

March 1, 2024

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Wetlands Permitting Specialist
Wetlands Bureau, Land Resources Management, Water Division
NH Department of Environmental Services
P.O. Box 95
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Re: Standard Dredge and Fill Wetlands Permit Application (RSA-482-A)
NHDES File # 2023-03259; Subject Property: Dalton Drive, Dalton,
Tax Map #406/1, Lot #406/2

Dear Ms. Berger:

These are comments from the Bethlehem Conservation Commission regarding the Granite State Landfill (GSL) NHDES File # 2023-03259. Although this proposed landfill is in neighboring Dalton, the proposed entrance, Douglas Drive, is in Bethlehem. Also, both towns share some of the same natural resources, namely an aquifer and the Ammonoosuc River. The commission considers the impact to go well beyond Dalton's boundaries.

The commission's comments below are based on information from experts hired by the Dalton Conservation Commission (DCC) and North Country Alliance for Balanced Change (NC ABC) as well as our review of the previously filed Alteration of Terrain permit application (NHDES File #231113-224).

Both organizations either have or will be sending comments on this project. We have attached synopses/executive summaries from each of these experts:

In summary, the BCC is convinced that this project is so ill-advised and ill-conceived that we cannot imagine that the New Hampshire Department of Environmental Services will approve it. It is clear that this project will result in a breathtaking amount of damage to the environment, including posing a threat to the Ammonoosuc River, a protected river. It would be unconscionable to approve the proposed Granite State Landfill when the capacity of a new landfill is clearly not needed.

The consultants also found some of the information in the application itself deeply flawed or missing. These are some of their comments:

Jim McClammer, NH Certified Wetland Scientist #003, Connecticut Valley Environmental Services, Inc., says the application should be rejected for issues such as cumulative impacts are not addressed; stormwater models do not use the best available science; the landfill design is incomplete and required natural resource information is missing. (p. 2)

D. Scott Reynolds, Ph.D., CWB, CSE, North East Ecological Services, wrote: "It is my opinion that the current Habitat Assessment, and therefore any conclusions or recommendations base on the Habitat Assessment, is qualitatively inadequate to assess likely impact to bats at the Project Site." (Executive Summary)

Damon E. Burt, CWS, CPESC, Fraggie Rock Environmental, stated: “The GSL NHDES Wetlands Application remains incomplete and misleading. The site was not entirely wetland delineated and was not fully assessed in the Wetland Functions and Values assessment. Therefore, the project’s wetland impacts cannot have been avoided, minimized, or adequately assessed in the alternatives analyses.” (p. 9)

Dr. W. Richard Laton, Principal Consultant, Hydrology and President of Earth Forensics, Inc noted: “In addition, reports by Calex Environmental Consulting(2024)(Calex), Watershed to Life, Inc. and North Country Council, Inc. (2006), and other professional companies and agencies were reviewed to prepare opinions and assessments. The comments provided by Calex (2024) point out very critical omissions and unsubstantiated declarations in the Sanborn Head report and, therefore, in the permit application.” (p.2)

The commission also thinks it is also important to highlight portions of their concerns about impacts to wildlife, plants and wetlands that are alarming to BCC members. (The areas in yellow have been highlighted by the BCC and not the consultants.)

I. IMPACTS OF DOUGLAS DRIVE IMPROVEMENTS

When the BCC commented on the Alteration of Terrain permit (AoT) application for this site recently (NHDES File #231113-224) we said we had concerns about the impact that altering Douglas Drive, the entrance to the proposed landfill, would have on the environment. “Improvements” include widening it to 32 feet and changing its configuration, making the impact to the road broader than the word “improving” would imply. The AoT application maps showed 33 separate points of permanent and temporary impact of wetlands along Douglas Drive alone.

These are some observations related to the Douglas Drive portion of the application made by experts hired by the DCC and NC ABC.

Jim McClammer

*Existing, Unauthorized Wetland Impacts for Douglas Drive should not be Permitted as a Component of GSL: “The existing Douglas Drive and gravel pit access roads are estimated to impact 0.9 acres of wetlands and a perennial stream. These are existing unpermitted impacts that are proposed to be added to aquatic impacts for the GSL. However, the roads and wetland impacts extend well beyond what is needed to access the landfill site (see Overall Site Plan in Section 14.1.3). **This plan also clearly shows that road locations have not minimized impact to wetlands, which violates the wetland rules. Less-impacting road alignments are available...** The NHDES should require restoration of the road impacts and submission of a separate application which evaluates road alignments that are less environmentally-damaging. Wetland impacts need to be avoided and minimized to the maximum extent practicable.” (p.8)

*Re-grading a portion of the northern side slope adjacent to Route 116 in order to accommodate a truck turn lane is within the protected shoreline of the Ammonoosuc River and will affect 198 linear feet of perennial stream, 24 feet of intermittent stream and associated 2,961 SF of permanent wetland impact. The report says: **“The post-development channel will continue to direct surface water runoff to an existing catch basin (See CMA Sheet DD-8) which discharges under Route 116 via an existing 24" RCP**

pipe. **This drainage will continue unimpeded to the Ammonoosuc River [emphasis mine]**" (Wetland Application 6.1, page 5) (p.6)

Dr. Richard Laton had concerns over wetlands areas that are going to be destroyed, including those along Douglas Drive. His report noted that areas to be filled include intermittent streams, vernal pools, scrub/shrub, and wildlife-sensitive habitats. The intended impacts on the wetlands include the removal of vegetation and filling streams and vernal pools to create a flat floor footprint for the landfill. **"Some impacts will also be made along the access road and Douglas Road. While the impacts are considered minimal in the permit-associated reports, they have continuity to the downstream wetlands and thus should not be regarded as minimal impacts.** Although considered intermittent under the landfill, the stream channels will nonetheless remain topographically tied to downstream perennial creeks, which ultimately discharge into Alder Brook and the Ammonoosuc River." (p.5)

Damon E. Burt raises the possibility in his report that another approach to the entrance should be considered: "Potential for an entrance to the site from the north/west appears possible and may minimize impact area, however due to areas of no review this cannot be determined. In Section 7.2 of the GSL Wetland Permit Application packet the 'Avoidance and Minimization Written Narrative' asks, "Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?" The applicant answers yes. The applicant has not conclusively shown that there are no other access points to the parcel. In addition to the areas marked as assessed in Section 7.3 in the 'Siting, Evaluation and Minimization' report, additional portions of the site were not reviewed at all. **As described above, a large portion of the site was not wetland field delineated or reviewed in detail and therefore the on-site alternative analysis is incomplete and not conclusive."** (p.6)

II. IMPACT ON THE NORTHERN LONG-EARED BAT: The DCC retained North East Ecological Services (NEES) to determine whether the proposed landfill construction posed a potential adverse impact on this endangered species. **Findings are that the "Habitat Assessment is qualitatively inadequate to assess likely impact to bats at the Project Site."**

D. Scott Reynolds went on to list eight primary deficiencies/failures of the applicant's Habitat Impact Assessment. We want to highlight three:

*Failure to acknowledge multiple data sources that document the northern long-eared bat in proximity to the GSL project site. The report notes "it is important to realize that half of the known hibernacula in the state are found within 25 miles of the Project site" and with three located in Grafton County within 14 miles west or southwest of the Project site. (Executive Summary)

* Failure to consider the complete deforestation of more than 200 acres of forested habitat, as well as the complete and permanent loss of multiple wetlands, intermittent streams perennial streams, and vernal pools, as a potentially significant impact to any local bat species (for both roosting and foraging habitat). (Executive Summary)

*There was a failure in the permit application "to document the impact of road expansion at the Project Site on the foraging and roosting habitat of northern long-eared bats." (Executive Summary)

III. WETLANDS and OTHER WATER-RELATED IMPACTS: In addition to comments from the four experts, the BCC is submitting some of its own comments on wetlands.

BCC comments on wetlands impacts

The commission reviewed the previous Alteration of Terrain permit application (NH DES File # 231113-224) for this property. **Those application maps show 33 separate points of permanent and temporary impact of wetlands specifically along Douglas Drive only, a part of which is in Bethlehem. In total, the applicant states that 10 acres of wetlands will be disturbed.**

While a large part of the wetlands to be affected are located outside of the Town of Bethlehem's jurisdiction, nature does not know human-made boundaries and water flows and seeps wherever it can. We are concerned about any necessary or unnecessary, permanent or temporary impact on wetlands within and surrounding Bethlehem, given the following:

In 2015, the Bethlehem Conservation Commission commissioned a "Wetlands and Wildlife Assessment" of the impacts of the then proposed Northern Pass transmission lines on our local ecological systems. The authors of the report, Elise Lawson and John Severance, both certified wetland scientists, stated the following in the results section of that report (emphasis added in bold):

"Wetlands and Perennial Streams:

Wetlands are an essential habitat type for the majority of plant and animal species in New Hampshire. As a whole, wetlands are extremely diverse depending on the hydrology, soils, topography, and climate of an area. In addition to rivers, lakes, and ponds, there are four general types of Palustrine (1) wetlands: marsh, swamp, bog, and fen, with additional sub-types within each of these categories. This diversity extends into each individual wetland where a complex matrix of plant and wildlife species and water regimes co-exist. The resulting edge habitats within and around wetlands are frequently used by a great deal of wildlife species. It is estimated that riparian areas (habitat along streams and rivers) and wetlands are used by over 90% of the region's wildlife species and provide preferred habitat for over 40% of local species.

*In 2015, the U.S. Environmental Protection Agency (USEPA) Office of Research and Development has finalized a report called: **Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (2)**. The report reviews more than 1,200 peer-reviewed publications and summarizes current scientific understanding about the connectivity and mechanisms by which streams and wetlands, singly or together, affect the physical, chemical, and biological integrity of downstream waters. **The report focuses on how surface and shallow subsurface connections including small or temporary streams, wetlands, and open waters affect larger waters such as rivers, lakes, reservoirs, and estuaries.** It makes five major conclusions, summarized below. (See "Footnotes" at the end)*

1. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function.

2. Wetlands and open waters in riparian areas (transitional areas between terrestrial and aquatic ecosystems) and floodplains are physically, chemically, and biologically integrated with rivers via

functions that improve downstream water quality. These systems act as buffers to protect downstream waters from pollution and are essential components of river food webs.

3. Many wetlands and open waters located outside of riparian areas and floodplains, even when lacking surface water connections, provide physical, chemical, and biological functions that could affect the integrity of downstream waters.

4. Variations in the degree of connectivity are determined by the physical, chemical and biological environment, and by human activities. These variations support a range of stream and wetland functions that affect the integrity and sustainability of downstream waters.

5. Incremental contributions of individual streams and wetlands are cumulative across entire watersheds, and their effects on downstream waters should be evaluated within the context of other streams and wetlands in that watershed.

In relation specifically to point 5 from the report, as quoted above, the proposed wetlands impacts cannot be viewed in isolation from the surrounding area, and indeed the wider region/watershed.

Some concerns raised in the report, which would also apply to this specific permit application are: **the loss of biodiversity** not only to wetlands, but also adjacent upland plant and animal communities; **erosion and stream bank destabilization** at the site, as well as **sedimentation downstream** in all intermittent and perennial streams; **and aquifer degradation**. Regardless of the size, all aquifers need special consideration to ensure good water quality now and into the future. Given the worldwide water crises we are experiencing, all aquifers should be considered potential drinking water sources.

Jim McClammer

*This is an extremely important project that will disturb approximately 148 acres of land, add 25.5 acres of impervious surfaces, destroy 11.5 acres of wetlands, and have adverse effects on the Ammonoosuc River and other known and unknown public interest factors. At a minimum, it is “projected that the GSL will generate leachate contamination for the better part of 100 years”1. (p.1)

*Based on uncertain outcomes in the regulatory framework, segmentation of the permit process, and basic deficiencies in the wetland and related applications it is my opinion that the wetland application should be rejected. A premature ruling on the wetland application puts at risk the New Hampshire’s natural environment including the Ammonoosuc River, highest ranked habitats in New Hampshire, 11.5 acres of wetlands, five vernal pools, perennial and intermittent streams, cold water fisheries, and possibly exemplary natural communities and rare, threatened and endangered species. (p.9)

*At a minimum, the numerous ponds (13 infiltration basins, six rain gardens, three deep-sump catch basins, and two stormwater ponds) will increase surface water temperatures to levels that will likely have adverse effects on downstream wetlands, cold-water fisheries, and highest ranked habitats in New Hampshire. (p.4)

* “The offsite alternative analysis would have been more robust if it would have given more weight to the fact that the Ammonoosic (sic) River designated river corridor, highest ranked habitats in New Hampshire, acres of wetlands, vernal pools, perennial and intermittent streams, and cold-water fisheries are downgradient and will be adversely affected by the project. **It is likely that there are suitable sites in**

New England for a landfill that will not put this many valuable aquatic resources at risk. For these reasons, it is my opinion that the current offsite alternatives analysis is inadequate.” (p.7)

Damon E. Burt:

*“... These remarks indicate that both groundwater and surface water from the site drains in the direction of the Ammonoosuc River. This indicates any potential contamination in surface or groundwater will flow to the Ammonoosuc River.” (p.2)

*“In summary, the proximity of the proposed GSL to the Ammonoosuc River that provides drinking water to thousands, and flows into the Connecticut River that provides drinking water to millions, is both egregious and unethical. Research shows that PFAS is not adequately contained by landfills nor treated well enough to ensure the nearby waterways will remain uncontaminated. The applicant has not provided adequate proof that runoff from the landfill nor leachate will be free of PFAS, a forever chemical, shown to cause significant impact to wildlife and humans.” (p.3)

Dr. W. Richard Laton

*History does not support the statement that the double liner will prevent leachate from escaping the landfill. Even the EPA states that, ultimately, the liner system will fail and that after closure, it is inevitable that the liner will deteriorate, and leachate leakage is guaranteed. For this reason alone, it is recommended that a landfill be placed in a zone of upward vertical gradients (groundwater discharge area). (p.3)

*As discussed above, PFAS and other chemicals are being found in the monitoring system for the NCES landfill in Bethlehem that threaten the water quality of drinking water and the Ammonoosuc River. It must be considered that such an event could take place at the GSL. Placing a landfill within the groundwater recharge area for the Alder Brook groundwater basin and Alder Brook catchment surface water area would also lead to discharges of leachate contaminants into the Ammonoosuc River but, in addition, could threaten the water supply and water quality for Forest Lake. (p. 4)

IV. IMPACTS ON OTHER WILDLIFE AND PLANT SPECIES

Damon E. Burt:

* “According to the NHDES The Ammonoosuc River Fact Sheet, “[s]everal threatened or endangered wildlife species are found in the Ammonoosuc River watershed,” including the bald eagle; peregrine falcon; American marten; upland sandpiper; brook floater; dwarf wedge mussel; resident osprey; and the northern bog lemming. (p.3)

*In addition to threatened and endangered wildlife, the NH Natural Heritage Inventory lists “20 state-endangered plant species as occurring along the Ammonoosuc River,” including Boott’s rattle snakeroot; chestnut sedge, Robbins’ cinquefoil, green dragon; Kalm’s brome; bristly rose; wavy blue grass; hairy-eared rockcress as well as 15 state threatened plant species. (p.3)

* “Furthermore, in Section 10 of the GSL Wetland Permit Application packet, the Natural Heritage Bureau Data Check (NHB23-3333) submitted on 12/12/2023 found the potential for two rare natural communities (northern white cedar balsam fir swamp and northern white cedar seepage), two state

endangered plant species (greater yellow lady's slipper and marsh horsetail) and the state threatened common loon to be within the vicinity of the project area. Impacts to the **northern white cedar balsam fir swamp** and **northern white cedar seepage** and the **greater yellow lady's slipper** and **marsh horsetail** may occur **as these were not evaluated by the applicant.**"(p.3)

* "The Fish and Wildlife Service Endangered Species Project Review (Project code 2023-0019103, dated 11/21/23) found the Canada lynx (federally threatened), northern long-eared bat (federally endangered), and monarch butterfly (candidate) may occur within the boundary of the project or be affected by the project." (p.4)

CONCLUSION:

In summary, the Bethlehem Conservation Commission feels the problems with this application are so widespread and indisputable that **the permit must be denied** if the department is to follow its mandate: "to help sustain a high quality of life for all citizens by protecting and restoring the environment and public health in New Hampshire. The protection and wise management of the state's environment are the main goals of the agency."

It has been said over-and-over again in comments associated with several permit applications already filed for the proposed GSL, but we think there is a need to say it again: **this is the wrong site for a landfill.**

One reason is that the porous soil on the site could allow any leaks to reach the Ammonoosuc more quickly than soil types at other locations. Two, the site is uphill of the Ammonoosuc, a designated river in the NH Rivers Management and Protection Program. Also, two branches of the Alder Brook run a course that has them emptying into the Ammonoosuc so that any disruptions and impacts, runoff, could affect the river, which provides drinking water to communities.

Perhaps the best way to summarize the severe impact of this project is noted in comments from wetland scientist, Jim McClammer of Connecticut Valley Environmental Services, Inc. He mentions the fact that the Ammonoosuc River, the highest ranked habitats in New Hampshire, acres of wetlands, vernal pools, perennial and intermittent streams, and cold-water fisheries "are downgradient and will be adversely affected by the project. It is likely that there are suitable sites in New England for a landfill that will not put this many valuable aquatic resources at risk." (p.7)

The potential impacts of this project are so severe and unacceptable to the local and natural communities that it has absolutely no public benefit. **Please deny the application.**

Sincerely,

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Cc:

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ATTACHMENTS:

Damon Burt: FRE Comments on GSL Wetland Permit Application 2 28 2024

D. Scott Reynolds: 2024 NEES Report

Dr. W. Richard Laton: 2 20 2024 EFI Letter GSL Permit Application Dr Ricard Laton Hydrologist

Jim McClammer: McClammer Letter 2 20 2024 Dalton GSL Landfill Wetlands Comments CVES

Footnotes:

(1) Palustrine wetlands are a group of vegetated wetlands traditionally called marshes, swamps, bogs, fens. They also include the small, shallow, permanent or intermittent water bodies often called ponds.

(2) U.S. EPA. Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of The Scientific Evidence (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-14/475F, 2015.”