



GRANITE STATE LANDFILL, LLC

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Craig Rennie, CWS, CWB, Inland Wetland Supervisor
Wetlands Bureau, Land Resources Management
Water Division, NH Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095

**RE: Granite State Landfill
Proposed Lined Landfill – Dalton, New Hampshire
NHDES File Number: 2020-02239
Request for More Information (RMI) – Time Extension Request**

Dear Craig:

Granite State Landfill, LLC (GSL) is in receipt of your November 18, 2020 correspondence relative to our New Hampshire Department of Environmental Services (NHDES) File Number: 2020-02239 for the proposed Granite State Landfill Project located in Dalton, NH.

This letter serves as a request for a 60-day time extension and is necessary to allow for adequate time to fully address some elements detailed in the RMI.

In the interim, we have reiterated your comments below in *italic* font with our preliminary response followed in **bold** font for ease of review:

1. *As is the case with most landfill projects in the state, when they are close to reaching capacity, requests are made to expand the landfill footprint in the immediate vicinity. While 3 phases are currently proposed, please address how potential future expansions will impact surrounding wetlands and surface waters on the property, as this long-term planning is critical to determine if avoidance and minimization of wetland resources has been fully demonstrated per Rule Env-Wt 311.07 and Env-Wt 313.03.*

The GSL Wetlands Application presents the full and complete planned buildout for the site. Accordingly, no future wetland takings are proposed.

Our extensive study of the area has been specifically around avoidance and minimization through four generations of concept minimizing wetland impact while establishing the necessary design elements for a modern landfill and allowing the project to be economically viable. On-site avoidance and minimization is further discussed below within responses to comments #12 and #13.

2. *As stated in a letter dated September 27, 2019, signed by Water Division Director Thomas O'Donovan, NHDES requested that alternative sites in neighboring states be considered that may have less overall wetland impacts. The analysis provided in the application considered Maine and Vermont, which both prohibit out-of-state solid waste, but did not consider Massachusetts as a potential siting area. Please address this in your response, as there may be other areas that are better suited for landfill siting with less overall wetland*
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impacts per Rule Env-Wt 311.07.

We evaluated 13 locations in the Commonwealth of Massachusetts for a solid waste disposal facility over the last two years. This evaluation was conducted with the assistance of an engineering consultant experienced in the specific siting requirements of Massachusetts. Like the evaluation conducted in New Hampshire, the sites researched considered Massachusetts Department of Environmental Protection (MassDEP) siting criteria, highway access, size of landfill footprint to allow the project to be economically viable, proximity to water bodies, power & gas easements, landownership, proximity to residentially developed areas, etc.

In addition to the types of siting restrictions common in many states, Massachusetts Site Suitability Criteria under 310.16.40 include several very limiting criteria. Proposed solid waste management facilities may not be located within 100 feet of areas containing land classified as Prime, Unique, or State and Local Importance by the U.S. Department of Agriculture or Natural Resources Conservation Service, or any land deemed to be Actively Devoted to Agricultural or Horticultural Uses. Secondly, waste deposition areas may not be located within 1,000 feet of an occupied residence in Massachusetts. The combination of the agricultural land siting restrictions, this large residential setback requirement, and the high population density for much of the state result in very few theoretical potential sites. Based on these criteria and various other site-specific reasons, not one of the 13 sites were viable for consideration.

Finally, through the information published in its 2030 Solid Waste Master Plan, Massachusetts continues to signal expectations for no new landfill capacity in the state. The Plan states that “... landfill capacity for municipal solid waste and construction and demolition debris is projected to decline to virtually zero by the end of the next decade.” The Plan also outlines expectations that the percentage of waste exported to other states will continue to rise. The 2018 estimate of 21% net exports is projected to rise to 27% in 2025 if the state is successful in achieving its waste reduction goals, or to 40% if the waste quantities remain at the baseline level. Based on these regulatory expectations and the stringent nature of the siting criteria, no new landfills are anticipated to be developed in Massachusetts for the foreseeable future.

- 3. If excavation and blasting is proposed to prepare the site for the landfill, as well as the continued use of the existing quarry and gravel operations on-site, it is not clear how these activities will impact surrounding wetlands, groundwater levels and flow directions, or nearby drinking water supplies. There is a public water supply well near Forest Lake, as well as numerous private wells in the area that could be impacted if groundwater flow directions are altered as part of the construction. Provide further detailed groundwater analysis with supporting documentation to ensure detrimental groundwater impacts are avoided and minimized as required by Env-Wt 313.03(8).*

Proposed Project

The landfill base liner is set to be 6 feet above the seasonal high groundwater table. All explorations within the lined landfill footprint indicate that the bedrock surface is below the groundwater surface elevation and therefore no blasting is expected. It is possible localized bedrock highs exist between explorations. Any blasting or pneumatic hammer to remove isolated occurrences of high bedrock would be minor, inconsequential and completed in accordance with a NHDES Alteration of Terrain permit. There is no reason to expect the groundwater gradients at the site to change.

Existing Land Use

It is our understanding that the existing land use activities are authorized under a NHDES Alteration of Terrain Permit that requires that the Permittee “minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels”. Because neither GSL nor any of its affiliates is a holder of that permit, we do not have firsthand knowledge of the permittee’s efforts to comply with this requirement.

Further groundwater analysis will be provided in our full response to the RMI to address this question.

4. *As stated and offered in the application, provide any updates in regards to meetings with local officials, Conservation Commissions or Local Advisory Committees that may have occurred since the application was submitted, and provide any available meeting minutes for NHDES review.*

On October 27, 2020 GSL participated in a public meeting with the Dalton Conservation Commission (DCC) and presented the Wetlands Application as well as answered questions relative to the project.

On November 2, 2020 the DCC and members of the GSL permit team met at the site and reviewed the location of the proposed project and provided answers to questions regarding the project.

Attached are the meeting notes that are available from each of those meetings.

On January 8, 2021 a site visit was conducted at the GSL site to review site conditions and answer questions from an independent consultant (James McClammer) who was hired by the DCC to review the wetlands application submitted by GSL. The following people attended the visit;

James McClammer, Wetlands Scientist
Nancy Comeau, DCC Member
Vanessa Hines, DCC Member
Doug Ingerson, DCC Member
Barry Keith, BH Keith Associates

Kevin Roy, GSL
Joe Gay, GSL

GSL has also met with the Dalton selectmen about the financial benefits of the project, but the selectmen have been unwilling to engage in substantive discussions of the project. The minutes of the meeting with the selectmen are attached.

The GSL project team plans on continued communications with the DCC, LAC, and local officials.

5. *On October 1, 2020, NHDES received a letter of concern from the Ammonoosuc River Local Advisory Committee (LAC) (copy attached). Please address each of the LAC comments as part of your response to this request.*

..... LAC members noted their concerns about environmental impact to the site selected for the landfill, being uphill of the Ammonoosuc River, a designated river in the NH Rivers Management and Protection Program.

Other than the Androscoggin River watershed in Coos County and land close to the Atlantic Ocean, almost the entire State of New Hampshire land mass is uphill of a designated river in the NH Rivers Management and Protection Program. The purpose of the regulations of the Waste Management Division is to prevent downgradient impacts from waste management facilities.

Disturbance to the well functioning wetland complex.

Wetland impacts have been minimized and the disturbance to the well functioning wetland complex has been avoided.

Wetlands that will remain downgradient of the landfill will not be disturbed by the landfill's presence or operation. The landfill is designed with systems to contain the waste and leachate and isolate them from the environment. In addition, a broad groundwater and surface water monitoring network is planned to confirm the engineered waste containment systems are functioning as designed. Monitoring systems are designed and sampled to protect groundwater and surface water. In the unlikely event a release was encountered, remedial measures would be mandated by NHDES to repair any damage to the environment.

Regarding stormwater management at the site, as discussed in the solid waste design information for Phase I, in aggregate, the stormwater management system is designed to transfer water within the "basin" where downgradient wetlands are present. Stormwater will be diverted off impervious/low permeability surfaces and infiltrated into areas where it will return to groundwater and ultimately flow to surface water bodies.

Disturbance to Alder Brook fishery managed to protect wild brook trout.

There will be no disturbance to the Alder Brook fishery.

Disturbance to rainbow trout and brown trout fishing in the Ammonoosuc River.

There will be no disturbance to fishing on the Ammonoosuc River. Fishing for salmonids now occurs in the Ammonoosuc downgradient of the NCES landfill. The fact that they and the aquatic insects on which they depend for survival thrive in that stretch of the Ammonoosuc testifies to the high quality of the water in the river.

Alder Brook has the Highest Ranked Wildlife Habitat in NH in 2020 Wildlife Action Plan.

Agreed, GSL does not dispute this statement and we look forward to working with the community and the State Department of Fish & Wildlife to help ensure that this ranking is maintained. In fact, portions of this area are expected to be protected forever assuming a suitable easement holder can be identified. Again, wildlife is plentiful around the NCES landfill, and there is no reason to believe that the GSL landfill will disrupt wildlife habitat.

Five Vernal Pools on the property are a priority resource that need to be protected.

Due to the need for a contiguous landfill footprint, impacts to the vernal pools cannot be avoided. Unavoidable impacts shall be mitigated through compensatory mitigation measures, such as the proposed land preservation measures.

“Ammonoosuc River is source of drinking water downstream in Woodville and in Lisbon with river’s proximity to the Lisbon town wells.” “No one would feel comfortable enjoying recreational opportunities riverside, if there was a landfill upstream just a stone’s throw away.” “In addition, the Ammonoosuc River having been selected for two upstream landfill sites (existing landfill in Bethlehem and proposed site in Dalton) makes it seem like the responsibility has unduly been put on one river to carry the landfill burden, which is unfair to the downstream communities.”

With due respect to the LAC, this comment assumes there are impacts to rivers from lined landfills in New Hampshire when decades of experience prove otherwise. It also exaggerates the proximity of the landfill to the river and to Woodsville and Lisbon.

The USEPA and NHDES rules are in place and through strict adherence to those rules have proven to prevent such contamination, otherwise we wouldn’t have landfills upgradient of the Androscoggin (Mt. Carberry), the Isinglass (Turnkey), the Connecticut (Lebanon), the Nashua River (Four Hills), or the Saco (Conway).

Modern landfills are designed, permitted and constructed in accordance with the Subtitle D of the United States Resource Conservation and Recovery Act along with individual state solid waste management rules and other land use regulations to ensure that people of the United States can recreate in rivers, lakes and ponds and are provided secure waste disposal practices to protect the health and wellness of all Americans.

Given all the standards established by the Federal Government and in this case the New Hampshire Department of Environmental Services (NHDES) the proposed GSL landfill will have no impact the Ammonoosuc River or any drinking water source.

As unlined landfills began to close in the late 1980's and early 1990's the development of modern lined landfills consistent with the above referenced regulations began to develop. The sole purpose of the modern landfill is to protect the environment from certain contaminants in leachate from precipitation coming into contact with the waste we produce and also to help capture landfill gas that is produced by the decomposition of organics in the waste stream.

The reasons there will be no impact to the Ammonoosuc River, Alder Brook, Hatch Brook, the Connecticut River or surrounding wetlands is because of the multiple layers of containment and systems to monitor performance of the containment system along with containment system installation quality assurance and quality control, and lastly the careful placement of the first layer of waste, eliminates any risk of a breach in the base of the landfill.

Beyond the containment system, monitoring wells installed at various depths 360 degrees around the landfill are sampled and analyzed multiple times per year to evaluate environmental degradation. Reports are prepared for all these systems and monitored closely by third party consultants and the NHDES. Laboratory testing for contaminants has become more sophisticated over the years so that contaminants can be detected at much lower concentrations than was previously the case. This only improves the monitoring function of the wells.

Landfill leachate is dilute given the amount of precipitation in the North Country and contains comparatively low levels of contaminants which is why municipal wastewater plants have been the destination for treatment of landfill leachate.

Leachate will be collected across the landfill floor of the GSL on a 60 mil (0.060 inches minimum thickness) high density polyethylene (HDPE) geomembrane also known as the primary liner. The geomembrane is made from virgin plastic resin (not recycled) and manufactured to high quality control standards predominantly from factories in Texas, Georgia and Montreal, QC. This geomembrane is installed at the facility by certified installers and under the supervision of a third-party construction quality control officer. When completed the primary barrier ensures that the necessary protection is in place to protect groundwater and the soils beneath the landfill. Below the primary barrier is a second geomembrane barrier to further ensure that no leachate reaches the environment. The secondary 60-mil HDPE geomembrane barrier is monitored daily for leakage in the primary liner.

GSL will also incorporate a geosynthetic clay liner (GCL) beneath the primary HDPE liner (not required by regulation) to provide an additional level of safety to protect against leakage. The GCL is a manufactured product using natural montmorillonite clay as a barrier layer. When hydrated by a leak, the montmorillonite clay will seal the leak from below as the clay expands and creates an impermeable layer. The natural montmorillonite clay will last forever.

The geomembrane liners are inert and stable in a landfill environment. The geomembrane will remain fully functional for at least 500 years, much longer than the contained waste rate of degradation. After several decades and far less than the 500-year duration, the waste will become inert and the very small amount of remaining leachate harmless.

During landfill operations, leachate drains down through the waste to the primary liner and then quickly drains by gravity to the lined sump of the landfill through rapid performance-based design including drainage geosynthetics, piping, stone and sand meeting a specific drainage criterion. Leachate is then removed from the sump by continuous pumping systems.

In addition, GSL will Engineer redundancy into the mechanics of the landfill design to further protect the environment including the construction of double walled storage tanks and piping and leak detection telemetry systems.

Today, while continuously monitored for environmental impact, the only threat from any landfill to the Ammonoosuc River is and would only be from formerly closed unlined landfills adjacent to the river.

With respect to the former unlined landfill at the Bethlehem site, none of the waste deposited there remains on-site. Historically, there was a five-acre unlined landfill at the site operated by a previous owner which resulted in impacts to soil and groundwater. In the early 1990s, NCES excavated the entire unlined landfill and placed it into the first double lined landfill in New Hampshire removing the source of contamination. Following removal of the unlined landfill, the water quality steadily improved at site monitoring points, including at a spring (called the "Main Seep"), located downgradient of the former unlined landfill. Volatile organic compounds (VOCs), which can be indicators of landfill impacts, have not been regularly detected at the Main Seep or its outlet stream which drains to the Ammonoosuc River since 1999. VOC sampling in the Ammonoosuc River has been performed since 1995, and VOCs have never been detected in the River in 25 years of monitoring. Sampling results from the Ammonoosuc River upstream show no sign of harm to human health or ecological receptors. In fact, the groundwater emerging at the Main Seep meets drinking water quality standards.

Casella is proud to have remediated the threat posed by the unlined landfill and to have constructed and operated the lined landfill so that there has been no adverse impact to the river from its operation for nearly thirty years.

Fluvial Geomorphology indicates very high fluvial erosion zone in this reach of the river (Ammonoosuc River Geomorphic Assessment, Floodplain Conservation, and River Corridor Planning by Dr. John Field, October 2011).

The Field study focused on riverbank erosion, channel instability, and floodplain conservation. All potential Ammonoosuc River erosion and channel instability identified by Dr. Field in the vicinity of the GSL landfill, including the referenced "very high erosion zone," is in the riverbank south of Rt. 116 as shown on the attached figure from a slide

presentation made by Dr. Field to the Bethlehem Local Advisory Committee. The GSL landfill would be located 1.2 miles from and 150 feet above the potential erosion zone. The landfill is located outside of the 500-year floodplain and is not subject to potential erosion from the river. Stormwater from the landfill will be detained in ponds and released at a peak rate and total volume equal to or less than current existing condition. The proposed site development will not contribute to flooding or erosion of the riverbank.

Slope of land in topography directs drainage flow from the site down to the river. Runoff drainage from impervious gravel area on the site would also flow downhill.

True, most runoff from impervious gravel area on the GSL site will flow downhill to stormwater ponds and swales where the water will be treated utilizing current stormwater treatment standards prior to release to downhill surface waters and wetlands. Run off from roads at the GSL will provide more treatment than most roads and highways across the State of New Hampshire.

Screening landfill from the public view of tourists, a challenge for the proposed hillside.

It is unclear why this is within the purview of the LAC or the bureau, but GSL provides a response, nonetheless. The landfill will be approximately 1.2 miles from Route 116. The facility shall be constructed in three phases over 3+ decades.

As part of landfill design, GSL considered visibility of the facility from off-site properties, including Forest Lake where some residents have expressed concern about visual impact. The proposed limits of the landfill have been set back from the ridgeline that separates the site from Forest Lake, and the height of the landfill has been set to reduce visibility. To assess visibility, GSL completed a preliminary viewshed analysis based on the proposed final grades for each of the three phases of landfill development from several locations on Forest Lake. The evaluation was based on screening that is provided by the present height of trees between Forest Lake and the proposed landfill development. The evaluation considers the existing tree top elevations as of August 2020 and does not consider the tree growth that is anticipated from the young trees that exist on the ridgeline by the time the final landfill elevations are achieved. As the attached preliminary renderings show, the existing trees provide screening from several vantage points at Forest Lake and most of the proposed landfill development will not be visible from the east side of Forest Lake based on the current tree heights. Considering future tree growth, it is anticipated that little, if any, of the top elevation of the landfill development will be visible from Forest Lake. The evaluation indicated the proposed landfill will not be visible from the west side of Forest Lake because ground surface topography rises west of the lake which will block views to the west.

Truck traffic blowing dust from gravel driveway down to highway Route 116 below.

Again, this comment seems to be beyond the LAC's purview and the bureau's jurisdiction, but GSL will respond. Fugitive dust would be continuously monitored and far more often than a typical dirt road in the north country. GSL will be held to strict standards relative

to dust from within our NHDES-Air Resource Division permit as we are in Bethlehem. Resources to properly deal with dust and employed at GSL will include;

- The long access road (Douglas Drive) to the landfill will be paved.
- Much of the infrastructure area and drive surfaces will be paved.
- There will be regular sweeping (asphalt/concrete surfaces) and watering to control dust generation.
- The facility will have a dedicated water truck and operator during non-freezing periods of the year.

Highway sharp turn access to site poses an impediment to traffic flow along highway.

Subject to our reservations about the propriety of the scope of the LAC's comments, we provide the following response. A traffic study completed for a GSL Driveway Permit Application to NHDOT submitted in November 2020 recommended a deceleration lane for truck traffic entering the site access road from the east (Whitefield). No impediment to traffic flow was identified for truck traffic entering the site from the west (Littleton). Only local traffic from Littleton will be allowed to enter the site from the west. Access to the facility must and will meet all NHDOT safety standards.

6. *On October 11, 2020, NHDES received a letter of concern from the Bethlehem Conservation Commission (BCC) (copy attached). Please address each of the BCC comments as part of your response to this request.*

Two branches of Alder Brook run alongside the proposed site of the 18- acre landfill, then join and flow out of Dalton into Littleton and then back into Bethlehem and into the Ammonoosuc River, a protected river. Disruptions and impacts there could result in run-off into Alder Brook and, therefore, into the Ammonoosuc. There are Alder Brook wetlands to consider and there is a stratified drift aquifer in the area of Alder Brook Road and the Ammonoosuc, which continues under Wing, Hazen and River Roads and then continues under Trudeau Road and the NCES landfill.

Like the LAC's comments, the BCC assumes that there are impacts to groundwater and surface water from Subtitle D landfills when that is not the case.

To clarify the information in the Wetlands Application, the total size of the lined landfill footprint is proposed to be 137 acres, not the stated 180 acres.

Measures to prevent disturbance of the adjacent wetlands are discussed above in response to Comment #5.

The project avoids the higher functioning wetlands associated with Alder and Hatch Brooks. The headwater tributaries and wetlands of Alder Brook are proposed to be protected by a 244-acre conservation easement.

The runoff from the facility shall be collected and treated by the stormwater management system.

Three discontinuous areas of stratified drift were mapped by the US Geological Survey within the Alder Brook/Hatch Brook catchment, each area with transmissivities less than 2,000 ft/day. The relatively low transmissivity, small size, and discontinuous nature of these stratified drift areas is anticipated to limit water yields from these zones. The proposed landfill is located outside the limits of each of these stratified drift areas and is therefore not anticipated to disturb them. The areas of stratified drift adjacent to the Ammonoosuc River near Wing, Hazen, and River Roads referenced in the comment are upstream of the confluence of Alder Brook and the Ammonoosuc River, and therefore are not influenced by flow in Alder Brook/the Alder Brook catchment.

7. *On November 18, 2020, NHDES received a letter with comments from the Dalton Conservation Commission (DCC) (copy attached). Although the DCC did not raise specific concerns with the application, they did express their trouble finding a reputable consultant to assist with the review and were limited in time on their response. NHDES recommends that you continue to coordinate directly with the DCC and incorporate any future recommendations in your response to this request.*

GSL has and continues to work close with the DCC and its wetlands scientist, James McClammer. As mentioned above, On January 8, 2021 a site visit was conducted at the GSL site to review site conditions and answer questions from Mr. McClammer who was hired by the DCC to review the wetlands application submitted by GSL. We understand Mr. McClammer has begun reviewing the Standard Dredge and Fill application and will provide the DCC with some feedback on his review.

8. *To help NHDES better understand the local zoning issues for the existing Bethlehem facility and the proposed Dalton project and how these decisions relate to avoidance and minimization of wetland impacts on the Dalton site, provide NHDES with the approved zoning ordinances from both towns and explain how the current proposal demonstrates that Env-Wt 311.07 has been met, particularly when the Bethlehem facility expansion will have significantly less overall wetland impact.*

The current zoning ordinances from both towns are enclosed.

Article III, A, 1 of the Bethlehem ordinance prohibits landfilling except in District V. Article V defines District V as composed of Tax Map No. 419, Lots 22 and 23. These lots in aggregate total about sixty acres. With NHDES's approval of Stage VI of the NCES landfill all of the usable capacity in District V has been permitted. There is also a settlement agreement between NCES and the town prohibiting any expansions of the landfill outside of District V and setting a limit on the final height of the landfill. When Stage VI is filled the landfill will be at the maximum height and area allowed under the settlement agreement. Absent a change in zoning and negotiation of an amendment to the settlement agreement, NCES is prohibited from expanding any further in Bethlehem.

The Dalton zoning ordinance is the statutory emergency temporary zoning ordinance. RSA 674:24-:30. It does not expressly allow or prohibit landfills. The Dalton Board of Selectmen – which comprises the zoning enforcement officer in the town – has notified GSL of its opinion that GSL needs a zoning approval for the proposed landfill. On January 14, 2021, the selectmen sent GSL an application for a special exception under the

ordinance but did not actually state that GSL requires a special exception. Under New Hampshire law, a town cannot prohibit the siting of a landfill through the language of its ordinance or the exercise of its zoning powers, and the scope of its ability to impose conditions on a special exception is very narrow because most of the authority it would ordinarily have is preempted by NHDES regulation. GSL is considering the application sent by the town and will decide whether and how to apply in due course.

9. *Section 8 and Section 9 of the application materials states that 17.49 acres of wetland will be impacted, however the application fee was based on 17.57 acres. In addition, the Siting, Evaluation and Minimization Report in Section 7 done by CMA Engineers lists 16.8 acres of total wetland impact. Please explain the discrepancies.*

The following is a breakdown of the project dredge and fill acreage;

<u>Permanent</u>	
Landfill & Berm	16.23 ac
Ponds & Access Roads	.16 ac
Infrastructure & Access	.23 ac
Douglas Drive	<u>.17 ac</u>
Total	16.79 ac

<u>Temporary</u>	
Douglas Drive	.34 ac

10. *Review of the Phase 1-A historical assessment in Section 11 by Victoria Bunker, Inc. recommended that continued Phase 1-A on-site surveys are necessary to be conducted on the property. Please provide an update of the additional on-site surveys as well as any addition correspondence with NH Division of Historical Resources regarding the historical assessment pursuant to RSA 227-C:9.*

Victoria Bunker, Inc. performed an on-site assessment on October 14, 2020. The report of findings and subsequent NHDHR response are pending.

11. *Review of the existing conditions plan indicates that there are many existing roads on the property, some more recently constructed, that cross wetlands and streams; however, NHDES does not find records of permits in these areas. If there are unpermitted wetland impacts on the property, then a full wetland delineation for disturbed areas should be completed to fully assess any unpermitted wetland impacts per the federal delineation method as defined by Env-Wt 103.02 (see methods for atypical and difficult wetland situations). These areas should be labeled on the plans as such, and the application summary should be updated to reflect these additional impacts or restoration as necessary, as well as providing any additional application fees that may be required.*

If any unpermitted work in wetlands occurred, it was not by GSL and is unrelated to this project. We are nevertheless currently researching historic plans and aerial photos in order to assess previous wetland and stream impacts. Based on this review to date, please find the attached plan that depicts site development that existed before 1968, the yellow dashed lines are pre 1968 roads that no longer exist. There appears to be several

roads that were likely constructed prior to state wetland statutes. The red lines are post 1968 roads. These roads shall be further assessed to determine the approximate location and extent of previous wetland impact. Based on this review, these areas shall be labeled on the plans and addressed in the application accordingly.

12. *Areas of the property East of Douglas Drive do not appear to be fully assessed for a potential phase of the proposal, and a wetland delineation was not completed in this area. Please identify any wetland resources on this portion of the property to see if further avoidance and minimization can be achieved by relocating a phase of the project in this area per Env-Wt 311.07.*

The property owner has a planned industrial park for this section of the site and GSL was not afforded the opportunity to consider this area of the site. This area would also be visible from Forest Lake State Park which is another reason we did not pursue it further.

13. *Similar to the above comment regarding demonstrating avoidance and minimization of wetland impacts as outlined in Env-Wt 311.07, it appears that the project could be located further upslope to the North reducing the overall wetland impact. Additional avoidance measures should be assessed for the entire 1,900-acre property to ensure this rule has been met.*

GSL does not have an agreement with the property owner for the entire 1,900 acres. The area upslope and to the north were considered and are;

1. Too steep (3:1) for landfill development. Landfill equipment and waste hauling trucks could not safely travel up slopes that steep, and the waste would be unbuttressed and unstable and could fail by sliding down the slope.
 2. Have very little relative landfill capacity while disturbing a large area of ground, and
 3. Would increase the visibility of the landfill.
14. *It appears that finish grades of the landfill will be higher in elevation than the height of land (drainage divide) towards Forest Lake and Forest Lake State Park. Visual and aesthetic impacts must be further assessed in detail per RSA 482-A:1 as these impacts could "eliminate, depreciate or obstruct the commerce, recreation and aesthetic enjoyment of the public".*

Based on the viewshed analysis that was completed utilizing the existing elevation of the top of the existing trees, only a small portion of the upper elevation of the landfill could possibly be visible from Forest Lake as the landfill approaches final grades in approximately 35 years. It is also expected that with tree growth over the next few decades, the additional height of the trees will shield the majority, if not all, of the landfill from Forest Lake by the time final landfill grades are achieved.

15. *As highlighted in the Archeological Report by Bunker dated July 2020, Forest Lake State Park is one of New Hampshire's 10 original state parks, constituting 397 acres, which was built by the Civilian Conservation Corps (CCC) in 1935. The CCC cut ski trails between the top of Dalton Mountain and the shores of Forest Lake within Forest Lake State Park, and*

Dalton Mountain played a supporting role in the growth of regional recreation, as ski trail maps from 1934-1935 shows the location of Dalton Mountain and other ski slopes throughout the state. Further, the Ammonoosuc River LAC comment letter highlights the current day outdoor recreation and tourism that occurs in this region. Given the extensive recreational history and the current recreational use of Forest Lake State Park and the Ammonoosuc River, a response should be provided in greater detail whether impacts from this project could “eliminate, depreciate or obstruct the commerce, recreation and aesthetic enjoyment of the public” as outlined in RSA 482-A:1.

The standard quoted above is vague and subjective, but by any objective scientific measure the landfill will have no adverse impact on commerce, recreation, or aesthetics.

Forest Lake Park includes a developed beach complex on the northern shore of Forest Lake and over 300 acres of managed forest extending from beach area up to the height of land approximately 1.5 miles northwest of the lake. The rear managed forest portion of the park abuts the site. The aerial photo dated 1960 (attached) appears to show the managed forest had been heavily cut. More selective cutting was shown the photos dated 1986, 2008 and 2012. The 2008 through 2019 photos show a snowmobile trail extending 2,100 feet from the beach area parking lot to Hunter Farm Road which crosses the lower portion of the park land. There does not appear to be any public access to or trails within the managed forest portion of the site that abuts the site based on a review of the aerial photos, local knowledge, trail apps/websites (Search TrailsNH, AllTrails), and a site reconnaissance conducted in December 2020. The landfill would not be visible within the park from the height of land, throughout its interior, and at the public beach due to thick forest and topography. There are three exposed rock outcrops near the boundary with the landfill where the landfill could be seen. The park beach is located three quarters of a mile from the landfill.

A USGS map dated 1935 (attached) appears to show a cleared forested area on the southeast facing slope of the mountain that would correspond with the reported 1934/1935 cutting of the ski slope by the CCC. Historical references indicated two warming huts were built, although there are no references to constructing a ski lift. Other USGS maps before and after 1935 show no cleared ski slopes or structures/lifts. The earliest available aerial photograph dated 1960 shows no evidence of ski slopes, huts, or lifts.

The view of the landfill from the Ammonoosuc River will be blocked by topography and vegetation. The river is located about 1.2 miles from the landfill.

The proposed GSL would not, “eliminate, depreciate or obstruct the commerce, recreation and aesthetic enjoyment of the public”.

- 16. It is not clear how the downstream high-value Alder Brook wetland complex (which was previously considered for prime wetland designation by the Town of Dalton) and ultimately the Ammonoosuc River’s water quality will be protected if treatment of landfill runoff fails or if the landfill liners develop leaks over time. Downstream wetlands and surface waters should be monitored long term to protect from contaminants and pollution, and to ensure that these resources are protected pursuant to RSA 482-A:1. It should be noted that there*

are also downstream communities that depend on the Ammonoosuc River as a drinking water source, so it is imperative that these issues are addressed as part of the project.

Modern lined landfills are designed, regulated, permitted, constructed and operated precisely to address the concerns referenced above. NHDES has adopted comprehensive rules under which a project must be approved if it demonstrates compliance. If the bureau is suggesting that GSL must exceed the requirements formulated by NHDES for environmental protection, please specify the standard it contemplates so GSL can respond with specificity.

The landfill containment system as we have already discussed, is designed and would be constructed to exceed New Hampshire waste management standards, are redundant and have perimeter groundwater and surface water monitoring points to ensure there is no pollution.

A broad network of groundwater and surface water monitoring points is proposed under the forthcoming Groundwater Release Detection Permit application submittal to the NHDES and will be a public process.

Lastly, the Federal Multi Sector Stormwater General Permit for strict management of stormwater runoff will also require surface water testing and management to ensure all downgradient surface waters and wetlands are further protected.

17. Review of Grading Sheet C401A, as required to be submitted under Env-Wt 311.05, found the following errors that should be addressed:

a) Wetland impacts for road grading near DMH-27 were not included on the Wetland Impact Plan (Sheet 6).

Wetland Impact Plan Sheet #6 will be provided with our overall plan edits.

b) Wetland impacts for closed drainage between DMH-4 and DMH-26 were also not included on the Wetland Impact Plans. These areas should be included in the application along with any additional fees that may be necessary.

These wetland impacts are being reviewed and evaluated with revisions to be provided with the plan edits.

18. Review of Grading Sheet C401-B found the following issues:

a) A small area of wetland impacts (247 square feet) for slope grading could be avoided or eliminated by installing a knee wall in this location.

These wetland impacts are being reviewed and evaluated with revisions to be provided with the plan edits.

b) Wetland impacts near HW-13 do not match with the Wetland Impact Plan on Sheet 12. This impact area could be reduced in scope given the limited grading needed at this

location.

The wetland impact shall be corrected to match the Wetland Impact Plan on Sheet 12. Grading will be assessed to reduce the scope of wetland impact at this location.

- c) Wetland impacts could be further reduced with the use of retaining walls North of HW-8 near grade line 1120 in 2 locations (before and after the pond entrance road).*

The use of retaining walls at these locations to further reduce wetland impact is being evaluated.

- d) NHDES recommends that roadway station numbers be added the grading plans to better help identify these areas.*

Roadway stationing has been added and will be provided with overall plan edits.

- 19. Review of Grading Sheet C402 found that there are many side slope wetland fill areas that could be eliminated by installing retaining walls in several locations. Please address these areas in your response.*

The viability of utilizing retaining walls at several locations to reduce wetland impact is being evaluated.

- 20. Review of Grading Sheet C403-B found that there are proposed wetland impacts for stormwater ponds in 2 locations which is not allowed per Env-Wt 524.04(b). Also, stormwater Pond 31 has a similar wetland impacts. Please revise the plans to eliminate these wetland impacts.*

Design modifications of these ponds are currently being assessed.

- 21. Review of Grading Sheet C404A found that wetland impacts are shown for a diversion swale for stormwater conveyance. Please relocate outside of wetlands per Env-Wt 524.04(b).*

Design modifications to relocate a diversion swale outside of wetlands are being evaluated.

- 22. Review of Grading Sheet C404-B found that stormwater ponds dug below existing grade, which are adjacent to wetland areas, may drain the surrounding wetlands and cause impacts. Please address how the hydrology of these wetland areas will be maintained.*

The effects on the hydrology of surrounding wetlands are being evaluated.

- 23. Review of the stream crossing proposal for an access road finds that the flood stage increases at the inlet by 3 feet over existing conditions during the 100-year storm, and flow velocities at the outlet increase by 9.74 feet per second (fps). A larger opening may be needed to ensure that upstream flooding and downstream scouring are avoided as part of this crossing, as this can be detrimental to aquatic organism passage. Please address this*

in your response.

Agreed, we mistakenly entered the dimensions into the model as 12 feet high and 4 feet wide when it should have been the inverse @ 12 feet wide and 4' high. Flood stage increases at the inlet by 0.53 feet during the 100-year storm, and flow velocities at the outlet increase by 5.60 fps. Confirming calculations will be provided in our full response to the RMI.

24. *The application states that the project does not impact habitats ranked as Tier 1 or Tier 2 as identified by the NH Wildlife Action Plan (WAP); however, review of the Wetland Permit Planning Tool (WPPT) finds that there are indeed Tier 2 habitats that fall within the project area which are described as the "Highest Ranked Habitat in the Biological Region". Please update the wetland application and forms accordingly, and overlay the project's limits of disturbance on the WAP maps to clearly show where the project impacts will occur, and how the project avoids these important areas as described in RSA 482-A:1 and Rule Env-Wt 313.03(b)(2).*

A plan is being prepared to overlay the overall project disturbance on the WAP maps and narrative to update the application accordingly.

25. *Provide written permission from NH Department of Transportation (NHDOT) for those portions of the project that occur within the NHDOT right-of-way along NH Route 116 pursuant to RSA-A:11, II.*

We received a technical review submittal from James McMahon via email on January 15, 2021. In this correspondence he writes "I emailed Craig Rennie at NHDES to inform him we do have an application and its under review. DOT permission for a construction activity or earthen disturbance within the state highway right of way is in the form of a driveway or excavation permit issued by our office. If the comment is regarding permission to survey/classify/hang wetland flags within the right of way, we would not object to that, provided the team works/parks safely with appropriate traffic control/signage on NH-116. Any earthen disturbance such as borings or test pits would require written permission. I hope this clarifies the differing permissions for various activities enough to respond to Mr. Rennie's comment."

26. *The review of on-site and off-site mitigation options was conducted and resulted in two parcels under consideration for preservation. The two parcels include upland buffer preservation of a 244-acre lot located west of the proposed landfill and 106 acres of land off of Trudeau Road in Bethlehem. NHDES has reviewed the parcels and note the following:*

- a) *The 244-acre lot is located west of the proposed landfill and does not abut land that is subject to a conservation interest, a requirement to be met as noted in Env-Wt 803.06(a)(2). Due to the parcel's location on the landscape, the long-term habitat value of the resources may not be sustainable overtime due to the uncertainty of adjacent activities. For this parcel to continue to be considered, it would be advised to determine abutting land uses and opportunities for future conservation efforts. This may include consulting with local conservation entities on their goals and determine if any future lands in the area will be protected so this parcel is not isolated.*

The 244-acre parcel is accessible via a 50-foot deeded right-of-way. The parcel has been discussed with both NHF&G and DCC. DCC's consultant visited the site on January 8, 2021. GSL has continued further discussions with the DCC on other conservation and land preservation needs within the town. Several properties which abut this parcel are undeveloped. Opportunities for future conservation efforts are being explored.

b) *The 106-acre parcel consists of multiple lots added together which are located along the state designated, Ammonoosuc River. The parcel abuts White Mountain National Forest lands, consists of high value wildlife habitat, and may have the potential for habitat enhancement at the sand and gravel mining site. For this upland preservation effort to go forward, the following items would need to be provided:*

(1) *Delineate wetlands within the proposed compensatory mitigation area and all contiguous wetlands and surface waters to be completed by a certified wetland scientist in accordance with Env-Wt406.01.*

Portions of the site were previously delineated by BH Keith Associates and others. Additional wetland resources were mapped on to the site plan using aerial photos and ground-truthing methods.

(2) *Include a functional assessment of the proposed mitigation site.*

Upon acceptance by a mutually agreeable conservation entity, the functional assessment shall be provided.

(3) *Provide a date when a complete mitigation proposal will be submitted to the department.*

Based upon securing a letter of intent from the intended easement holder, a date for the completion of the mitigation proposals shall be provided.

(4) *Document the current conditions which includes submittal of color photographs to illustrate important site features with location(s) noted on the property survey plan, including the location(s) of significant ecological features; existing impervious surfaces, including but not limited to buildings, structures, and trails; wells; power lines or pipelines; historic resources; and other improvements that will be in place at the time of the establishment of the compensatory mitigation area.*

In accordance with (3), items 4-13 shall be addressed in the Mitigation Proposal.

(5) *Identify any existing encumbrances or restrictions on the property.*

Please refer to item #4.

- (6) *Summarize the conservation goals in accordance with Env-Wt 804.*

Please refer to item #4.

- (7) *Complete a baseline documentation report in accordance with Env-Wt 808.15.*

Please refer to item #4.

- (8) *Describe how the property proposed for preservation will be legally protected in perpetuity. A letter noting the proposed grantee indicates that they will accept the easement or fee simple deed will be needed.*

Please refer to item #4.

- (9) *A copy of the proposed conservation easement language or language noting conveyance of fee simple ownership or conservation easement which protects the conservation values in perpetuity, in accordance with Env-Wt 808.14.*

Please refer to item #4.

- (10) *If protective measures already exist on the mitigation site(s), identify the existing protective measures and describe how the proposed additional measures would provide greater protection of the aquatic resources on the site(s).*

Please refer to item #4.

- (11) *Submit a property survey plan in accordance with Env-Wt 808.11 that identifies the boundaries of the compensatory mitigation area.*

Please refer to item #4.

- (12) *Submit a draft legal description of the compensatory mitigation area; and*

Please refer to item #4.

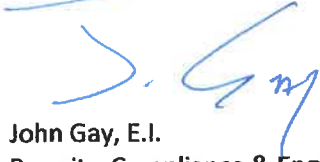
- (13) *Submit a stewardship plan for the property that has been accepted by the conservation easement grantee.*

Please refer to item #4.

Should you have any questions, please do not hesitate to contact me at (802) 651-5454.

Sincerely,

GRANITE STATE LANDFILL, LLC



John Gay, E.I.
Permits, Compliance & Engineering

Enclosures

- c. Selectboard, Town of Dalton (full copy, emailed)
- Selectboard, Town of Bethlehem (full copy, emailed)
- Conservation Commission, Town of Dalton (full copy, emailed)
- Ammonoosuc River Local River Advisory Committee (full copy, emailed)
- Lindsey Lefebvre, ACOE (full copy, emailed)
- Beth Alafat, EPA (full copy, emailed)
- Douglas Ingerson, Jr., JW Chipping (cover letter only, emailed)
- Barry Keith, BH Keith Associates (cover letter only, emailed)
- Bob Grillo, CMA Engineers (cover letter only, emailed)
- Andrew Nadeau, Horizons Engineering (cover letter only, emailed)
- Tim White, Sanborn, Head & Associates (cover letter only, emailed)
- NHDES Rivers Program (cover letter only, emailed)
- Lori Sommer, NHDES Mitigation Coordinator (cover letter only, emailed)
- Ridge Mauck, NHDES Alteration of Terrain (cover letter only, emailed)
- Tim Drew, NHDES Public Information Office (cover letter only, emailed)
- Rene Pelletier, NHDES Assistant Director, Water Division (cover letter only, emailed)
- Thomas O'Donovan, NHDES Director, Water Division (cover letter only, emailed)