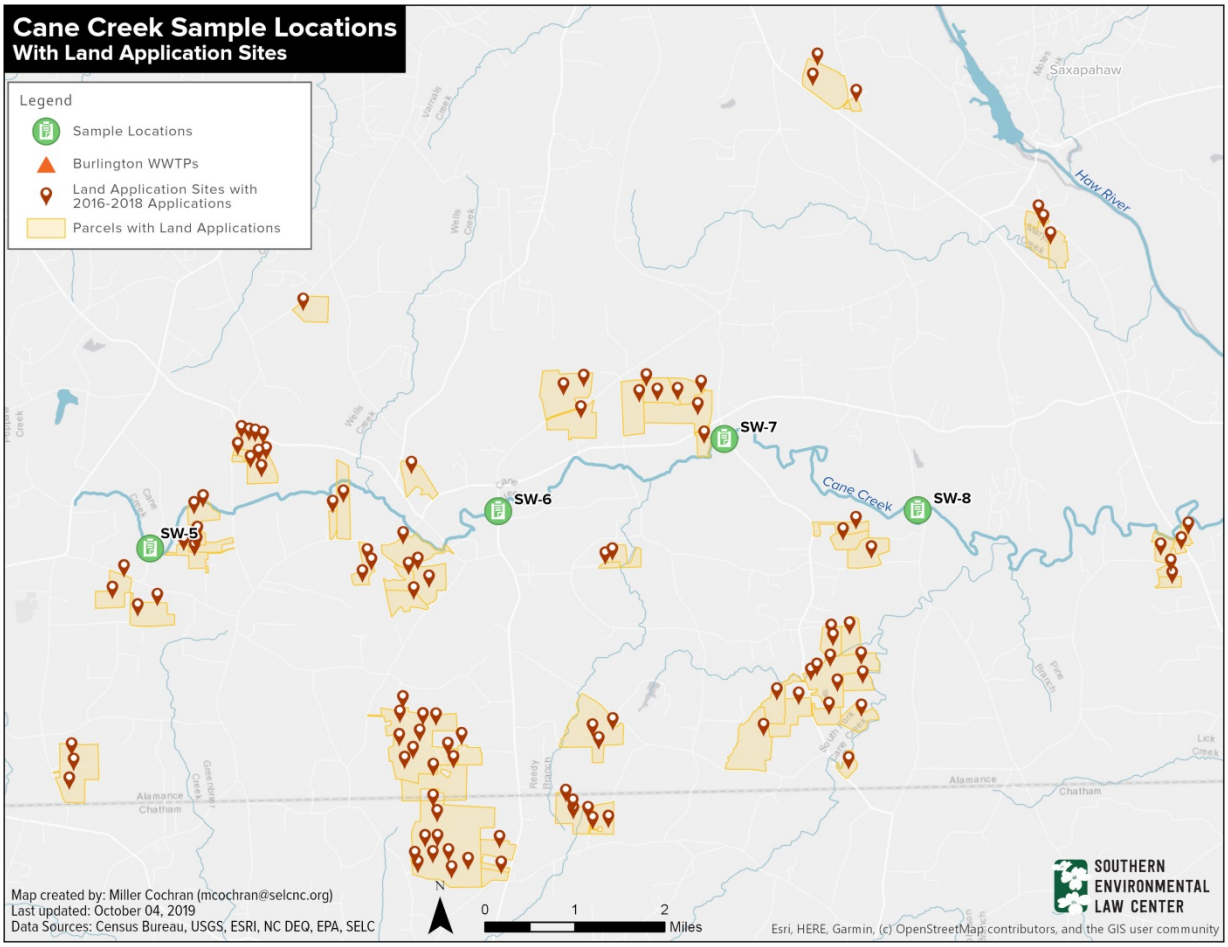
Burlington's practice of spraying contaminated sludge from the South and East treatment plants onto fields that are close to rivers and streams is also polluting the Haw River and its tributaries with PFAS.

As early as August 1, 2013, scientists from North Carolina State University documented high levels of PFAS in Burlington's sludge.[71] Despite the PFAS pollution found in its sludge, Burlington continued to have it sprayed on nearby fields. From 2016 to 2018, Burlington had more than 11,000 dry tons of sludge land-applied.[72] In all three years, sludge from Burlington

[70] Stapleton Presentation at slides 8-10, 12.
[71] Knappe 2013 Presentation at slide 5.
[72] Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land Application Certification Form; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land

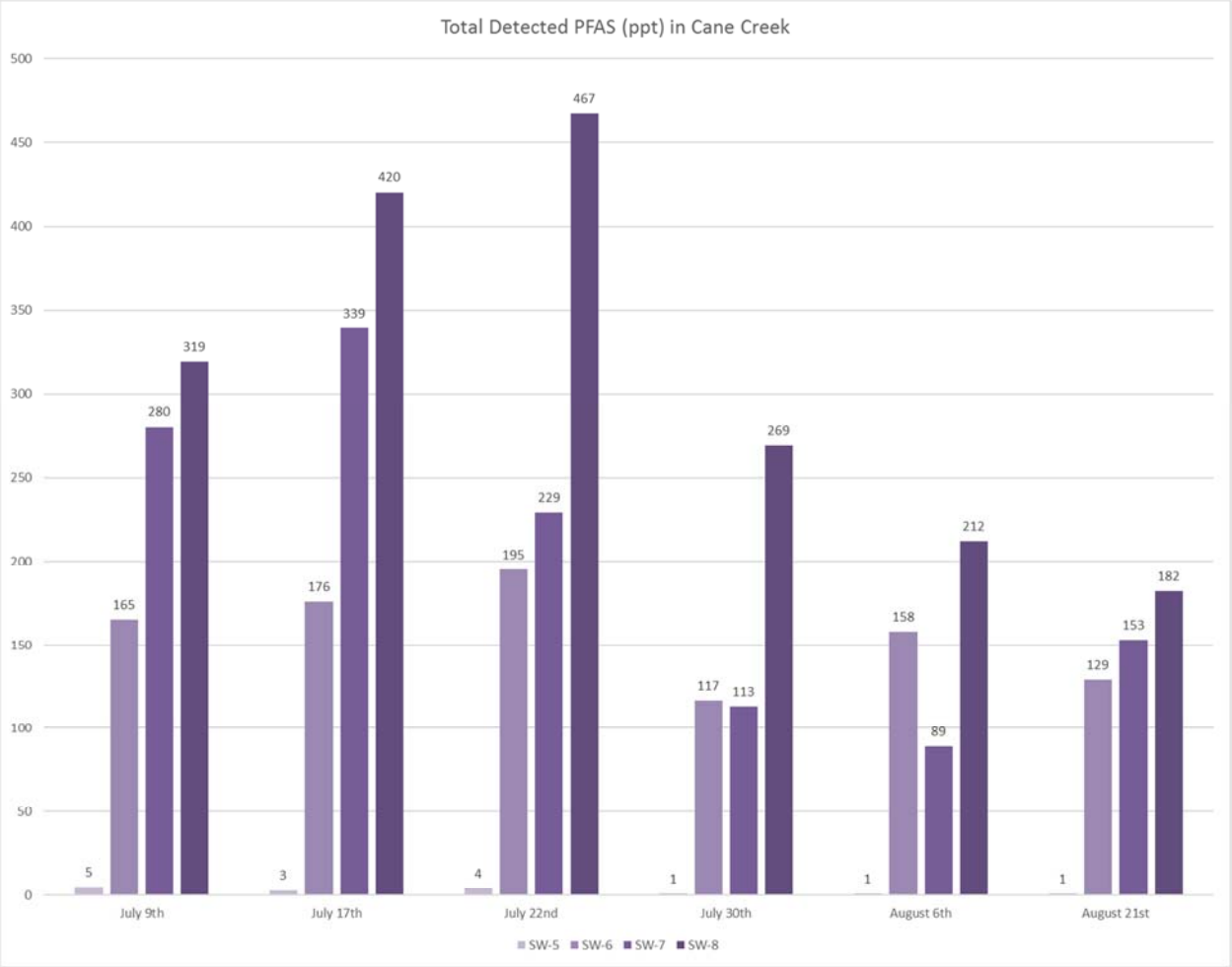
was applied near Cane Creek, which drains into the Haw River, the public water supply for the Town of Pittsboro, among other locations.[73]

PFAS is running off into the creeks, streams, and reservoirs near the land where Burlington's sludge is applied. Sampling in Cane Creek along the fields that received Burlington's sludge consistently showed significant increases in PFAS concentrations from the location upstream of those fields (SW-5) to locations downstream (SW-6, SW-7, and SW-8) (see map and figure below):



Application Certification Form; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520, Annual Land Application Certification Form.

[73] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.



For comparison, Haw River Assembly also took samples in Collins Creek, on the opposite side of the Haw River in a location that is not downstream from any of Burlington's sludge fields (SW-12). In the sampling data taken from SW-12, PFAS was never detected in concentrations above 32 ppt.

Together, this data shows that Burlington has been responsible for polluting the Haw River and its tributaries from its land application of PFAS-contaminated sludge since at least August 1, 2013. Given the prevalence of 1,4-dioxane in industrial waste and Burlington's inability to remove it through its treatment processes, Burlington's sludge also likely contains 1,4-dioxane when land-applied.[74] Burlington's sludge has likely been polluting surface waters since it first started land applying its sludge, at least as early as December 23, 1986.[75]

[74] 1,4-dioxane has also been found in sludge in North Carolina, and the land application of 1,4-dioxane-contaminated sludge could also be polluting drinking waters. Lisa Sorg, *What is your compost made of? Use public records to find out.*, NC POLICY WATCH, Apr. 26, 2019.
[75] N.C. DEQ, Non-Discharge permit No. WQ0000520, Apr. 5, 1989, included as Attachment 51.

E. Burlington's pollution is reaching drinking water systems downstream.

1. Pittsboro's drinking water has been contaminated by Burlington's discharges and land application sites.

Burlington's wastewater discharges and land-applied sludge are polluting drinking water downstream with toxic PFAS. Samples taken during July and August 2019 from a drinking water fountain in the Chatham County Public Library, Pittsboro, North Carolina, detected 14 different types of PFAS, including:

- Perfluorobutyric acid (PFBA) at up to 56.8 ppt,
- Perfluoroheptanoic acid (PFHpA) at up to 111 ppt,
- Perfluorohexanoic acid (PFHxA) at up to 152 ppt, and
- Perfluoropentanoic acid (PFPeA) at up to 134 ppt.

Other PFAS found in the Pittsboro drinking water include: PFBS, PFHxS, PFOS, and PFOA. These are the same PFAS that were detected just downstream of Burlington's treatment plant outfalls and sludge fields.

Total PFAS concentrations found in the Chatham County Public Library drinking water fountain were far higher than any state or federal standards or guidelines for PFAS:

Date	**Total PFAS concentrations in Chatham County Public Library drinking water fountain**
July 11, 2019	442 ppt
July 22, 2019	157 ppt
August 7, 2019	219 ppt
August 20, 2019	489 ppt

Taken together, this data shows that Burlington's treatment plants are contributing significantly to the PFAS contamination of Pittsboro's drinking water. Scientists at Duke University similarly concluded that "East Burlington WWTP is a source of PFAS to Pittsboro drinking water," [76] after their sampling detected total PFAS concentrations of 760 ppt in Pittsboro's drinking water.[77]

1,4-dioxane was also detected through Haw River Assembly's sampling of Pittsboro's drinking water. On August 20, 2019, 1,4-dioxane was detected at 11.3 ppb—many times higher than state health-based values for the chemical.[78]

[76] Public Forum at the Town of Pittsboro, Presentation, "How Safe is Pittsboro's Drinking Water," Oct. 16, 2019, slide 19, included as Attachment 52.
[77] *Id.* at slide 18.
[78] Given the documented release of 1,4-dioxane through from Greensboro's WWTP a few weeks earlier, we acknowledge that the Greensboro release is a likely contributor to the presence of the 1,4-dioxane in Pittsboro's drinking water on this sampling date.

2. Burlington is also polluting Jordan Lake, a drinking water supply, with toxic PFAS.

Burlington is polluting other drinking water sources from its PFAS pollution. Downstream of Burlington's treatment plants and sludge applications, the Haw River flows into Jordan Lake, which supplies the drinking water for over 230,000 people in Cary, Apex, Morrisville, and elsewhere.

Sampling conducted by DEQ,[79] and scientists from Duke University[80] have found the same types of PFAS in the Jordan Lake watershed that are in Burlington's wastewater, coming from Burlington's sludge, and in Pittsboro's drinking water—including PFBA, PFHpA, PFHxA, PFOA, PFOS, and PFPeA. From January to June 2018, DEQ and EPA sampling in Jordan Lake found PFHpA at 280 ppt, PFHxA at 260 ppt, PFOA at 62 ppt, PFOS at 98 ppt, and PFPeA at 150 ppt.[81] After concluding that the PFAS in Pittsboro's drinking water is caused by Burlington, Duke University scientists found that the PFAS "fingerprint" is the same in Pittsboro and Cary's drinking water—suggesting that Burlington is also contributing to the PFAS pollution in the Jordan Lake watershed, in Cary's drinking water, and farther downstream.[82]

IX. Burlington's Ongoing Pollution Constitutes Violations of the Clean Water Act and the Resource Conservation and Recovery Act.

A. Clean Water Act violations

The Clean Water Act was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[83] To that end, section 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants from a point source to waters of the United States except in compliance with, among other conditions, a NPDES permit issued pursuant to § 402 of the Clean Water Act, 33 U.S.C. § 1342. Notably, each violation of a permit—and each discharge that is not authorized by a permit—is a separate violation of the Clean Water Act.[84]

Burlington is violating the Clean Water Act through its unpermitted discharges of PFAS and 1,4-dioxane from its treatment plant outfalls and the land application of its contaminated sludge. Burlington is also violating several of its NPDES permit provisions, and is failing to properly manage its pretreatment program.

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[79] N.C. Div. of Water Res., Memorandum from Taryn Davis to Linda Culpepper, "Identification of Select Emerging Compounds in B. Everett Jordan Reservoir, Haw River Arm Watershed, and New Hope Creek Arm Watershed," Apr. 1, 2019, ("DWR Jordan Lake Sampling") included as Attachment 53.
[80] Stapleton Presentation at slides 4-6, 12.
[81] DWR Jordan Lake Sampling at 7.
[82] Stapleton Presentation at slide 12.
[83] 33 U.S.C. § 1251(a).
[84] *See* 33 U.S.C. § 1319(d) ("penalty . . . per day for each violation"); *Sierra Club, Haw. Chapter v. City & Cnty. of Honolulu*, 486 F. Supp. 2d. 1185, 1190 (D. Haw. 2007) (summarizing holdings).

1. Burlington's discharges of PFAS and 1,4-dioxane are unpermitted.

Burlington is releasing PFAS and 1,4-dioxane into surface waters from its outfalls for the East and South Burlington treatment plants. It is also discharging PFAS (and likely 1,4-dioxane) from the devices that apply its contaminated sludge and through ditches and other drainage channels that are on or near the land where the sludge is applied.[85] These are all unpermitted discharges of pollutants from point sources under the Clean Water Act.

Under the Clean Water Act, the phrase "discharge of a pollutant" means "any addition of any pollutant to navigable waters from any point source."[86] The term "pollutant" includes "solid waste, . . . sewage, garbage, sewage sludge, . . . chemical wastes, biological materials . . . and industrial, municipal, and agricultural waste."[87] The term "point source" includes any "discernible, confined and discrete conveyance" from which pollutants may be discharged, including pipes, ditches, channels, tunnels, conduits, wells, discrete fissures, and containers.[88] The point source need not be the original source of the pollution; all that is required is that it conveys the pollution to a water of the United States.[89]

Burlington's discharge treatment plants' outfalls, the devices that apply contaminated sludge to the land,[90] and ditches and other drainage channels through which Burlington's pollution travels to surface waters[91] are point sources under the Clean Water Act. Because Burlington does not have a NPDES permit authorizing it to discharge PFAS or 1,4-dioxane from these point sources into the Haw River and its tributaries, which are waters of the United States, Burlington has violated, and continues to violate, section 301(a) of the Clean Water Act. In particular,

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[85] As explained above, Burlington is the holder of No. WQ0000520, issued by the N.C. Division of Water Resources for the Land Application of Class B Residuals in Alamance County on August 1, 2017, which, among other things, requires that Burlington manage its land application of sludge to prevent discharges to surface waters. N.C. DEQ, Non-Discharge permit No. WQ0000520, Aug. 1, 2017. Burlington then contracts with EMA Resources, Inc. to apply Burlington's sludge onto fields. East Burlington NPDES Application at 7, Sludge Management Plan. Because the Clean Water Act imposes liability on the party with responsibility or control over performance of the work, Burlington is liable under the Clean Water Act for the land application of its sludge and the resulting discharges into Cane Creek and elsewhere. *Assateague Coastkeeper v. Alan and Kirstin Hudson Farm*, 727 F. Supp. 2d 433, 442 (D. Md. 2010) (finding that the Clean Water Act imposes liability on the party who controlled the discharger); *U.S. v. Lambert*, 915 F.Supp. 797, 802 (S.D. W.Va.1996) (holding person who hired contractor liable for violation of exceeding permit limitations).

[86] 33 U.S.C. § 1362(12)(A).

[87] *Id.* § 1362(6).

[88] *Id*. § 1362(14).

[89] *Id*. § 1362(7).

[90] *See Peconic Baykeeper, Inc. v. Suffolk Cty*., 600 F.3d 180, 188 (2d Cir. 2010); *League of Wilderness Defs./Blue Mountains Biodiversity Project v. Forsgren*, 309 F.3d 1181, 1185 (9th Cir. 2002).

[91] *See Sierra Club v. Abston Constr. Co.*, 620 F.2d 41, 45 (5th Cir. 1980) (discharge from mining pits and spoil piles through naturally formed ditches caused by gravity flow at a coal mining site are point sources); *see also N.C. Shellfish Growers Ass'n v. Holly Ridge Assocs., LLC.*, 278 F. Supp. 2d 654, 679 (E.D. N.C. 2003) ("Notwithstanding that it may result from such natural phenomena as rainfall and gravity, the surface run-off of contaminated waters, once channeled or collected, constitutes discharge by a point source.") (quoting *O'Leary v. Moywer's Landfill, Inc.*, 523 F.Supp. 642, 655 (E.D. Pa. 1981)).

- Burlington's unpermitted discharges from its South and East Burlington treatment plants have violated the Clean Water Act daily since at least August 1, 2013,[92] when PFAS was first found in increased concentrations downstream of the treatment plants. Burlington likely has been illegally discharging PFAS and 1,4-dioxane from its treatment plants since it first started accepting industrial wastewater.
- Burlington has violated the Clean Water Act each time it applied its contaminated sludge onto fields near surface waters,[93] since at least August 1, 2013 when PFAS was first documented in its sludge.[94] At the very least, Burlington has violated the Clean Water Act on each of the days in 2019 and earlier when it applied its sludge on the fields near Cane Creek, where Haw River Assembly conducted its sampling investigation, including on:[95]

March 10, 2016	February 21, 2017	December 28, 2017	April 21, 2018
March 16, 2016	February 23, 2017	December 29, 2017	April 23, 2018
March 17, 2016	February 24, 2017	January 3, 2018	May 1, 2018
March 19, 2016	February 28, 2017	January 8, 2018	May 2, 2018
March 21, 2016	March 1, 2017	January 15, 2018	May 3, 2018
March 22, 2016	March 3, 2017	January 16, 2018	May 4, 2018
April 8, 2016	March 6, 2017	January 25, 2018	May 5, 2018
April 9, 2016	March 7, 2017	January 27, 2018	May 7, 2018
April 21, 2016	March 13, 2017	February 1, 2018	May 8, 2018
April 25, 2016	March 16, 2017	February 28, 2018	May 9, 2018
May 11, 2016	March 17, 2017	March 5, 2018	May 10, 2018
May 12, 2016	May 8, 2017	March 6, 2018	May 11, 2018
May 28, 2016	May 9, 2017	March 9, 2018	May 14, 2018
May 31, 2016	May 11, 2017	March 10, 2018	May 15, 2018
June 9, 2016	May 12, 2017	March 15, 2018	May 24, 2018
June 10, 2016	May 15, 2017	March 16, 2018	May 25, 2018
June 11, 2016	May 30, 2017	March 17, 2018	June 4, 2018
June 12, 2016	May 31, 2017	March 19, 2018	June 6, 2018
October 28, 2016	June 1, 2017	March 27, 2018	June 7, 2018
October 29, 2016	June 2, 2017	March 28, 2018	June 8, 2018
October 31, 2016	June 3, 2017	March 29, 2018	June 9, 2018
December 14, 2016	June 8, 2017	April 2, 2018	June 13, 2018
December 16, 2016	June 9, 2017	April 3, 2018	June 14, 2018
December 22, 2016	June 10, 2017	April 4, 2018	June 15, 2018

[92] Knappe 2013 Presentation at slide 5.
[93] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.
[94] Knappe 2013 Presentation at slide 5.
[95] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.

January 28, 2017	June 12, 2017	April 5, 2018	September 5, 2018
January 30, 2017	June 13, 2017	April 6, 2018	September 6, 2018
February 3, 2017	June 16, 2017	April 11, 2018	September 7, 2018
February 4, 2017	June 27, 2017	April 12, 2018	October 9, 2018
February 6, 2017	June 28, 2017	April 13, 2018	October 18, 2018
February 17, 2017	October 4, 2017	April 19, 2018	October 19, 2018
February 20, 2017	October 5, 2017	April 20, 2018	

The above table summarizes the dates of sludge applications onto the fields along Cane Creek from March to December 2016, from January to December 2017, and from January to October 2018. [96] During that time, and likely in 2019, Burlington applied sludge from both of its treatment plants at numerous other fields near surface waters. All three years, sludge was also applied near the Cane Creek Reservoir and the streams flowing into it; near the Quaker Creek Reservoir and the streams flowing into it; and near the streams north of Lake Cammack.[97] Moreover, Burlington has likely been applying PFAS-contaminated sludge for decades. Burlington has likely had PFAS-contaminated sludge since it first started accepting industrial wastewater, and Burlington has been permitted to land-apply its sludge since at least December 23, 1986.[98]

2. Burlington's discharges of PFAS and 1,4-dioxane violate its NPDES permits.

The NPDES permits for the East and South Burlington treatment plants—NPDES Permits NC0023868 and NC0023876—have several permit conditions that Burlington has violated as a result of its PFAS and 1,4-dioxane pollution, including the Removed Substances and Duty to Mitigate provisions.[99]

First, the Removed Substances provision in Burlington's NPDES permits requires that:

> Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be utilized/disposed of […] in a manner such as to prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States…[100]

The Removed Substances provision ensures that "measures shall be taken to assure that pollutants [and] materials removed from the process water and waste streams will be retained in

[96] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.
[97] *See* Burlington 2018 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2017 Annual Report for Non-Discharge Permit No. WQ0000520; Burlington 2016 Annual Report for Non-Discharge Permit No. WQ0000520.
[98] N.C. DEQ, Non-Discharge permit No. WQ0000520, Apr. 5, 1989.
[99] 40 C.F.R. § 122.41("The following conditions apply to all NPDES permits. […] All conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference."); Standard Conditions for NPDES Permits, included as Attachment 54.
[100] Standard Conditions for NPDES Permits at 8.

storage areas and not discharged or released…"[101] This provision aims to "ensure the integrity" of such systems so that pollution does not escape into the environment.[102]

In the course of Burlington's treatment of domestic and industrial wastewater, it "remove[s]" some of the PFAS (and likely 1,4-dioxane) compounds—those that have accumulated in sludge. The Removed Substances provision requires that Burlington removes sludge and other pollutants from its treatment process in a manner that "prevent[s] any pollutant from such materials from entering waters of the State or navigable waters of the United States."[103] Every time Burlington applies its contaminated sludge onto fields near surface waters,[104] Burlington fails to prevent PFAS from entering the Haw River and its tributaries in violation of the Removed Substances provision of its NPDES permits.

Next, Burlington is in violation of the Duty to Mitigate provision in its NPDES permits, which requires that:

> The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit with a reasonable likelihood of adversely affecting human health or the environment.[105]

As discussed in Section VI of this letter, PFAS and 1,4-dioxane "adversely affect[]" human health. Haw River Assembly's sampling of the drinking water in the Town of Pittsboro showed combined PFAS concentrations of up to 489 ppt and 1,4-dioxane concentrations of 11.3 ppb—many times higher than the existing health-based values for the chemicals.

Every time Burlington illegally discharges PFAS and 1,4-dioxane from its wastewater or applies contaminated sludge near the Haw River and its tributaries, Burlington fails to "take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of [its NPDES permits] with a reasonable likelihood of adversely affecting human health or the environment," as required by the Duty to Mitigate provisions in its permits.

In sum, Burlington is violating several provisions of its NPDES permits through its wastewater discharge of these pollutants and its disposal of its contaminated sludge.[106]

3. Burlington is violating its Non-Discharge Permit because pollution from its sludge is reaching surface waters and causing violations of state water quality standards.

The City of Burlington's Non-Discharge Permit, No. WQ0000520, issued under Title 40 Code of Federal Regulations Part 503, 33 U.S.C. § 1345, and 15A N.C. Administrative Code

[101] *In re: 539 Alaska Placer Miners*, 1085-06-14-402C, 1990 WL 324284, at *8 (EPA Mar. 26, 1990); *see also* 40 C.F.R. § 440.148(c).
[102] *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 446-47 (M.D. N.C. 2015).
[103] Standard Conditions for NPDES Permits at 8.
[104] *See* Sections VII and IX(A).
[105] Standard Conditions for NPDES Permits at 4; *see also* 40 C.F.R. § 122.41(d).
[106] *See also Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 179 F.3d 107, 109 (4th Cir. 1999), *on reh'g en banc*, 204 F.3d 149 (4th Cir. 2000) ("If a permit holder fails to comply with any condition of its [NPDES] permit, the permit holder violates the [Clean Water Act]" and "citizens may bring suits against those who violate permits.") (citing 33 U.S.C. § 1365); *Nw. Envtl. Advocates v. City of Portland*, 56 F.3d 979, 986 (9th Cir. 1995) ("The plain language of [Clean Water Act] § 505 authorizes citizens to enforce *all* permit conditions.").

02T,[107] for the East and South Burlington treatment plants also has numerous permit conditions that Burlington has violated by polluting the Haw River and its tributaries from its land application of contaminated sludge, including:

- Performance Standard 1, under which "The subject residuals management program […] be effectively maintained and operated at all times so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards."[108]

- Operation and Maintenance Requirement 1, under which "[t]he program shall be effectively maintained and operated as a non-discharge system to prevent any contravention of surface water or groundwater standards."[109]

- Operation and Maintenance Requirement 9, which states "adequate measures shall be taken [when the Permittee land applies sludge], to prevent wind erosion and surface runoff from conveying residuals from the land application sites onto adjacent properties or into surface waters."[110]

- Operation and Maintenance Requirement 11, which states: "[b]ulk residuals shall not be land applied . . . [i]f the land fails to assimilate the bulk residuals or the application causes the contravention of surface water or groundwater standards."[111]

As discussed in Section VII(D) of this letter, Haw River Assembly's sampling demonstrates that PFAS from Burlington's land application of sludge is reaching nearby surface waters. Sampling conducted in July and August 2019 near Burlington's sludge applications consistently showed that total PFAS concentrations in Cane Creek increased from samples taken from upstream of the sludge fields to the samples taken downstream of the fields: from 5 ppt upstream of the applications to 319 ppt downstream (July 9), from 3 ppt to 420 ppt (July 17), from 4 ppt to 467 ppt (July 22), from 1 ppt to 269 ppt (July 30), from 1 ppt to 212 ppt (August 6), and from 1 ppt to 182 ppt (August 21).

Thus, Burlington's land application program is not being "maintained and operated at all times so there is no discharge to surface waters," in violation of Performance Standard 1. Burlington is not taking adequate measures to prevent surface runoff from conveying residuals into surface waters, in violation of Operation and Maintenance Requirement 9. And Burlington is applying sludge even when the land fails to assimilate the waste, in violation of Operation and Maintenance Requirement 11.

In addition, because Performance Standard 1 and Operation and Maintenance Requirements 1 and 11 prohibit the "contravention of groundwater or surface standards," Burlington is further violating these permit conditions because it is violating the state Toxic

[107] N.C. DEQ, Non-Discharge permit No. WQ0000520, Aug. 1, 2017.
[108] *Id.* at 2.
[109] *Id.* at 5.
[110] *Id.* at 6.
[111] *Id.* at 7.

Substances Standard through its land application of contaminated sludge.[112] The North Carolina Toxics Substances Standard requires that "the concentration of toxic substances […] in surface waters shall not render waters injurious to […] public health, or impair the waters for any designated uses."[113] As discussed in Sections VI and VIII of this letter, PFAS and 1,4-dioxane harm human health, and Burlington's land application of sludge is contaminating drinking water for downstream communities—rendering waters "injurious to […] public health."

Every time Burlington applies its sludge onto fields near surface waters, Burlington violates these requirements of its Non-Discharge Permit, in violation of the Clean Water Act.[114]

4. Burlington has failed to enforce its Pretreatment Program in compliance with the Clean Water Act.

The Clean Water Act pretreatment program governs the discharge of industrial wastewater to wastewater treatment plants. These wastewater discharges are known as "Industrial Users," and they require permits, known as pretreatment permits.[115] The Clean Water Act pretreatment program "assures the public that [industrial] dischargers cannot contravene the [Clean Water Act's] objectives of eliminating or at least minimizing discharges of toxic and other pollutants simply by discharging indirectly through [wastewater treatment plants] rather than directly to receiving waters."[116] As is appropriate, the pretreatment program is intended to place the burden of treating polluted discharges on the entity that creates the pollution, rather than on the taxpayers that support municipally owned wastewater treatment plants, or publicly owned treatment works.

The EPA has delegated authority over North Carolina's pretreatment program to DEQ, and DEQ has delegated much of that authority to the municipalities that run their own treatment plants, such as the City of Burlington.[117] Municipalities are required to "*fully and effectively exercise[] and implement[]*" their authority to: (1) "[d]eny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the [publicly owned treatment works] by Industrial Users where such contributions . . . would cause the [publicly owned treatment works] to violate its NPDES permit;" (2) to "[r]equire compliance with applicable Pretreatment Standards and Requirements by Industrial Users;" and (3) to "[c]ontrol through Permit, order, or similar means the contribution to the [publicly owned treatment works]

[112] It is also likely that PFAS from Burlington's sludge has leached into groundwater, further violating state groundwater rules, which state that "substances which are not naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the practical quantitation limit," 15A N.C. Admin. Code 02L.0202(c), or the "lowest concentration of a given material that can be reliably achieved among laboratories within specified limits of precision and accuracy by a given analytical method during routine laboratory analysis, 15A N.C. Admin. Code 02L.0102(15).
[113] 15A N.C. Admin. Code 02B .0208.
[114] 33 U.S.C. § 1365(f)(7), § 1365(f)(8) (defining an "effluent standard or limitation" to include regulations set by EPA pursuant to 1345(d), "Disposal or Use of Sewage Sludge").
[115] *See* 40 C.F.R. § 403.
[116] General Pretreatment Regulations for Existing and New Sources, 52 Fed. Reg. 1586, 1590 (Jan. 14, 1987) (codified at 40 C.F.R. § 403).
[117] *See* National Pollutant Discharge Elimination System Memorandum of Agreement between the State of N.C. and the U.S. EPA Region 4, 24-27 (Oct. 15, 2007); *see also* 40 C.F.R. § 403.10.

by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements."[118]

Furthermore, municipalities are required to "fully and effectively exercise[] and implement[]" their authority to "[i]dentify the character and volume of pollutants contributed to the [publicly owned treatment works]" by Industrial Users,[119] and to "immediately and effectively to halt or prevent any discharge of pollutants to the [publicly owned treatment works] which reasonably appears to present an imminent endangerment to the health or welfare of persons."[120] These requirements are meant to ensure that pretreatment programs that are run by municipalities do not violate the Clean Water Act or state water quality laws, as is being done here.

The NPDES permits for the East and South Burlington treatment plants—NPDES Permits NC0023868 and NC0023876—include a condition regarding the treatment plants' pretreatment programs. This condition states that

> The Permittee shall develop and enforce their Pretreatment Program to implement the prohibition against the introduction of pollutants or discharges into the waste treatment system or waste collection system which cause or contribute to Pass Through or Interference…[121]

"Pass Through" is defined as

> A discharge which exits the [publicly owned treatment works] into waters of the State in quantities or concentrations which, alone or with discharges from other sources, causes a violation, including an increase in the magnitude or duration of a violation, of the Permittee's (or any satellite [publicly owned treatment works], if different from the Permittee) NPDES, collection system, or non-discharge permit.[122]

As discussed in Section IX(A) of this letter, both the East and South Burlington treatment plants are, and have been, in violation of their NPDES permits as a result of industrial facilities that discharge PFAS and 1,4-dioxane into those treatment plants.[123] Accordingly, Burlington is failing to manage its pretreatment programs in a manner that prohibits Pass Through, in violation of the Clean Water Act.[124]

"Interference" is defined as

> Inhibition or disruption of the [publicly owned treatment works] treatment processes; operations; or its sludge process, use, or disposal which causes or contributes to a violation of any requirement of the Permittee's (or any satellite [publicly owned treatment works] if different from the Permittee) NPDES,

[118] 40 C.F.R. § 403.8(f)(1) (emphasis added).
[119] *Id.* § 403.8(f)(1)(vi)(B).
[120] *Id.* § 403.8(f)(2)(ii).
[121] Standard Conditions for NPDES Permits at 15; *see also* 40 C.F.R. § 403.5(a)(1).
[122] Standard Conditions for NPDES Permits at 14.
[123] East Burlington NPDES Application; South Burlington NPDES Application.
[124] *See* Standard Conditions for NPDES Permits at 15; 40 C.F.R. § 403.5(a)(1); 40 C.F.R. § 403.8(f)(1).

collection system, or non-discharge permit or prevents sewage sludge use or disposal in compliance with specified applicable State and Federal statutes, regulations, or permits.[125]

As discussed in Sections VII(A), VII(D), and VIII of this letter, PFAS from industrial facilities that are discharging into the East and South Burlington treatment plants is ending up in Burlington's sludge, which is then contaminating surface waters and drinking water downstream. This constitutes an "inhibition or disruption" of Burlington's "sludge process, use or disposal," and has contributed to a violation of Burlington's NPDES and non-discharge permits. Burlington is thus failing to manage its pretreatment programs in a manner that prohibits Interference, in further violation of the Clean Water Act.[126]

Finally, Burlington is failing to "fully and effectively exercise[] and implement[]" its authority to "immediately and effectively to halt or prevent any discharge of pollutants to the [publicly owned treatment works] which reasonably appears to present an imminent endangerment to the health or welfare of persons," as required by the Clean Water Act.[127]

5. Burlington's discharges of PFAS and 1,4-dioxane are ongoing.

Burlington's violations are longstanding and continuing. Burlington receives, and has received, PFAS and 1,4-dioxane from multiple industrial sources. It does not require that industrial facilities remove these chemicals before their industrial wastewater enters Burlington's treatment plants. Burlington is currently not equipped to remove PFAS or 1,4-dioxane from wastewater prior to discharging it into the Haw River and its tributaries or from its sludge. Burlington discharges wastewater contaminated with PFAS and 1,4-dioxane from its treatment plant outfalls daily into the Haw River and its tributaries. And it continues to dispose of its contaminated sludge by spraying it on nearby fields. Unless it takes immediate remedial steps, it will continue to do so for the foreseeable future.

Moreover, PFAS and 1,4-dioxane are persistent in the environment; therefore, they remain present in rivers, streams, and soil long after Burlington releases them into the environment. The City's permit violations will thus continue after the date of this letter and the subsequent filing of a lawsuit.

B. Resource Conservation and Recovery Act violations.

Burlington is violating the Resource Conservation and Recovery Act ("RCRA") by causing toxic PFAS pollution to enter surface waters from the land application of its sludge, in a manner that may present an imminent and substantial endangerment to health and the environment. In addition, the City is violating RCRA by disposing solid waste in a manner that constitutes open dumping.

[125] East Burlington NPDES Application; South Burlington NPDES Application.
[126] *See* Standard Conditions for NPDES Permits at 15; 40 C.F.R. § 403.5(a)(1); 40 C.F.R. § 403.8(f)(1).
[127] *Id.* § 403.8(f)(2)(ii).

1. Burlington is causing an imminent and substantial endangerment to human health and the environment.

Burlington's application of contaminated sludge near the Haw River and its tributaries is causing imminent and substantial endangerment to human health.

Section 7002(a)(l)(B) of RCRA, 42 U.S.C. § 6972(a)(l)(B), allows affected citizens to bring suit against:

> any person, ... including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage or disposal facility, who has contributed or who is contributing, to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.

A citizen suit under this section of RCRA "may be predicated on a [qualifying] *past [or present]* violation."[128]

Under RCRA, the term "solid waste" means "any garbage, refuse, *sludge from a waste treatment plant*, water supply treatment plant, . . . and other discarded material, including solid, liquid, semisolid, . . . from industrial, commercial, mining, and agricultural operations, and from community activities, . . ."[129] The meaning of "discard" is "cast aside; reject; abandon; give up."[130] RCRA's definition of "disposal," in turn is "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water."[131] By land-applying the wastewater treatment sludge, Burlington has disposed of a "solid waste," and has created an imminent and substantial endangerment to human health.[132]

As discussed in Sections VI and VII of this letter, PFAS and 1,4-dioxane are dangerous and pervasive chemicals; and Burlington's past and present generation of sludge contaminated with PFAS (and likely 1,4-dioxane), and disposal of that sludge through the land application, is

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[128] *Goldfarb v. Mayor & City Council of Baltimore*, 791 F.3d 500, 504 (4th Cir. 2015) (quoting *Sanchez v. Esso Standard Oil Co.*, 572 F.3d 1, 7 (1st Cir. 2009)).

[129] 42 U.S.C. § 6903(27) (emphasis added); North Carolina law defines "solid waste" more broadly as "any hazardous or nonhazardous garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, domestic sewage and sludges generated by the treatment thereof in sanitary sewage collection, treatment and disposal systems, and other material that is either discarded or is being accumulated, stored or treated prior to being discarded, or has served its original intended use and is generally discarded, including solid, liquid, semisolid or contained gaseous material resulting from industrial, institutional, commercial and agricultural operations, and from community activities." N.C. Gen. Stat. § 130A-290(35).

[130] *Safe Air for Everyone v. Meyer*, 373 F.3d 1035, 1041 (9th Cir. 2004); *see also Am. Mining Cong. v. U.S. EPA*, 824 F.2d 117, 1184 (D.C. Cir. 1987) (defining "discarded" as "'disposed of,' 'thrown away' or 'abandoned'" (citation omitted)).

[131] 42 U.S.C. § 6903(3).

[132] That the sludge is land applied for use as fertilizer does not change this conclusion: the sludge contains PFAS, industrial pollutants that cannot effectively be used as fertilizer. *Cmty. Ass'n for Restoration of the Env't, Inc. v. Cow Palace, LLC*, 80 F. Supp. 3d 1180, 1221-24 (E.D. Wash. 2015) (holding that "excess manure applied onto agricultural fields constitutes 'discarded material' because such waste cannot effectively be used by crops as fertilizer and therefore has no beneficial use nor is it used as it was intended to be used"). PFAS, therefore, is "discarded" solid waste. *Id*.

polluting drinking water supplies downstream. Burlington's actions have caused, and continue to cause, imminent and substantial endangerment to human health or the environment each time it land applies contaminated sludge near the Haw River and its tributaries.

2. Burlington is engaging in open dumping, in violation of the Resource Conservation and Recovery Act.

Burlington is also violating the open dumping provision of RCRA through its land application of contaminated sludge. A civil action may be brought against "any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective" under RCRA.[133] RCRA prohibits "any solid waste management practice or disposal of solid waste […] which constitutes the open dumping of solid waste."[134] In turn, RCRA defines "open dump" as "any facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 6944 of this title and which is not a facility for disposal of hazardous waste."[135]

The EPA promulgated criteria to clarify what practices may violate RCRA's open dumping prohibition.[136] The regulations state that a facility cannot "cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the [NPDES] under section 402 of the Clean Water Act."[137]

As explained in Section IX(A), Burlington's discharges of PFAS (and likely 1,4-dioxane) from the devices used to apply its PFAS-contaminated sludge, and through nearby ditches and other drainage channels, into Cane Creek, constitute unpermitted point source discharges in violation of section 402 of the Clean Water Act. Thus, every time Burlington disposes of its contaminated sludge by land applying it onto fields near surface waters, Burlington is disposing of solid waste in open dumps, in violation of RCRA.[138]

X. Notice of Intent to Sue

As described above, Burlington has been, and continues to be, responsible for recurrent violations of the Clean Water Act by discharging PFAS and 1,4-dioxane into surface waters in violation of its NPDES permits, Non-Discharge Permit, and the Clean Water Act pretreatment program. Burlington's actions are also causing an imminent and substantial endangerment and constitute open dumping in violation of RCRA. A civil action under section 505 of the Clean Water Act and section 6972 of RCRA will be initiated against the City of Burlington once the applicable notice periods have expired or soon thereafter, unless the violations described above are fully redressed.

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[133] 42 U.S.C. § 6972(a)(1)(A).
[134] *Id.* § 6945(a).
[135] *Id.* § 6903(14).
[136] 40 C.F.R. § 257.
[137] *Id.* § 257.3-3(a).
[138] *Parker v. Scrap Metal Processors, Inc.*, 386 F.3d 993, 1012 (11th Cir. 2004) (To prove that a site qualifies as an open dumping, plaintiffs must show: (1) solid waste, (2) is disposed at the site, (3) that the site does not qualify as a landfill, and (4) that the site does not qualify as a facility for the disposal of hazardous waste.).

If litigation is necessary, the Haw River Assembly will seek redress for the violations described in this letter, including injunctive relief, costs, and attorneys' fees pursuant to 33 U.S.C. § 1365(a) and (d), 42 U.S.C. § 6972(a)(l)(B), and civil penalties pursuant to 33 U.S.C. §1319(d).

Haw River Assembly reserves the right to add additional claims to the specific Clean Water Act and RCRA violations set forth above based on the same or a similar pattern of violations. Haw River Assembly also reserves the right to seek additional remedies under state and federal law and does not intend, by giving this notice, to waive any other rights or remedies.

During the relevant notice period, Haw River Assembly is willing to discuss effective remedies for the violations noted in this letter. If you wish to pursue negotiations in the absence of litigation, you should initiate such negotiations within the next twenty (20) days so that they may be completed prior to completion of the notice period. Haw River Assembly has retained the assistance of the counsel listed below, and all responses to this letter should be directed to the undersigned counsel.

Thank you for your prompt attention to this matter.

Sincerely,

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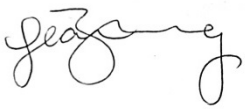

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Enclosures – USB (containing attachments)

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